Telecom Regulatory Authority of India

New Delhi March 9, 1999/ Phalguna 18, 1920

In exercise of the powers conferred upon it under sub-section (2) of section 11 of the Telecom Regulatory Authority of India Act, 1997 to notify, by an Order in the Official Gazette, tariffs at which Telecommunication Services within India and outside India shall be provided, the Telecom Regulatory Authority of India hereby makes the following Order.

THE TELECOMMUNICATION TARIFF ORDER 1999

Section I

Title, Extent and Commencement

1. Short title, extent and commencement:

i. This Order shall be called "The Telecommunication Tariff Order 1999."

ii. The Order shall cover tariffs for all Telecommunication Services throughout the territory of India as also those originating in India and terminating outside India.

Section II

Definitions

2. In this Order, unless the context otherwise requires:

a. "Act" means the Telecom Regulatory Authority Act of India, 1997.

b. "Authority" means the Telecom Regulatory Authority of India.

c.	"Basic Telecommunication Services" mean services derived from Public Switched Telephone Network (PSTN).
d.	"Ceiling(s)" mean(s) the upper limit(s) for tariff for telecommunication services as specified by the Authority from time to time.

e. "Domestic Long Distance Telecommunication Service" means the telecommunication services required to connect one local area of a public telecommunication network to another within the territorial limits of India so as to allow for transmission of voice and non-voice signals across different geographical areas.

f.	"Floor" means the lower limit of a tariff for a telecommunication service as specified by the Authority from time to time below which such tariffs may not be offered.
g.	"Forbearance" denotes that the Authority has not, for the time being, notified any tariff for a particular telecommunication service and the service provider is free to fix any tariff for such service.
h.	"International Long Distance Telecommunication Service" means telecommunication services required to connect a local area of a public telecommunication network within India to a local area of a public telecommunication network in another country so as to allow for the transmission of voice and non-voice signals.

i.	"International Subscriber Dialing" means direct interconnection between an end user in India with another end user in another country by means of direct dialing through public networks.
j.	"Leased Circuits" mean telecommunication facilities leased to subscribers or service providers to provide for technology transparent transmission capacity between network termination points which the user can control as part of the leased circuit provision and which may also include systems allowing flexible use of leased circuit bandwidth.

k. "Non-discrimination" means that service providers shall not, in the matter of application of tariffs, discriminate between subscribers of the same class and such classification of subscribers shall not be arbitrary.

l. "Reporting Requirement" means the obligation of a service provider to report to the Authority at least five working days before implementing any new tariff for telecommunication services under this Order and any changes thereafter.

m. "Special Services" mean those support and other ancillary services like phonogram, directory enquiry, manual trunk service, assistance, emergency services such as police, fire and ambulance provided by service providers through special interfaces located at the edge of the PSTN.

n.	"Standard package" means a package of tariffs which *inter-alia* comprises rental, call charges, free calls, deposits and other charges as may be determined by the Authority for specific telecommunication services from time to time.
o.	"Subscriber" means an end user of telecommunication services.
p.	"Subscriber Trunk Dialing" means direct interconnection between two end users within India by means of

direct dialing through public networks.

q. "Supplementary Services" mean services which are provided specific to a subscriber's directory number and controlled either by the subscriber or by the service provider such as automatic alarm call service, call waiting, call diversion on busy or no reply, and any other such service.

r.	"Tariff(s)" mean(s) rates and related conditions at which telecommunication services within India and outside India may be provided including rates and related conditions at which messages shall be transmitted to any country outside India, deposits, installation fees, rentals, free calls, usage charges and

any other related fees or service charge.

s. Words and expressions used in this Order and not defined but defined in the Act shall have the same meanings respectively assigned to them in the Act.

Section III

Tariffs for Telecommunication Services

3. **Tariffs**

Tariffs for various telecommunication services and their dates of implementation shall be as set out in Schedules I to IX.

4.**Forbearance**

Where the Authority has, for the time being, forborne from fixing tariff for any telecommunication service or part thereof, a service provider shall be at liberty to fix any tariff for such telecommunication services;

Provided that the service provider shall comply with the reporting requirements in respect of such tariff.

5.**Deposits**

Unless otherwise provided for, no service provider shall seek or obtain from any subscriber in any form any amount as deposit for any telecommunication service in excess of one year's rental chargeable from the subscriber for the particular telecommunication service as specified in the relevant standard package.

6.**Flexibility and Packages**

i.	The service provider shall offer the standard package(s) to all subscribers.
ii.	Where a tariff has been specified as a ceiling, no tariff shall be fixed in excess of such ceiling. Where a tariff has been specified as a floor, no tariff shall be fixed below such floor.
iii.	In all other cases, a service provider may, in addition to the standard package, offer alternative
iv.	

combinations of tariff to different classes of subscribers in a non-discriminatory manner.

7. **Reporting Requirement**

(i) All service providers shall comply with the Reporting Requirement in respect of tariffs

specified for the first time under this Order and also all subsequent changes.

8.	ii.	No service provider shall alter any tariff of any telecommunication service or any part thereof without
	complying with the Reporting Requirement.	
	iii.	Unless the Authority intervenes within the mandatory notice period of five working days, the service provider
	may implement the proposed tariff. **Review of Tariffs**	
	i.	The Authority may, from time to time, review and modify a tariff for any telecommunication service

or a part thereof.

ii.	The Authority may also at any time, on reference from any affected party, and for good and sufficient reasons, review and modify any tariff.

Section IV

Transparency and Consumer Protection

9.	**Publication of Tariffs**	
	i.	Tariffs to be charged by service providers from subscribers for telecommunication services along

	with the conditions thereof shall be published in such manner as the Authority may from time to time direct.	
	ii.	Information of tariff packages that a service provider may choose to offer to subscribers shall be
	accompanied by a comparison of the financial implications to subscribers under each package vis-	

à-vis the specified standard package(s).

10. **Non-discrimination**

No service provider shall, in any manner, discriminate between subscribers of the same class and such classification of subscribers shall not be arbitrary.

11. **Terms and Conditions of Service**

Service providers shall clearly indicate the terms and conditions of the provision of telecommunication services to subscribers which shall not in any manner be inconsistent with the provisions of this Order. Such terms and conditions shall *inter-alia* include the following:

a. Terms and conditions under which such services may be obtained, utilised and terminated;

b. Terms and conditions relating to the use of service, billing, repair, fault rectification and the like;

c. choice of tariff packages available to a subscriber and the procedure available for revising the choice along with the conditions thereof.

Section V

12. **Explanatory Memorandum**

This Order contains at Annex A, an explanatory memorandum to provide clarity and transparency to the tariffs specified in this Order.

Section VI

Residuary Clauses

13. Over-riding Effect

In respect of matters covered by this Order the provisions thereof shall have over-riding effect over Rules framed under the Indian Telegraph Act, 1885, as also the terms and conditions of the licence of a service provider and any tariffs or conditions as may have been set by the service providers for provision of telecommunication services to subscribers.

14. **Interpretation**

In case of dispute regarding interpretation of any of the provisions of this Order, the decision of the Authority shall be final and binding.

BY ORDER

Harsha Vardhana Singh,
Economic
Adviser,
Telecom Regulatory Authority

of India

SCHEDULE I
BASIC SERVICES (OTHER THAN ISDN)

Telecom Regulatory Authority of India	**TARIFF**	Page 8 of 103
ITEM		

(1) Date of 01 April, 1999
Implementation

(2) Registration Prevailing charges as on the date of this Order as ceilings **Charges**

(3) Installation
Charges

(3.a) Fixed line

telephony service using other than	Prevailing charges as on the date of this Order as ceilings

wireless in local loop technology

(3.b) Fixed line telephony service using wireless in local loop technology

Forbearance

(4) Deposits

(4.a) Fixed line Not to exceed twelve months' rentals as specified from time to time **telephony service using other than wireless in local loop technology**

(4.b) Fixed line telephony service using wireless in local loop

technology	Forbearance

Provided that,

The maximum period for deposit higher than at (a) above (i.e. higher than for fixed line telephony other than using wireless in local loop) is one year. At the end of one year of obtaining a wireless in local loop connection, unless the subscriber specifically demands the continuation of that connection on wireless in local loop, the additional deposit involved shall be refunded to the subscriber or interest paid on such additional deposit at the annual rate of interest for one year deposits prescribed by the State Bank of India.

(5) Monthly Rentals For Rural Subscribers

(5.a) Rural Low User Subscribers	**Exchange System Capacity**	**From 1 April, 1999 to 31 March, 2000**	**From 1 April, 2000 to 31 March, 2001**	**From 1 April, 2001 to 31 March, 2002**
	(Number of Lines)	**(Rs.)**	**(Rs.)**	**(Rs.)**
	Up to 999	70	70	70
	1,000 to 29,999	120	120	120
	30,000 to 99,999	180	180	180
	1 lakh and above	250	250	250
	Exchange System	**From**	**From**	**From**

(5.b) Rural General User Subscribers	**Capacity (Number of Lines)**	**1 April, 1999 to 31 March, 2000**	**1 April, 2000 to 31 March, 2001**	**1 April, 2001 to 31 March, 2002**
		(Rs.)	**(Rs.)**	**(Rs.)**
Up to 999		70	95	120
1,000 to 29,999		120	140	160
30,000 to 99,999		180	200	220

1 lakh and above	250	280	310
http://www.trai.gov.in/order.html			2/25/2003

(5.c) Rural	**Capacity**	**1 April, 1999 to 31**	**1 April, 2000 to 31**	**1 April, 2001 to 31**
Commercial User	**(Number of Lines)**	**March, 2000**	**March, 2001**	**March, 2002**
		(Rs.)	**(Rs.)**	**(Rs.)**

Subscribers

Up to 999	120	120	120
1,000 to 29,999	160	160	160
30,000 to 99,999	220	220	220
1 lakh and above	310	310	310

Notes:

1. Rural subscribers are those who reside in rural areas. For the purpose of this schedule, the definition of rural area shall be the same as used in conducting the Census of India.

2. Low user subscribers are those making not more than 500 metered calls per month of a billing cycle.

3. General user subscribers are those other than low user subscribers or commercial user subscribers.

4. The procedures for migration of subscribers from one category to another (i.e. low user subscribers to general user subscribers, and vice-versa) on the basis of the extent of usage will be notified before 30 September, 1999, as this issue becomes relevant only with effect from 1 April, 2000.

5. The rules for classifying subscribers as commercial user subscribers will be laid down by the Authority after due consultation. In the interim, commercial user subscribers are those who opt for the rental category specified for "Commercial user subscribers". The classification as commercial user subscriber shall be effective from the commencement of the next billing cycle after the date of option.

6. Exchange system capacity is the sum of the capacities of all exchanges in a local area, except that for rural subscribers the relevant exchange system capacity to be reckoned for this purpose is the one as existed prior to 15th August 1998, i.e. before the local call area became co-terminus with the short distance charging area (SDCA) for purpose of local calls. Any augmentation of the exchange capacity after the date of implementation of this Order shall automatically be taken into account for re-classification for purposes of tariffs.

7. Short Distance Charging Area (SDCA) is the area which, with few exceptions, coincide with revenue tehsil/taluk.

(6) Monthly

Rentals For Urban

Subscribers

(6.a) Urban Low User

Subscribers

Exchange System	**From**	**From**	**From**
Capacity	**1 April, 1999 to 31**	**1 April, 2000 to 31**	**1 April, 2001 to 31**
(Number of Lines)	**March, 2000**	**March, 2001**	**March, 2002**
1,000 to 29,999	**(Rs.)**	**(Rs.)**	**(Rs.)**

	120	120	120
30,000 to 99,999	180	180	180
1 lakh and above	250	250	250

(6.b) Urban General

User Subscribers

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Notes: 1,000 to 29,999

30,000 to 99,999

1 lakh and above

1.

2.

3.

4.

Urban subscribers are those who reside in urban areas. For the purpose of this schedule, the definition of urban area shall be the same as used in conducting the Census of India.

Low user subscribers are those making not more than 500 metered calls per month of a billing cycle.

General user subscribers are those other than low user subscribers or commercial user subscribers.

The procedures for migration of subscribers from one category to another (i.e. low user subscribers to general user subscribers, and vice-versa) on the basis of the extent of usage will be notified before 30 September, 1999, as this issue becomes relevant only with effect from 1 April, 2000.

160

310

160

310

160

310 **Exchange System From From From**

Capacity 1 April, 1999 to 31 1 April, 2000 to 31 1 April, 2001 to 31

(Number of Lines) March, 2000 March, 2001 March, 2002

(Rs.) (Rs.) (Rs.)

1,000 to 29,999 120 140 160

30,000 to 99,999 180 200 220

1 lakh and above 250 280 310

(6.c) Urban

Commercial User

Exchange System From From From

Subscribers **Capacity 1 April, 1999 to 31 1 April, 2000 to 31 1 April, 2001 to 31**

(Number of Lines) March, 2000 March, 2001 March, 2002

(Rs.) (Rs.) (Rs.)

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5. The rules for classifying subscribers as commercial user subscribers will be laid down by the Authority after due consultation. In the interim commercial user subscribers are those who opt for the rental category prescribed for "Commercial

user subscribers". The classification as commercial user subscriber shall be

effective from the commencement of the next billing cycle after the date of option.

6. Exchange system capacity is the sum of the capacities of all exchanges in a local

area.

First 500 metered calls per Metered calls in excess of

(7) Tariff per metered call for rural subscribers	**month of the billing cycle**	**the first 500 metered calls**
	(except for free calls)	**per month of the billing cycle**
(8) Free calls (or uncharged calls) for	**(Rs.)**	**(Rs.)**
	0.80	**1.20**
	75 metered calls per month of a billing cycle	

rural subscribers

(9) Tariff per metered	**First 500 metered calls per**	**Metered calls in excess of**
call for urban	**month of the billing cycle**	**the first 500 metered calls**

subscribers	**(except for free calls)**	**per month of the billing cycle**	2/25/2003
(Rs.)		**(Rs.)**	
1.00		**1.20**	
http://www.trai.gov.in/order.html			

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(10) Free calls (or	60 metered calls per month of a billing cycle	
uncharged calls) for		

urban subscribers

(11) Pulse Rate for local calls

(11.a) Exchanges

where pulses can be applied to local	180 seconds

calls

(11.b) Exchanges where pulses can not be applied to local calls

Forbearance

Notes:

1. Local Area is the area co-terminus with a Short Distance Charging Area (SDCA). 2. Short Distance Charging Area (SDCA) is the area which, with few exceptions, coincide with revenue tehsil/taluk.

(12) Pulse rates for peak hours

Radial distance		**From**	**From**	**From**
between any two		**1 April, 1999**	**1 April, 2000**	**1 April, 2001**
(12.a) For subscriber trunk dialed domestic	**exchanges or between any two charging centres**	**31 March, 2000**	**31 March, 2001**	**31 March, 2002**

		(Seconds)	**(Seconds)**	**(Seconds)**
long distance	Up to 50 kms	180.0	180.0	180.0
calls	Above 50 kms. and up to 200	14.0	15.0	18.0
kms.				
Above 200 kms. and up to 500		5.0	6.2	6.8
kms.				
Above 500 kms. and up to 1000		3.5	4.1	4.6
k				
http://www.trai.gov.in/order.html				2/25/2003

Above 1,000 kms	2.5	3.0	3.5

These pulse rates imply the following peak hour tariffs for an STD call of 1 minute duration:

	Radial distance	**From**	**From**	**From**
	between any two	**1 April, 1999**	**1 April, 2000**	**1 April, 2001**
(12.a.i) At pulse	**exchanges or**	**31 March,**	**31 March,**	**31 March,**
	between any two	**2000**	**2001**	**2002**
charge of Rs. 0.80	**charging centres**	**(Seconds)**	**(Seconds)**	**(Seconds)**
per metered call	Up to 50 kms	0.8	0.8	0.8
	Above 50 kms. and up to 200	4.0	4.0	3.20
	kms.	10.40	8.0	7.20
	Above 200 kms. and up to 500			
	kms.	14.40	12.00	11.20
(12.a.ii) At pulse	Above 500 kms. and up to 1000			
	kms.	20.00	16.80	14.40
	Above 1,000 kms			
	Radial distance	**From**	**From**	**From**
charge of Re. 1.00	**between any two**	**1 April, 1999**	**1 April, 2000**	**1 April, 2001**
	exchanges or	**31 March,**	**31 March,**	**31 March,**
per metered call	**between any two**	**2000**	**2001**	**2002**
	charging centres	**(Seconds)**	**(Seconds)**	**(Seconds)**

Up to 50 kms	1.0	1.0	1.0	2/25/2003

Above 50 kms. and up to 200 kms.	5.0	5.0	4.0	
Above 200 kms. and up to 500 kms.	13.00	10.00	9.00	
Above 500 kms. and up to 1000 kms.	18.00	15.00	14.00	
Above 1,000 kms	25.00	21.00	18.00	

(12.a.iii) At pulse charge of Rs. 1.20 per metered call	**Radial distance between any two exchanges or between any two charging centres**	**From 1 April, 1999 31 March, 2000 (Seconds)**	**From 1 April, 2000 31 March, 2001 (Seconds)**	**From 1 April, 2001 31 March, 2002 (Seconds)**
Up to 50 kms		1.20	1.20	1.20
Above 50 kms. and up to 200 kms.		6.0	6.0	4.80
Above 200 kms. and up to 500 kms.		15.60	12.00	10.80
Above 500 kms. and up to 1000 kms.		21.60	18.00	16.80
Above 1,000 kms		30.00	25.2	21.60

Notes:

1. Charging centres are classified as "Long Distance Charging Centre" (LDCC) and

"Short Distance Charging Centre" (SDCC).

2.	Long Distance Charging Centre is a particular Trunk Exchange in a long distance charging area as presently defined for the purpose of charging for trunk calls.

Headquarters of a Secondary Switching Area are generally LDCCs.

3.	Short Distance Charging Centre is a particular exchange in short distance charging area as presently defined for the purpose of charging trunk calls.

Headquarters of Short Distance Charging Areas are generally SDCCs.

4.	Secondary Switching Area (SSA) is a territory, whose boundaries, generally but not necessarily, are co-terminus with those of a revenue District and in which

normally one Secondary Trunk Automatic Exchange is located.

(12.b) Inter-national Subscriber Dialed	**Country Category**	**From 1 April, 1999**	**From 1 April, 2000**	**From 1 April, 2001**
calls	SAARC and other	**31 March, 2000**	**31 March, 2001**	**31 March, 2002**

		(Seconds)	**(Seconds)**	**(Seconds)**
		2.5	2.8	3.3

Neighbouring
Countries

Countries in Africa,.	1.5	1.8	2.3	2/25/2003
Europe, Gulf, Asia				
and Oceania				
Countries in	1.2	1.5	1.8	
American Continent				
http://www.trai.gov.in/order.html				

and Other Places in
Western
Hemisphere

These pulse rates imply the following peak hour tariffs for ISD calls of 1 minute duration:

(12.b.i) At pulse charge of Rs. 0.80 per metered call	**Call made to:**	**From 1 April, 1999 31 March, 2000 (Seconds)**	**From 1 April, 2000 31 March, 2001 (Seconds)**	**From 1 April, 2001 31 March, 2002 (Seconds)**
SAARC and other Neighbouring Countries		20.00	16.80	14.40
Countries in Africa,. Europe, Gulf, Asia and Oceania		32.80	27.20	21.60
Countries in American Continent and Other Places in Western Hemisphere		40.80	32.80	27.20

(12.b.ii) At pulse charge of Re. 1.00 per metered call	**Call made to:**	**From 1 April, 1999 31 March, 2000**	**From 1 April, 2000 31 March, 2001**	**From 1 April, 2001 31 March, 2002**
SAARC and other		**(Seconds)**	**(Seconds)**	**(Seconds)**

Neighbouring	25.00	21.00	18.00

Countries

Countries in Africa,.	41.00	34.00	27.00

Europe, Gulf, Asia
and Oceania

Countries in http://www.trai.gov.in/order.html	51.00	41.00	34.00	2/25/2003

American Continent
and Other Places in
Western
Hemisphere

Call made to:	**From**	**From**	**From**

(12.b.iii) At pulse	SAARC and other	**1 April, 1999** **31 March, 2000** **(Seconds)**	**1 April, 2000** **31 March, 2001** **(Seconds)**	**1 April, 2001** **31 March, 2002** **(Seconds)**
charge of Rs. 1.20		30.00	25.20	21.60
	Neighbouring	49.20	40.80	32.40
per metered call	Countries Countries in Africa,. Europe, Gulf, Asia and Oceania			
	Countries in American Continent and Other Places in	61.20	49.20	40.80

Western
Hemisphere

Note: The coverage of country categories shall be used as per the present classification by the Department of Telecommunications.

(13) Peak hour tariff

(13.a) For manual trunk calls

(13.a.i) From and to places with STD

facilities (i) Rs. 5 per call

Plus

(ii) Tariff for subscriber trunk dialed domestic long distance calls, as applicable,

Provided that,

the minimum tariff under this plan may be the amount applicable to a one minute

subscriber trunk dialed domestic long distance call.

The above tariffs are ceilings.

(13.a.ii) From/to

places without STD facilities	Tariffs shall be the same as in (i) above, assuming as if these places have STD facilities.
(13.b) For trunk	Forbearance

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( )
calls with special
features such as
demand call,
person to person
call, lightning call,
etc.

(13.c) For operator
assisted
international calls

(13.c.i) From and
to places with ISD
facilities

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(i) Rs. 5 per call

Plus

(ii) Tariff for ISD calls, as applicable,

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Provided that,

the minimum tariff under this plan may be the amount applicable to a one minute ISD call.

(13.c.ii) From/to

places without ISD facilities	The above tariffs are ceilings.

Tariffs shall be the same as in (i) above, assuming as if these places have ISD facilities.

(13.d) For operator Forbearance
assisted
international calls,
with special
features such as
demand calls,
person to person
call, lightning call,
etc.

(14) Peak Hours:

(14.a) For i. For distance slab "Up to 50 kilometers", there need not be any division of the **domestic long** calendar day between peak and off-peak hours.

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distance calls

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ii. For all other distance slabs, peak hours shall not exceed 11 hours during a

calendar day. Peak hour tariffs specified in this schedule cannot, therefore, be

charged for more than 11 hours in a calendar day for distance slabs beyond 50

kms.

(14.b) For	iii.	Forbearance with respect to the choice of timings for peak hours.
	i.	For country categories in the Table specifying peak hour pulse rates for
	ii.	international calls, peak hours shall not exceed 11 hours during a calendar day for
		each of the three country categories. Peak hour tariffs specified in this schedule
		for international calls cannot, therefore, be charged for more than 11 hours in a
international calls		calendar day for any of the three country categories.
		Forbearance with respect to the choice of timings for peak hours of 11 hours

during a calendar day for each of the three country categories.

(15) Off-peak

hours

(15.a) For	i.	For all distance slabs other than "Up to 50 kms.", off-peak hours shall not be less
		than 13 hours during a calendar day.

domestic long

distance calls

ii. On Sundays and National Holidays (i.e., 26th January, 15th August and 2nd

October), all the 24 hours during the calendar day shall be off-peak hours.

iii. Forbearance with respect to the choice of timings for off-peak hours during a

calendar day.

iv. Forbearance for off-peak hour tariffs subject to the condition that these tariffs shall

be below the relevant peak hour tariffs specified in this schedule.

i. For country categories in the Table specifying peak hour pulse rates for international calls, off-peak hours shall not be less than 13 hours during a calendar day for each of the three country categories

(15.b) For	ii.	On Sundays and National Holidays (i.e., 26th January, 15th August and 2nd
international calls	iii.	October), all the 24 hours during the calendar day shall be off-peak hours.
		Forbearance with respect to the choice of timings for off-peak hours during a

calendar day for each of the three country categories.

iv. Forbearance for off-peak hour tariffs, subject to the condition that these tariffs shall be below the peak hour tariffs specified in this schedule.

(16) Franchised Group PBX, or PABX and EPABX with DID Facility (for Multistory Buildings, Other Buildings, Co-operative Housing Societies)

(16.a) For the franchisee

(16.a.i) Regis-tration and Installation charges

(16.a.ii) Monthly

rental per junction line

(16.a.ii.1) For outgoing and both-ways junctions

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Prevailing charges as on the date of this Order as ceilings

(16.a.ii.2) For incoming junctions

(16.a.iii) Other

Matters Relevant	**Exchange system**	**Rural Franchisees**	**Urban Franchisees**
to Tariffs	**capacity**	**(Ceilings of Rs.)**	**(Ceilings of Rs.)**

(Number of lines)

Up to 999 lines	120	160
1,000 to 29,999 line	160	160
30,000 to 99,999 lines	220	220
1 lakh and above lines	310	310

(16.b) For extension user Same rental as for outgoing and both-ways junctions less a minimum rebate of Rs. 50 per month.

(16.b.i) Regis-tration and

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Installation

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charges Forbearance

(16.b.ii) Monthly Rental

(16.b.iii) Security Deposit

(16.b.iv) Call Charge

(16.b.v) Free Calls (or uncharged calls)

(16.b.vi) Other Prevailing charges as on the date of this Order as ceilings

Matters Relevant to Tariffs

Rs. 125 per month

Ceiling of twelve months' rental charged to the extension user

Rs. 1.20 per metered call

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Nil

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Forbearance

Note: Alternative tariff packages may be offered by franchisees. For explanation of "alternative tariff packages", see Explanatory Notes at the end of this schedule.

(17) Subscriber Owned Group PBX, PABX, EPABX (for Office Buildings, Hotels, and Other Parties)

(17.a)Registration and Installation charges

(17.b) Monthly

Relevant to Tariffs

Ceiling of Rs. 620 per month less a minimum rebate of Rs. 50 per month

Rs. 1.20 per metered call

Nil

Forbearance

Rental

Prevailing charges as on the date of this Order as ceilings

Per Junction Line:

(17.b.i) For outgoing and Both-Ways junction lines

(17.b.ii) For incoming junction lines

(17.c) Call Charge

(17.d) Free Calls (or uncharged calls) Ceiling of Rs. 620 per month

(17.e) Other Matters

(18) Service Provider Owned Group PBX, PABX, EPABX (for Office Buildings, Hotels, and Other Parties)

(18.a) Registration and Installation charges for junctions

(18.b) Monthly Rental

Per Junction Line	Prevailing charges as on the date of this Order as ceilings

(18.b.i) For outgoing and Both-Ways junction lines

(18.b.ii) For incoming junction lines

(18.c) Call Charge Ceiling of Rs. 620 per month

(18.d) Free Calls (or

uncharged calls)

(18.e) Other Matters	Ceiling of Rs. 620 per month less a minimum rebate of Rs. 50 per month

Relevant to Tariffs

Rs. 1.20 per metered call

Nil

Forbearance

Forbearance

http://www.trai.gov.in/order.html 2/25/2003

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(19) PCOs/VPTs

(19.a) Coin

Collection Boxes

(CCBs)

(19.a.i) Tariff in rural

areas	Re. 1.00 per metered call

(19.a.ii) Tariff in urban areas

Re. 1.00 per metered call

(19.b) Tariff for local call from PCOs/VPTs (including STD/ISD PCOs/VPTs)

(19.b.i) in rural areas

(19.b.ii) in urban areas

(19.c) Tariff for STD/ISD calls from STD/ISD PCOs/VPTs

Ceiling of Re. 1.00 per metered call

(19.c.i) in rural areas

Ceiling of Rs. 1.20 per metered call

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(19.c.ii) in urban

areas

(19.d) Long distance public telephone	Ceiling of Rs. 1.20 per metered call

with flat rate

plus

Ceiling of Rs. 2 for each STD/ISD call (irrespective of duration)

Ceiling of Rs. 1.20 per metered call

plus

Ceiling of Rs. 2 for each STD/ISD call (irrespective of duration)

Forbearance

(20) Fascimile	Forbearance
(21) All Other Matters	Forbearance
Relevant to Tariffs,	

including billing

cycle, and special

and supplementary

services not

elsewhere specified

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EXPLANATORY

NOTES:

(a) Low User

Subscriber	A subscriber making not more than 500 metered calls per month of a billing cycle.
(b) General User	A subscriber other than low user subscribers or commercial user subscribers. The procedures for migration of subscribers from one category to another (i.e. low user subscribers to general user subscribers, and vice-versa) on the basis of the extent of usage will be notified before 30 September, 1999, as this issue becomes relevant only
Subscriber	

with effect from 1 April, 2000.

The rules for classifying subscribers as commercial user subscribers will be laid down by the Authority after due consultation process. In the interim commercial user subscribers are those who opt for the rental category prescribed for "Commercial user subscribers".

The classification as commercial user subscriber shall be effective from the commencement of the next billing cycle after the date of option.

(c) Commercial

User Subscriber	Subscribers residing in rural areas. For the purpose of this schedule, the definition of

rural area shall be the same as used in conducting the Census of India.

Subscribers residing in urban areas. For the purpose of this schedule, the definition of urban area shall be the same as used in conducting the Census of India.

A standard tariff package provides basic services at the tariffs specified in the schedule,

(d) Rural subscribers	and includes the specified number of free calls. Different rentals prescribed for the three categories of subscribers in (a) to (c) above imply that three different standard tariff packages are specified in this schedule.

Tariff and free call allowance offered to subscribers by service providers, in addition to those offered in the standard tariff packages. In the "alternative tariff packages", items for which tariffs are specified in terms of a ceiling will continue to be subject to the specified

(e) Urban subscribers	ceiling. Items for which a specific amount of tariff is shown in this schedule (e.g. rentals and call charges) may have any alternative tariff in the "alternative tariff package". Similarly, an alternative free call allowance may be provided in an "alternative tariff

package".

Subscribers must have the option of getting basic services (other than ISDN) at tariffs **(f) Standard tariff** and free call allowance specified in this schedule. In addition, the service provider may **package(s)** offer alternative tariff packages to the subscribers. The subscriber shall be free to choose among various tariff and free call offers available.

The sum of the capacities of all exchanges in a local area, except that for the purpose of offering tariffs applicable to rural subscribers (including rentals) the relevant exchange system capacity to be reckoned is the one as existed prior to 15th August 1998, i.e.

before the local call area became co-terminus with the short distance charging area (SDCA) for purpose of local calls. Any augmentation of the exchange capacity after the date of implementation of this Order shall automatically be taken into account for re-

(g) Alternative classification for the purposes of tariffs.

tariff packages

Short Distance Charging Area (SDCA) is the area which, with few exceptions, coincide with revenue tehsil/taluk. The local area is co-terminus with an SDCA for the purpose of tariffs.

Charging centres are classified as "Long Distance Charging Centre" (LDCC) and "Short Distance Charging Centre" (SDCC).

Long Distance Charging Centre is a particular Trunk Exchange in a long distance charging area as presently defined for the purpose of charging for trunk calls. Headquarters of a Secondary Switching Area are generally LDCCs.

(h) Mandatory provision of standard

packages	Short Distance Charging Centre is a particular exchange in short distance charging area as presently defined for the purpose of charging trunk calls. Headquarters of Short

Distance Charging Areas are generally SDCCs.

(i) Exchange

system capacity	Secondary Switching Area (SSA) is a territory, whose boundaries, generally but not

necessarily, are co-terminus with those of a revenue District and in which normally one Secondary Trunk Automatic Exchange is located.

(j) Short Distance Charging Area (SDCA)

(k) Charging Centres

(l) Long Distance Charging Centre (LDCC)

(m) Short Distance Charging Centre (SDCC)

(n) Secondary Switching Area (SSA)

Schedule II

Cellular Mobile Telecom Service (CMTS)

1.	**ITEM**	01 April, 1999*	**TARIFF**
	Date of implementation		
2.	**Deposit**		

Prevailing charges as specified in the present licence as ceiling

3.	**Installation charges**	Prevailing charges as specified in the present licence as ceiling

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4.	Categorisation of hours in a	Standard Hours and Concessional HoursK	

calendar day

5.	Duration of Standard Hours and Concessional	Standard Hours shall not exceed eleven hours in a calendar day, except as

	Hours	provided otherwise

All other hours shall be Concessional Hours

6. **Timing of Standard Hours and Concessional Hours**

Forbearance

7. **Pulse rate for calls**

20 seconds

ITEM **TARIFF**

8.	Rental	Rs. 600 per month

(9) Airtime charges

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(9.a) Standard Hours Rs. 6 per minute

(9.b) Concessional Hours Forbearance;

Provided that airtime during Sundays and three National Holidays (26th January, 15th August, and 2nd October) shall be priced at Concessional rates

Tariff for different category of calls

10.	**Calls from PSTN to Mobile**	The called party to pay airtime	
11.	**Calls from Mobile to PSTN**	Tariff to comprise:	
		i.	Airtime; plus
		ii.	PSTN charges for local or long distance as applicable from time to time to

the fixed network

12.	**Calls from Mobile to Mobile within Metro Licensee Service Areas**	Both called and calling party to pay airtime

(13) Calls from Mobile to Mobile not included in item (12) above

Tariff to comprise airtime plus a supplementary long distance charge based on distance

The Service Provider shall make the calling party aware of the quantum of the supplementary charge to be paid by the party, by making appropriate technical arrangements

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ITEM		

(14) Additional Items

(14.a) Roaming Forbearance

(14.b) Other Forbearance

Supplementary Services

(14.c) Value Added Services

Forbearance

(14.d) All other matters relevant to Tariff, including billing cycle

Forbearance

Explanatory Notes

a.	**Standard Tariff**	The Standard Package provides Cellular services at the tariffs specified in the
b.	**Package**	schedule
	Alternative Tariff	Tariff offered to subscribers in addition to that offered in the Standard Package

Packages

In these Alternative Tariff Packages, items for which tariffs are specified as ceilings cannot be exceeded. Items for which a particular amount is specified in the schedule viz. rental and airtime charge may have a different tariff in the Alternative Tariff Package

Subscribers must have the option of getting Cellular services at tariffs specified in this schedule. In addition, the service provider may offer alternative tariff packages to the subscribers. The subscriber shall be free to choose among various tariff packages available

c) Mandatory provision of standard packages

Schedule III
Radio Paging Services

1.	**ITEM**	01 April, 1999	**TARIFF**
	Date of implementation		

2. **Deposit**

Prevailing charge as specified in the present licence as ceiling

3.	**Registration Fee**	Prevailing charge as specified in the present licence as
		ceiling

4. **Rental**

Rs. 300 per month as ceiling

(4.a) Alphanumeric Service

(4.b) Numeric Rs. 175 per month as ceiling

Service

Forbearance

5. **All other matters relevant to tariff, including supplementary services, value added services, billing cycle**

Note: The Authority will review the tariff and other conditions specified in this schedule once the detailed study on viability assessment of Radio Paging Services Providers that is currently in progress is complete. If the results of the study warrant, the tariffs will be changed.

SCHEDULE IV
LEASED CIRCUITS

ITEM			**TARIFF**
(1) Date of	01 April, 1999		
Implementation	a.	All tariffs specified as ceilings	
(2) Coverage			

b. It is mandatory for leased circuits to be provided through utilization of spare capacity when such capacity is available and when not available, on rent and guarantee terms

c. The tariff for leased circuits shall be calculated either

i. As a combination of tariff given under "Ready Reckoner Tariff" and tariffs given

under "Other additional costs, as applicable";

Or,

(ii) On rent and guarantee terms

(3) Ready Reckoner

Tariff for leased

circuits of speed:

(3.a) 64 Kbps

(3.b) 2 Mbps	As specified in Annex 1 to this schedule
(3.c) Below 64 Kbps	As specified in Annex 2 to this schedule

Forbearance

(3.d) N Times 64 Ceiling tariffs for capacity ranging from 128 Kbps to 960 Kbps shall be determined by

Kbps multiplying the ceiling tariff for leased circuits of 64 Kbps by the coefficients specified below:

Capacity (Kbps) Coefficient

960 7.6

768 6.4

512 4.8

384 4.0

320 3.6

256 3.1

192 2.5

128 1.8

(3.e) N Times 2 Mbps	Ceiling tariffs for N Times 2 Mbps leased circuits shall be N times the ceiling tariff for leased circuit of 2 Mbps, except that in calculating the ceiling tariffs:

(i) N = 16 for 34 Mbps, and

i. N = 64 for 140 Mbps.

(4) Other Additional If these additional items are charged, they must be specified separately and individually in the

Costs, As bill

Applicable

(4.a) Local leads

or end links Tariff for local lead (or end links) to be charged as

i. Charge for leasing these local leads, or

ii. If such leasing is not possible then

1. On rent and guarantee basis, or alternatively

2. On contribution basis

(4.b) Payment for

right of way / way leave charges	The service provider may also charge for the amount paid, if any	
(5) Tariff for leased circuits provided	a.	To be based solely upon costs

on rent and

guarantee terms

b. Rent and guarantee tariffs under this schedule to apply to prospective leased circuits

(6) Tariffs for

circuits leased for

short duration

(6.a) For a period

up to 3 months

(6.b) For a period	Double the pro rata rental as specified under the category "Ready Reckoner Tariff"

exceeding three
months but less
than one year

Full year rental as specified under the category "Ready Reckoner Tariff"

(6.c) Charge for
local leads, or end
links

Costs incurred in addition to the existing local leads and long distance medium, including additional costs incurred for any special constructions, may be added to the short duration rentals specified under items (a) and (b) above

(7) Tariff when capacity addition is	Parties providing and renting circuits to share costs based on bilateral negotiations

required to provide
leased circuits

(8) Other Matters **Relevant to Leased**	Forbearance

Circuits Tariffs

(Annex 1 to Schedule IV)

READY-RECKONER CEILING TARIFF FOR 64 Kbps LEASED CIRCUITS BASED ON 140 Mbps SYSTEM

Distance(km)	TOTAL(Rs.)	Distance(km)	TOTAL(Rs.)	Distance(km)	TOTAL(Rs.)
5	24,558	205	55,091	405	82,623
10	25,632	210	55,770	410	83,302

15	26,707	215	56,449	415	83,981
20	27,781	220	57,129	420	84,661
25	28,856	225	57,808	425	85,340
30	29,930	230	58,487	430	86,019
35	31,005	235	59,167	435	86,699
40	32,079	240	59,846	440	87,378
45	33,154	245	60,525	445	88,057
50	34,319	250	61,295	450	88,827
55	34,442	255	61,974	455	89,506
60	35,121	260	62,653	460	90,185
65	35,800	265	63,332	465	90,864
70	36,480	270	64,012	470	91,544
75	37,159	275	64,691	475	92,223
80	37,838	280	65,370	480	92,902
85	38,518	285	66,050	485	93,582
90	39,197	290	66,729	490	94,261
95	39,876	295	67,408	495	94,940
100	40,646	300	68,178	500	95,710
105	41,325	305	68,857	Beyond 500 kms Rs.96000	
110	42,004	310	69,536	fixed irrespective of distanc	
115	42,683	315	70,215	2/25/2003	
120	43,363	320	70,895		
125	44,042	325	71,574		
130	44,721	330	72,253		
135	45,401	335	72,933		
140	46,080	340	73,612		
145	46,759	345	74,291		
150	47,529	350	61,475		
155	48,208	355	75,740		
160	48,887	360	76,419		
165	49,566	365	77,098		
170	50,246	370	77,778		
175	50,925	275	78,457		
180	51,604	380	79,136		
185	52,284	385	79,816		

190	52,963	390	80,495	
195	53,642	395	81,174	
200	54,412	400	81,944	
http://www.trai.gov.in/order.html				

(Annex 2 to Schedule IV)

READY-RECKONER CEILING TARIFF FOR 2 Mbps LEASED CIRCUITS BASED ON 140 Mbps SYSTEM

Distance(km)	TOTAL(Rs.)	Distance(km)	TOTAL(Rs.)	Distance(km)	TOTAL(Rs.)
5	55,820	205	971,810	405	1,797,763
10	88,056	210	992,189	410	1,818,141
15	120,291	215	1,012,567	415	1,838,520
20	152,527	220	1,032,946	420	1,858,899
25	184,763	225	1,053,325	425	1,879,278
30	216,999	230	1,073,704	430	1,899,657
35	249,235	235	1,094,083	435	1,920,035
40	281,471	240	1,114,461	440	1,940,414
45	313,706	245	1,134,840	445	1,960,793
50	348,642	250	1,157,919	450	1,983,872
55	352,345	255	1,178,298	455	2,004,251
60	372,724	260	1,198,677	460	2,024,630
65	393,103	265	1,219,056	465	2,045,008
70	413,482	270	1,239,434	470	2,065,387
75	433,860	275	1,259,813	475	2,085,766
80	454,239	280	1,280,192	480	2,106,145
85	474,618	285	1,300,571	485	2,126,524
90	494,997	290	1,320,950	490	2,146,902
95	515,376	295	1,341,328	495	2,167,281
100	538,454	300	1,364,407	500	2,190,360
105	558,833	305	1,384,786	Beyond 500 kms Rs.22 Lakhs	
110	579,212	310	1,405,165	fixed irrespective of distance	
115	599,591	315	1,425,544	2/25/2003	
120	619,970	320	1,445,923		
125	640,349	325	1,466,301		
130	660,727	330	1,486,680		
135	681,106	335	1,507,059		

140	701,485	340	1,527,438	
145	721,864	345	1,547,817	
150	744,943	350	1,163,319	
155	765,321	355	1,591,274	
160	785,700	360	1,611,653	
165	806,079	365	1,632,032	
170	826,458	370	1,652,411	
175	846,837	275	1,672,790	
180	867,216	380	1,693,168	
185	887,594	385	1,713,547	
190	907,973	390	1,733,926	
195	928,352	395	1,754,305	
200	951,431	400	1,777,384	
http://www.trai.gov.in/order.html				

Schedule V

ISDN Services

ITEM TARIFF

1. **Date of implementation** 01 April, 1999

(2) Initial Deposit and Aggregate of all deposits (excluding security deposit for

Registration Deposit equipment) cannot exceed one year's rental

The registration deposit should be combined with the initial deposit for the

purpose of comparing with the maximum limit on deposits

Installation and testing charges are one time charges

(3) Installation and Testing

Charges

(3.a) Wiring charges upto Network Rs. 4,000 as ceiling

Terminal (NT) for Primary Rate

Access (PRA)

(3.b) Wiring charges upto NT1 for

Basic Rate Access (BRA)

Rs. 600 as ceiling

(3.c) Subscriber Interface Bus

(3.d) For ISDN Terminals	Rs. 500 as ceiling

(3.d.i) Ordinary ISDN Phone

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(3.d.ii) ISDN PC Card

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(3.d.iii) ISDN Feature Phone (3.d.iv) Terminal Adopter **(3.d.v) ISDN PBX per port (3.d.vi) G4 Fax Terminal** **(3.d.vii) Videophone**	Rs. 275 as ceiling Rs. 400 as ceiling Rs. 550 as ceiling

	Rs. 475 as ceiling Rs. 800 as ceiling

Rs. 6,000 as ceiling

(4) Monthly Rental for ISDN	Rs. 1,350 as ceiling

Equipment (optional)

(4.a) Ordinary ISDN Phone	The rates for monthly rental for individual ISDN equipment are applicable only if the equipment is hired from the service provider

(4.b) ISDN PC Card

Rs. 550 as ceiling **(4.c) ISDN Feature Phone**
Rs. 800 as ceiling **(4.d) Terminal Adopter**
Rs. 1,100 as ceiling **(4.e) ISDN PBX per port**
Rs. 950 as ceiling **(4.f) G4 Fax Terminal**
Rs. 1,600 as ceiling **(4.g) Videophone**
Rs. 12,000 as ceiling

Rs. 2,700 as ceiling

(5) Monthly Rental for Access

(5.a) For PRA

A ceiling of Rs. 5,000 per month upto 3 kms and Rs. 2,000 for each additional km or part thereof

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(5.b) For BRA **(6) Usage Charges** **For every B channel** **(7) Rental for supplementary services** **(7.a) Direct Dialing in** **(7.b) Calling Line Identification Presentation (CLIP)** **(7.c) Line Hunting** **(7.d) Closed User Group (CUG)** **(7.e) Advice of Charge** **(7.f) User to User Signalling** **(8) Minimum period of hire for temporary ISDN connection**	Page 48 of 103 Rs. 1,000 as ceiling Rates as applicable to PSTN as ceilings. **There shall be no minimum usage charge** Any change in the PSTN tariff will automatically imply a corresponding change in the usage rate applicable for every B channel NIL NIL NIL NIL NIL NIL One month 2/25/2003
http://www.trai.gov.in/order.html	

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(9) Rental for temporary

ISDN connection

(9.a) For PRA

One month

11.	**(9.b) For BRA**	A ceiling of Rs. 10,000 per month upto 3 kms and Rs. 4,000 for each
		additional km or part as thereof
	(10) Surrender before	Rs. 2,000 per month as ceiling
	provision	
	Security Deposit for	Actual expenses incurred are chargeable

equipment hired from the
Basic Service Provider

The security deposit cannot exceed the equipment's prevailing market price

(12) All other matters relevant to tariff, including billing cycle

Forbearance

Schedule VI
Internet

ITEM			
(1) Date of implementation	01 April, 1999	**TARIFF**	2/25/2003
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(2) Tariff for all Internet

Services other than Internet

Leased Circuits (Port Charges)	Forbearance

(3) Charge for Internet

Leased Circuits (Port

Charges)

Speed Tariff as Ceiling (Rs. Lakhs per annum)

2.4 Kbps 0.7

9.6 Kbps 2 .5

64 Kbps 5

128 Kbps 7.6

256 Kbps 10.5

512 Kbps 15.1

1 Mbps 25.1

(4) All other matters relevant	2 Mbps 41.8

to Internet Tariff, including

billing cycle	Forbearance	2/25/2003
http://www.trai.gov.in/order.html		

Schedule VII

Value Added Services

ITEM	**TARIFF**	
(1) Date of implementation	01 April, 1999	
(2) Value Added Services	These services include *inter-alia,*	
(3) All matters relevant to tariff, including billing cycle	i.	Electronic Mail
	ii.	Voice Mail
	iii.	Closed Users Group Domestic 64 Kbps Data Network via INSAT
	Satellite System	
	iv.	Videotex Service

	v.	Video Conferencing
	Forbearance	

Schedule VIII

Telex and Telegraph Services

ITEM TARIFF

(1) Date of implementation **01 April, 1999**

Forbearance

(2) All matters relevant to

tariff

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Schedule IX
Global Mobile Personal Communication by Satellite (GMPCS)

ITEM	01 April, 1999	**TARIFF**
(1) Date of implementation		

(2) All matters relevant to
Tariff, including billing cycle

Forbearance

ANNEX A

EXPLANATORY MEMORANDUM

A. INTRODUCTION

1. **This Order is the culmination of a process, both extensive as well as intensive, which involved two Consultation Papers (one on concepts, principles and methodology, and the other containing tariff proposals for various telecom services), written & oral comments on these papers and Open House Meetings in different parts of the country. The Authority consulted with all stakeholders in the sector, including service providers, consumers, potential investors, Ministry of Communications, and Members of Parliament. On some of the issues involved, other Telecom Regulatory Bodies and international experts were also consulted. In arriving at the decisions contained in this Order, the Authority gave serious consideration to all comments, including those contained in the Report of the Lok Sabha's Standing Committee on Communications (hereinafter "Standing Committee") that addressed the Authority's tariff proposals.**

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2. **The purpose of this Memorandum is to lend clarity and transparency to this Order and give reasons for decisions taken with regard to tariffs. The Authority wishes to emphasize that this Order is only a first step in the process of tariff reform which is essential to prepare for competition and for introduction of new services. Without such tariff reform, telecom**
development, in particular for basic services, is not sustainable. The revised tariffs will not only reduce the vulnerability of the incumbent basic service provider (DOT) to competition, but will also provide adequate resources for the DOT to achieve its network expansion. These tariffs will also sustain the viability of the new entrants in different service areas.

3. **Through this Order, the Authority also wants to send a signal to investors in this sector about the direction of telecom pricing reform, the main elements of which will be:**

{tariffs will be further re-balanced towards costs while emphasizing the social objective of encouraging low users of telecom to get connected and use the system more intensively; and,
{service providers, and through them customers, will be provided enhanced flexibility for pricing and giving alternative tariff packages to customers.

1.	**Universal Service Obligations (USO) will be dealt with separately. The Authority is working on**

estimating the costs of USO, and ways in which the same could be met. A Consultation Paper on this issue will be released later this year.

2.	**The various comments and consultations held by the Authority clearly reflected that differing, and**

sometimes conflicting, objectives were emphasized by different stakeholders. For example, several customer groups felt that the surplus of the Department of Telecommunications (hereinafter "DOT") was inordinately high at about Rs. 7,000 crores in 1997-98, and should be scaled down so as to avert any need for a price increase. In contrast, the DOT, and even the Standing Committee, were not in favour of reduction in this surplus on the grounds that it was needed for expansion of the telecom network. The Authority has examined the various concerns, including mutually conflicting ones, and has come out with what, in its view, is a balanced

tariff package which lays the foundation for achieving the main objectives of consumer protection on the one hand, and, network expansion and viability of the industry, on the other.

3. **The Authority has addressed the concerns of subscribers, including those raised specifically with regard to rural subscribers. The aim has been to reduce the burden of adjustment on low users of basic telecom in comparison to the proposals contained in the Authority's Consultation Paper of 9 September, 1998 (Consultation Paper No. 98/3; hereinafter "Second Consultation Paper").**

Moreover, the Authority has emphasized the provision of shared access, including through franchisee EPABX, which will imply rentals lower than those specified for Direct Exchange Lines (DELs) in most cases. Further, flexibility has been provided to the service provider to offer any alternative rental, call charge, and/or free call allowance in addition to those specified by the

Authority. Such flexibility will be beneficial to both subscribers and service providers.

4.	**The tariff re-balancing exercise also has to be seen in the context that:**

{**Tariffs have not increased since early 1993, while consumer incomes and prices have risen substantially since then;**
{**Affordability implies not just a consideration of tariffs for rentals and local calls but also long distance calls;**
{**Tariffs for long distance calls will decrease for three reasons (i.e. extension of the local area to become co-terminus with SDCA as a result of the DOT's Order implemented on 15 August, 1998, the treatment of calls to adjacent SDCAs as equivalent to local calls under that Order, and the reduction under this Order of STD calls to distances "above 20 and up to 50 kms" so that these calls are charged at the rate for local calls);**
{**The tariff decrease for long distance calls would benefit in particular rural subscribers because a larger portion of their calls are long distance calls;**
{**The reduction of long distance call charge will also benefit those making calls from STD PCOs/VPTs. These are mainly the less well to do users of telecom. It is noteworthy that about 30 per cent of revenues from STD calls are contributed by STD PCOs/VPTs.**

1.	**The Authority believes that the tariffs are fair also to the service providers, and will ensure their**

viability. It is true that the DOT surpluses are significant but the Authority's opinion is that at the present stage of India's telecom development, it is necessary for the DOT to have substantial surpluses for expanding the network and to meet other social obligations.

2. The present exercise was based on information which was not adequate to make detailed estimates of some elements. The process, based on better data inputs, will have to be refined in the future, in particular to determine cost based access or interconnection charges. Such charges need to be decided for a more complete treatment of interconnection, and will be a crucial input also to prepare for any liberalization of the long distance sector.

3. The Authority has begun a process to determine these charges, including an exercise to achieve separation of accounts for service providers to obtain more detailed information on the cost base, and achieve greater transparency of operations, especially with regard to cross-subsidization.

4.	There is a major disagreement between the Authority and the DOT on the revenue implications of the tariffs for basic services (excluding ISDN) specified in this Order. The DOT is of the opinion that price decreases in domestic long distance and international calls will not give rise to any increase in volume of these calls, while the Authority expects there to be a substantial volume response to such price

decreases. More details on this matter are provided later in this Memorandum.

5. The Authority will monitor and assess the situation regarding revenues after the implementation of the new tariff regime. In particular, the Authority will follow the situation for basic services, and compare the

actual revenues with its own projections of the revenue implications for the DOT. **If the actual scenario at the end of first year turns out to be significantly different from the one envisaged by the Authority, the situation will be reviewed and necessary corrective measures taken**.

6. Section B of this Memorandum addresses certain general aspects which apply to more than one category of service. This is followed by Section C which addresses the specific items covered in various Schedules of this Order. It begins with a discussion of the Schedule on basic services (excluding ISDN), followed by cellular mobile telecom services, radio paging services, leased circuits, ISDN services, internet, value added services, telex and telegraph services, and Global Mobile Personal Communication by Satellite.

B. GENERAL ISSUES

7.	A number of issues addressed in the Order pertain to more than one service, e.g. definition of tariff, reporting requirement, transparency and customer protection, deposits, registration and installation charge, flexibility granted to the service provider in fixing tariffs, and peak and off-peak hours. These are addressed in this scenario.

Coverage of the term "tariff"

8. It may be recalled that the term "tariff" is defined in the Order and includes charges as well as related conditions and free call allowance.

Different types of tariff specifications

9. Broadly, there are three types of tariffs specified in the Order:

{An amount or level is specified for certain tariffs (for example, rentals, call charges and free call allowance);
{A tariff ceiling for some others, such as deposits or registration charges;

{Tariff forbearance for others, i.e. at present, the service provider has the freedom to apply any tariff.

Flexibility of Tariffs, Standard Tariff Package and Alternative Tariff Packages

1. It is mandatory that options offered to a subscriber include a tariff package that is specified in the schedules: such tariff package(s) are defined as "standard tariff package(s)". In addition, a service provider will be free to offer alternative tariff packages in which:

{Any alternative tariff is allowed for those items for which the Authority has specified tariffs as amounts or levels;
{With regard to items for which tariffs are specified as ceilings, tariffs in the alternative package are also constrained by the specified ceilings;
{Service providers are free to offer any tariff for items subject to forbearance;

{Subscribers shall have the freedom to choose among the available tariff packages, including the standard tariff package.

1. Forbearance has generally been applied to tariffs for:

{Value added services, and other services with competitive markets; {New or emerging services; and,
{Services which require to be studied further.

Reporting Requirement and Intervention by the Authority

1. Tariff flexibility provided to service providers is subject to two types of safeguards in the Order:

{the requirement that all tariffs (including in the alternative tariff packages or those subject to forbearance), and any subsequent changes in them, are notified to the Authority five working days prior to implementation;
{the Authority's right to intervene and alter any tariff at any time, either *suo moto* or on the basis of a reference to it from any affected party.

Transparency for the Customer

1.	The Order also provides that subscribers (including potential subscribers) are provided information on tariffs (including terms and conditions) through publication of these tariffs in a specified format(s). These publications should also include a comparison of the standard and alternative tariff packages.
2.	In this regard, another significant condition specified in the Order is that service providers shall not discriminate between subscribers of the same class.

Registration Charge, Installation Charge, and Deposits

3. It is important that the conditions of access to the network do not constrain subscribers from getting connected to the network, in particular those providing relatively low revenues. To address the possibility of segmentation of the market in this manner, the prevailing charges for registration and installation have been specified as ceilings.

4.	A similar concern has led the Authority to specify that deposits must not exceed twelve months' rentals, as applicable. In the Second Consultation Paper, the Authority had recommended that interest be paid on these deposits. This Order has not done so for two reasons. One, for a large proportion of

subscribers, i.e. those making 1,000 metered calls bi-monthly and which account for above 70 per cent of the total, the specified rental is much lower than that proposed in the Consultation Paper. Hence, there is already a considerable reduction in rentals compared to the proposed rentals for these subscribers.

Secondly, payment of interests will impose substantial financial burden on the service providers. An alternative way of providing financial return on deposits is to lower the price of access or use for the subscriber. Such a policy has been adopted in the Order.

5. There are certain exceptions to the policy enunciated above:

{tariff forbearance has been specified regarding installation charge and deposit for fixed line telephony using wireless in local loop technology. For this technology, the installation charge could involve a higher cost than for other technologies, and hence flexibility for the service provider. For deposits, the flexibility is to help offer quick connections to those subscribers who wish to get linked quickly, but such flexibility is provided in effect for only one year;
{tariff forbearance has been specified for deposits for STD/ISD calls. These calls are likely to provide high revenues for service providers and they would therefore not fix too high an amount for such deposits. In any event, the deposits are also subject to reporting requirements and the possibility of review by the Authority.

1.	The Authority recognizes that the above-mentioned safeguards could be diluted by tariffs specified for items for which tariff forbearance has been specified. However, the two safeguards, including the reporting requirement, will be used to address any such situation.

Peak hours/Off-peak hours

2.	The Authority has specified tariffs only for peak hours and not off-peak hours. Thus, it is necessary also to clarify the duration and timing of peak and off-peak hours.
3.	In the Second Consultation Paper, for basic and cellular mobile services, the Authority had proposed

peak hours for 8 hours during a calendar day, leaving the service providers free to decide the timings thereof. During consultations, basic service providers sought at least 11 hours as peak hours for domestic long distance calls (i.e. the present situation), and pointed out that at present the duration of peak hours for international calls was 17 hours. Cellular mobile service providers asked for 12 hours as the duration of peak hours.

4. Based on these consultations and to foster higher usage, a total of 11 hours per calendar day has been specified as peak hours for domestic long distance and international calls, and for cellular mobile service.

5. In the case of domestic long distance, an exception is made for the first distance slab, i.e. 0 to 50 kms., for which the call charge is same as for local calls. Service providers have the option of not giving any off-peak hours for this distance slab, similar to the situation for local calls.

6. Further, the service provider is given flexibility to decide which hours of the day will be treated as off-peak hours. Any such decision on the timings for peak hours shall apply to all the distance slabs other than 0 to 50 kms.

7. For international calls also, the service provider has been provided with the flexibility of choosing the timings of peak hours. In addition, the service provider may have separate timings for peak hours for each of the three country categories mentioned in the Schedule.

8.	For domestic long distance (except distance slab 0 to 50 kms.) and international calls, and for cellular mobile service, off-peak tariffs have to be provided for the entire calendar day on Sundays, and on three

national holidays, i.e. 26th January, 15th August, and 2nd October.

9. Tariffs for off-peak hours have to be less than the corresponding tariffs for peak hours. The exact level of such tariffs has been left to the service providers to decide.

C. ISSUES SPECIFIC TO SERVICE SECTORS

(1)Certain General Issues Relating to Basic Services (Excluding ISDN)

10. In addition to the general issues mentioned above, certain matters were raised regarding basic services (excluding ISDN) with a focus wider than any specific tariff item. These were: whether there is a need to re-balance tariffs for basic services, affordability of the revised tariffs, and revenue implications for basic service provider.

(a). Whether there is a need to re-balance tariffs

11. Re-balancing of tariffs involves reducing tariffs which are above costs while increasing those below costs. Thus, re-balancing implies a reduction in the extent of cross-subsidization within the basic services sector. Such a rationalization is required as a condition precedent to conversion of a single operator system into a multi-operator one. This was recognized, *inter-alia*, even in the initial phase of the Authority's consultations on telecom tariffs. The views expressed in these consultations showed a consensus in favour of re-balancing tariffs for basic services.

12.	Subsequently, when specific proposals on re-balancing were made by the Authority in its Second Consultation Paper, there were some who opposed any re-balancing at present. Several comments were

in favour of re-balanced tariffs provided improvements were made in the quality of service. In this regard it is worth noting that the Authority has commenced its consultation process on quality of service parameters, and will in due time specify quality parameters and the process for ensuring that they are implemented.

13. Those opposing re-balancing of tariffs for basic services did so mainly on four grounds:

{If tariff re-balancing is required to address the situation of competition, it should not be carried out because for some years there is unlikely to be any competition in basic services;
{The DOT was earning huge surplus and this should be passed on in the form of lower tariffs for all services, instead of re-balancing tariffs which involves an increase in certain tariffs;
{The reduction in domestic long distance and international call charges adversely affects revenue earnings;
{Re-balancing tariffs involves an increase in rentals, which makes it more expensive for
subscribers to join the network. This would in turn adversely affect teledensity and growth of telecommunications in India.

1. **The Authority has considered the pros and cons of undertaking tariff re-balancing now. It came to the conclusion that tariff re-balancing cannot be achieved in one step, and further that the first step in this regard cannot be postponed if the policy of introducing private service providers has to succeed. In fact, the Authority believes that this should have been undertaken even before introducing competition in this sector. The growth and development of this sector will not be sustainable without this reform (see below).**

Presence of competition

2. 3.	According to the IXth Plan, the private sector is expected to provide more than 13 per cent of the DELs by 2001-2002. By 2006-2007, this share is expected to be 30 per cent. Even if the estimate of 13 per cent is an optimistic one, private sector share of the DELs will not be insignificant, as shown below, with regard to competitive pressure on the incumbent's revenues and surplus. The downwards pressure on revenues and surplus of the incumbent service provider will be stronger

when the long distance segment of basic services is liberalized. In that situation, the long distance service provider will be exclusively focusing on those subscribers providing relatively high revenues and surplus. To address that situation and to sustain the viability of the established basic service providers after liberalization of the long distance segment, it will be necessary to further re-balance tariffs.

4. Substantial competition for the incumbent's market share is also envisaged in the draft Telecom Policy 1999, which indicates that competition to basic service providers will arise not only from other basic service providers but also from those providing other services (including, for instance, internet service providers).

Competition and possibility of maintaining high prices

5.	It is not possible to have healthy competition in any market and sustain prices which are substantially above costs, such as India's tariffs for long distance and international calls. The practical consequence of such pricing regime will be to draw the attention of the competitor towards weaning away subscribers making such high priced calls, and hence to "cream skim" the market. Such a likelihood is particularly

high when a very small subscriber base accounts for a large share of call revenues. This is the situation in India, where 2.7 per cent of suscribers account for 46 per cent of the call revenue, and 5.2 per cent subscribers account for about 56 per cent of call revenue (see Table 1). The contribution of these subscribers to surplus is likely to be even larger. This shows that the incumbent is highly vulnerable to loss of these subscribers, and loss of these high revenue subscribers to competitors will seriously affect network expansion.

Table 1. Share of subscribers making total number of calls, 1996-97

Number of bi-monthly metered calls à	**0**	**1 to 150**	**151 to 500**	**501 to 1,00**
(a) Share of total subscribers making calls bi-monthly (%)	4.2	12.6	34.9	21.3
(b) Share of total metered calls by the subscriber categories given in row (a) above (%)	0	0.7	7.4	10

Source: DOT

Note: This is based on data from large cities. According to the DOT, the shares are similar for a larger sample of subscribers.

6.	Addressing the potential loss of revenue and surplus base due to competition requires reducing the charges for long distance and international calls. In any event, if prices are flexible, competition for this

"creamy layer" of subscribers will involve a reduction in these tariffs. If the only tariff change is a reduction in these tariffs, it will imply a loss of revenue and surplus base, mitigated to some extent by the increase in volume due to the price decline. Making up for the revenue loss requires that certain other tariffs have to increase, i.e. those tariffs which are below costs or are not high enough to attract competition from other operators. This is the process of tariff re-balancing.

7. The need for tariff re-balancing arises also for another reason, namely, the ongoing decline in the accounting rates applied to international calls. With reduction in these rates, and the consequent fall in international call charges, pressures will generate for making a compensating increase in local call charge and/or rentals.

8.	Two important considerations provide limits to any tariff re-balancing exercise, namely, affordability of the revised tariffs, and the need to ensure that the revenue base is not reduced so much that the development plans for the sector are jeopardized. Both these limitations, addressed in greater detail

below, influenced the Authority's decision in specifying tariffs in this Order. For example, even after the full implementation of the new tariffs, the ratios of long distance and international calls to local calls for India will remain very high in comparison to those prevailing in certain countries where substantial tariff re-balancing has already taken place (see Table 2 below).

Table 2. Ratio of upper end of charges for domestic long distance calls and international calls to local calls

Charge for	**Present**	**New**	
	90	52	10
highest	(150,		
domestic	with five		
long	minute		
distance	local		
call to	call)		
charge for			
three			

minute local
call

Charge for	180	101	20
highest	(300,		
international	with five		
call charge	minute		
to charge	local		
for three	call)		
minute local			
call			

Source: Tables AII.4 and AII.25 of the Second Consultation Paper; and discussions with the Telecom Regulator for South Africa.

(b). Affordability of Tariffs

9. **Specified tariffs have been so devised as to mitigate the effect of adjustment, in particular for low callers, and to continue giving an impetus to increased teledensity. In addition, the Authority would encourage greater promotion of shared access to the network (including through franchisee EPABX), greater promotion of the PCO network, and improving the quality of service available to subscribers.**

10.	The Authority is of the considered opinion that the specified tariffs will not have any adverse effect on affordability. A number of factors relevant in this context have been mentioned earlier. In addition, since

1993, incomes have risen, and a reduction in long distance call charge increases affordability, particularly for rural subscribers and those using STD PCOs/VPTs. Furthermore, call charges under this Order will remain unchanged (for local calls) or will decline (for STD/ISD) during the next three years, while incomes will continue increasing. For more than 70 per cent of the subscribers, i.e. those at present making up to 1,000 calls bi-monthly, rentals will remain unchanged for the next three years. Affordability will therefore improve for these subscribers during the next three years.

11. While it is clear from the above that affordability has increased for those using STD PCOs/VPTs, for others an assessment of affordability requires a consideration of the impact on the bills of subscribers, in comparison to their incomes. However, certain complications are introduced in any such comparison because of the extension of local call area and due to this Order specifying that local call charge will apply to STD calls up to a distance of 50 kms. These changes imply that with an average call holding time less than three minutes, **a metered call after implementation of this Order will in all likelihood be equivalent to more than one metered call under the present tariffs. For example, previously one call of just less than three minutes for the distance range 36 to 50 kms. counted as five local calls. With the revised tariffs, such a call will be equivalent to only one local call.**

Estimates of the Bills Due to the New Tariffs

12. Any comparison of the present bills and those arising due to the new tariffs must also bear in mind the possibility of reducing expenditures for low users through the option of shared access. In addition, the tariff policy under this Order provides for a possibility of different tariff packages that can be used by the service provider to address

particular needs of certain low users. The Authority has also kept in view the provision of high quality PCO services.

13. The Tables below give certain illustrative monthly charge for two subscriber categories, i.e., those in rural areas currently paying the lowest rentals, and those in metro areas.

Table 3. Monthly Charges For Rural Subscriber At Present Paying Bi-Monthly Rental of Rs. 100

No. Of Metered Calls Bi-Monthly	Equivalent to Number of Metered Calls Per Day (First column divided by 60)	Present Monthly Charge (Rs.)	Monthly Charge With New Tariffs (Rs.)
120	2.00	50	70
150	2.50	50	70
200	3.33	50	90
250	4.17	50	110
300	5.00	65	130
350	5.83	80	150
400	6.67	95	170
450	7.50	110	190
500	8.33	130	210
600	10.00	180	250
700	11.67	230	290
800	13.33	280	330
900	15.00	330	370
1000	16.67	380	410
2000	33.33	1,005	1,010
3000	50.00	1,705	1,610
4000	66.67	2,405	2,210
5000	83.33	3,105	2,810

Note: Impact of new tariffs on subscriber’s monthly charge is calculated under the assumption that no long distance calls are being made. With such calls, the bill under new tariffs will be lower than shown in the Table. For general subscribers, i.e. those making more than 1,000 metered calls bi- monthly, compared to the estimates in the Table, monthly bills will be Rs. 25 more in second year and Rs. 50 more in the third year of implementation. The charge above does not include service tax.

Table 4. Monthly Charges For Metro Subscribers

Telecom Regulatory Authority of India	Equivalent	Present	Page 65 of 103
No. Of			Monthly
Metered	to	Monthly	Charge
Calls	Number	Charge	With

Bi-	of		New
	Metered		Tariffs
	Calls Per	(Rs.)	
Monthly	Day (First		(Rs.)
	column		

divided by
60)

120	2.00	190	250	
150	2.50	190	265	
200	3.33	210	290	
250	4.17	230	315	
300	5.00	250	340	
400	6.67	290	390	
450	7.50	310	415	
500	8.33	330	440	2/25/2003
600	10.00	380	490	
700	11.67	430	540	
800	13.33	480	590	
900	15.00	530	640	
1000	16.67	580	690	
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Telecom Regulatory Authority of India	33.33	1,205	Page 66 of 103
2000			1,290
3000	50.00	1,905	1,890
4000	66.67	2,605	2,490
5000	83.33	3,305	3,090

Note: Impact of new tariffs on subscriber's monthly charge is calculated under the assumption that no long distance calls are being made. With such calls, the bill under new tariffs will be lower than shown in the Table. For general subscribers, i.e. those making more than 1,000 metered calls bi-monthly, compared to the estimates in the Table, monthly bills will be Rs. 30 more in second year and Rs. 60 more in the third year of implementation. The charge above does not include service tax.

14. As expected in a tariff re-balancing exercise with high long distance and international call charges and low rentals and local call charges, subscribers making fewer number of metered calls experience an increase in bills and subscribers making larger number of calls, reduction in their bills.

15.	The above estimates of monthly bills due to new tariffs can be considered together with the estimates of the proportion of households which can afford specific levels of monthly expenditure on telecom. These are given in the next section, where the data and analysis suggests that, for example, 42 per cent of rural households will likely be in a position to afford making up to 300 calls bi-monthly (or 150 calls monthly).

And these calls are in effect larger in number than the equivalent number of calls in the previous situation because of the extension in local call area and reduction in long distance call charges. Similarly, in the metro area, 37 per cent of the households are likely to be able to afford a telephone, and about 17 per cent likely to be able to afford up to 400 calls bi-monthly (or 200 calls monthly). Since incomes will keep increasing during the next three years but tariffs for these households will remain unchanged, a larger proportion will be able to afford these number of calls. This suggests that with a present teledensity of 2 per hundred in India, there is likely to be adequate demand for basic services under the new tariff regime.

Income Levels of Households

16.	Affordability of telecom tariffs depends on income levels, the proportion of income normally spent on telecom (i.e. income "available" for spending on telecom), and the amount of monthly charges in

comparison with the income "available" for spending on telecom.

17. The National Council for Applied Economic Research (NCAER) has conducted a survey which, *inter-alia*, covers changes in Indian rural and urban household incomes over time. This survey brings out that there has been a substantial increase in household incomes over time, both for urban and rural households.

The survey also gives information on the proportion of total households with different income levels.

Table 5. Average Annual Growth of the Household Membership of Different Income Categories, 1992-93 to 1995-96

Category of	**Average Annual**	**Average Annual**
Monthly Income	**Growth Rate of**	**Growth Rate of**
at 1995-96 prices	**Urban**	**Rural**
	Households	**Households (%)**

(%)

Up to Rs. 2,083	- 7.03 %	- 3.03 %
per month		
From Rs. 2,083 to	+ 5.46 %	+ 10.22 %
Rs. 4,166 per		
month		
From Rs. 4,166 to	+ 11.96 %	+ 3.11 %
Rs. 6,416 per		
month		
From Rs. 6,416 to	+ 11.90 %	+ 12.25 %
Rs. 8,833 per		
month		
Above Rs. 8,833	+ 18.22 %	+ 15.68 %
per month		

Source: From Table 3.3 of I. Natarajan, 1998, India Market Demographics Report, 1998, NCAER, New Delhi.

18. The income levels in the NCAER analysis are in terms of 1995-96 prices. To obtain a more accurate current picture with regard to affordability of tariffs, these levels need to be adjusted by a factor showing an increase in nominal income for 1998-99 or 1999-2000. We consider here a factor of about 25 per cent (an underestimate) to get the equivalent income levels in terms of 1998-99 prices.

Table 6. Proportion of Households in Urban and Rural Areas in Different Income Groups, 1998-99

Monthly income	27.9 %	57.2 %
levels (Rs., estimated 1998-99 prices) Up to Rs. 2,600 per month		
From Rs. 2,600 to	34.9 %	29.0 %
Rs. 5,200 per month		
From Rs. 5,200 to Rs. 8,000 per month	20.3 %	8.6 %
From Rs. 8,000 to Rs. 11,000 per month	9.6 %	3.1 %
Above Rs. 11,000 per month	7.3 %	2.0 %

Source: Based on Table 3.2 of I. Natarajan, 1998, India Market Demographics Report, 1998, NCAER, New Delhi.

19. The income levels for different household categories in the Table above are estimated for 1998-99 prices, but the share of households for these income levels are those for the year 1995-96. Since incomes have been increasing over time, the actual share of households in higher income slabs will be more than the shares depicted in the Table. This underestimation of the share of households in higher income groups would increase if we consider the income levels in terms of 1999-2000 prices, i.e. in terms of the prices in the first year of implementation of the new tariffs.

Affordable Monthly Bills Calculated on the Basis of Share of Income Spent on Telecom

20. To get a better idea about affordability, income levels have to be combined with the proportion of income

spent on telecom. Specific information on this aspect is not available for India. The International Telecommunications Union has estimated that on average households spend 5 per cent of their incomes on telecom in developing countries (see for example, page 36 of ITU, "World Telecommunication Development Report 1998"). This provides us with a basis to calculate the amount of monthly
expenditure on telecom by the income categories given above. Alternatively, five per cent of the monthly income levels in the Table above shows the amount of monthly bills that households with the above income levels are likely to find affordable (see Table below for this estimate). However, since income levels are increasing, the estimates of households with capacity to pay specified levels of monthly telecom bills are likely to be under-estimates of the situation in 1999-2000.

Table 7. Estimated distribution of households with capacity to pay various levels of monthly telecom bills

Monthly Telecom Billss (Rs., 1999-2000 estimates)	Share of urban households with estimated capacity to pay the monthly bill (%)	Share of rural households with estimated capacity to pay the monthly bill (%)
Up to Rs. 130 per month	27.9 %	57.2 %
From Rs. 130 to Rs. 260 per month	34.9 %	29.0 %
From Rs. 260 to	20.3 %	8.6 %

Rs. 400 per		

month

Telecom Regulatory Authority of India	9.6 %	3.1 %	Page 70 of 103
From Rs. 400 to			
Rs. 550 per			

month

21.	Above Rs. 550	7.3 %	2.0 %
	per month At present, total teledensity in India is estimated at 2 per hundred, while that of the rural areas is about 0.4 per hundred. Taking average household size into consideration, the above estimates and the bills		

arising from the new tariffs suggests that there is likely to be more than adequate demand for the telephone service provided at present and planned for the near future.

(c). Revenue implications of the specified tariffs

22.	With regard to revenue implications, there were two dominant views expressed in various comments. One, expressed by service operators, most importantly the DOT, was that there will be a decline in

revenues due to the tariffs that were proposed by the Authority. The other view, expressed mainly by consumers, was that there should be a decrease in revenues of the DOT because it had a high surplus and some of it should be passed on to the subscribers. In contrast, the DOT argued that in effect there is no surplus because all its funds are re-invested to extend the network.

23.	The Authority is of the view that one must distinguish between a surplus and its use. Thus, the DOT has a particular surplus, which it then utilizes for specified expenses. The Authority recognizes that the DOT

has to play a major role in the development of India's telecom network , and it should have sufficient resources for that purpose. According to the Authority's estimates of the effect of new tariffs, resources available with the DOT will be sufficient to finance, without resort to excessive market borrowing, their expansion programmes which are envisaged in the Perspective Plan for the years 1997-98 to 2006-2007 (see below for details).

24. Before considering the effect of new tariffs on DOT's revenues, it is necessary to consider the estimates of DOT anticipated revenues if prevailing tariffs were to continue for the next three years. These amounts are estimated as follows, using assumptions similar to those underlying the DOT's calculations provided to the TRAI.

Table 8. Projected Revenues for DOT Under Prevailing Tariffs (i.e. Current Tariffs Being Maintained Also for Next Three Years)

Telecom Regulatory Authority of India	1999-	2000-	Page 71 of 103
Year Æ			2001-
	2000	2001	2002
Projected Revenues (Rs. Crore)Æ	23,181.23	27,119.17	31,463.35

Comparison of DOT's and TRAI's estimates of revenue implications of the new tariffs

25.	The DOT has provided the Authority with its estimate of the revenue implications of the new tariffs for the next three years. These estimates are based on the premise that the decrease in tariffs for domestic long

distance and international calls will not result in any increase in the volume of these calls. Such an assumption tantamounts to suggesting that the Indian subscribers is price insensitive, even when the extent of tariff decline is substantial. Though there is no direct evidence of the price response of Indian subscribers, there is some anecdotal evidence which suggests that the volume response to price decline will be substantial. In fact, even the DOT in its presentation before the Standing Committee had acknowledged that there may be a volume increase of 10 to 25 per cent due to the decline in tariffs proposed by the Authority. In specific, the Report of the Standing Committee states at paragraph 16 that:

"The Committee desired to know the basis for this optimism. In reply representative of the DOT stated in evidence that Demand cannot rise hundred per cent. Tariffs have been reduced by 50 per cent. In order to stay at the same level of revenues, demand must rise by hundred percent or more which is not possible. *Demand may rise only about 10 to 25 percent*" (emphasis added)

26. The Authority is of the view that volume of STD/ISD calls is likely to increase by at least 10 to 25 per cent, if not more, when tariff reductions for these calls come into effect. Therefore, though the Authority's estimates of revenue implications given below include the scenario of no volume change, the relevant estimates to be considered are those with 10 per cent increase in volume of long distance and international calls in the first year of tariff reform, and 25 per cent volume increase in subsequent years.

http://www.trai.gov.in/order.html 2/25/2003

Table 9. DOT's and TRAI's Calculations of the Revenue Implications for DOT

DOT's	**TRAI's**	**TRAI's estimate**	**TRAI's estimate**
estimate of	**estimate with**	**with 10 per cent**	**with 25 per cent**
revenue	**no change in**	**increase in**	**increase in**
response to	**volume of**	**volume of STD**	**volume of STD**
new tariffs	**traffic in**	**and ISD traffic**	**and ISD traffic**
(Rs. Crore)	**response to**	**in response to**	**in response to**
	tariff decline	**decline in their**	**decline in their**
	for STD and	**tariffs**	**tariffs**
	ISD calls	**(Rs. Crore)**	**(Rs. Crore)**

(Rs. Crore)

Increase in revenue from rentals

1999-2000	1,275.813	1,432.40	1,432.40	1,911.25
2000-2001	1,827.93	1,911.25	1,911.25	
2001-2002	2,355.30	2,491.13	2,491.13	2,491.13

Revenue change for local call calculated on the basis of change of overall average price

1999-2000	- 253.82	- 264.63	- 264.63	- 309.60
2000-2001	- 296.96	- 309.60	- 309.60	
2001-2002	- 344.51	- 359.18	- 359.18	- 359.18

Additional revenue from calls that exceed more than three minute pulse (10.9 % of total local calls)

1999-2000	574.31	600.18	600.18	702.16	2/25/2003
2000-2001	671.90	702.16	702.16		
http://www.trai.gov.in/order.html					

Telecom Regulatory Authority of India		814.60	814.60	814.60	Page 73 of 103
2001-2002	779.50				

Additional revenue from reduced free call allowance

1999-2000	375.55	362.81	362.81	427.37
2000-2001	439.01	427.37	427.37	
2001-2002	512.08	500.36	500.36	500.36

Revenue change for domestic long distance

1999-2000	-2,050.14	-2,265.07	-1,444.56	-2,179.05
2000-2001	-4,038.08	-4,193.25	-3,387.73	
2001-2002	-5,820.40	-5,939.44	-5,112.31	-3,871.12

Revenue change for international calls

1999-2000	- 646.95	-683.11	-453.11	-714.83
2000-2001	-1,247.66	-1,270.83	-1,048.80	
2001-2002	-1,975.88	-1,983.52	-1,776.52	-1,465.52

TOTAL OF ABOVE

1999-2000	- 725.24	- 817.42	233.09	- 162.70
2000-2001	-2,643.85	-2,732.90	-1,705.42	
2001-2002	-4,493.91	-4,476.05	-3,441.92	-1,889.73

TOTAL OF DOT'S ESTIMATE INCLUDING LEASED LINES REVENUE

1999-2000	-1,075.24	NA	NA	NA	2/25/2003
2000-2001	-3,067.69	NA	NA	NA	
2001-2002	-5,006.75	NA	NA	NA	
http://www.trai.gov.in/order.html					

i. NA = Not Applicable for reasons given below;
ii. DOT's estimates of rentals do not include any "commercial user subscribers", while TRAI's estimates include them. The share of commercial users subscribers does not affect the estimates in the third year, i.e. in year 2001-2002. For the other two years, if there were no business subscribers, the revenues would decrease, respectively by Rs. 157.51 crores in 1999-2000, and Rs. 92.12 crores in 2000-2001;

iii. For domestic long distance calls, DOT's estimate does not explicitly include any revenue implication of altering the last off-peak pulse rate from one-fourth to one-third. The TRAI estimate includes it on the basis that during discussions with DOT, it had been mutually agreed that such a change would be taking place.

1.	The Table above shows that without considering leased line revenues, the estimates provided by the DOT correspond closely to the aggregate effect calculated by the Authority under the assumption that a

price decline for long distance and international calls will have no impact on volume of calls. Such an assumption is, however, not correct and revenue implications have to be seen on the basis of some estimate of volume response. As explained above, we do this for a range of 10 per cent for the first year, and 25 per cent for the next two years.

2.	The Authority does not share the DOT's perception of revenue loss for leased lines. It is the view of the Authority that the significant price decline for leased lines will give rise to a greatly enhanced demand for

this service, which will more than compensate for the price reduction. At any rate, any alleged revenue loss from leased lines cannot be sought to be made good from increased tariffs for basic services.

3.	This conclusion is further strengthened by the fact that the Authority's estimates above are likely to show a lower positive effect on revenues than is likely to be the position because:

{With an increase in the local call area and rise in the use of internet, the share of local calls in total metered calls will increase. Both the higher share of local calls, and the increase in calls of more than 3 minute duration due to internet use, will imply lower revenue loss than calculated in the Table above;
{The off peak rates might not be half and one-third as at present but higher;
{The Authority expects a greater surge in telephone use than that considered above. This will be due to greater flexibility provided to service providers and greater expansion of PCOs for the public which does not have access to DELs;
{The revenue estimates are calculated on the basis of constant revenues per DEL. However, there is now a tendency towards a reduction in revenues per DEL because, *inter-alia*, the additional DELs are being used less intensively than average. Factoring this aspect in the calculations would imply a lower estimate of the revenue loss than is shown in the Table above;
{A major point that is missed in the estimates of revenue impact is that re-balancing of tariffs would result in the DOT losing lower amounts of revenues when they lose their high paying subscribers to competitors.

1. The discussion above suggests that:

{In the first year of new tariffs, there is likely to be a surplus for the service provider;

{In the second year, there might be a surplus or a small deficit;
{In the third year, the reduction in DOT revenues might be about 3 to 5 per cent.

Adequacy Of the DOT Revenues With New Tariffs

1. If the requirement of revenue for any investment is lower than otherwise estimated, this is equivalent to an increase in revenue available for that expenditure.

2.	The reason for DOT's concern that its revenues should not decrease significantly is that it needs these revenues (and surpluses) to meet the plan targets for expanding the network. In this context, it is noteworthy that an amount of Rs. 49,362 on a per DEL basis was estimated as revenue requirement for the ten year Perspective Plan (see, for example, paragraph 13 of the Report of the Standing Committee).

Later, for the IXth Plan, this amount was Rs. 45,000. A closer consideration of the data shows Rs. 43,000 as the per DEL revenue requirement to meet the plan outlay during the five year period up to 2001-2002. In contrast to these estimates, the actual annual capital expenditure per new DEL added by DOT/MTNL is given in the Table below.

Table 10. DOT/MTNL's annual capital expenditure per new DEL added

Year Æ	1991-	1992-	1993-
	92	93	94
Amount (Rs. Thousand) Æ	46.2	46.7	45.4

Source: DOT, Annual Report 1997-98.

3.	The actual annual capital expenditure per additional DEL was as low as about Rs. 33,000 in 1996-97. This is drastically below the figure of Rs. 43,000 mentioned above, which implies a large saving of costs

(and hence of revenues required) even if we consider the annual capital expenditure per additional DEL for the year 1995-96. Hence, if we take Rs. 38,000 instead of Rs. 43,000 as the revenue required on a per DEL basis, and combine this reduction in investment requirement for the proposed number of additional DELs to be installed by the DOT during each of the next three years, we obtain a reduction in revenue requirements for DOT ranging between Rs. 1,850 crore to Rs. 2,250 crore. Adjusting the revenue

implications given above by these amounts shows that in the first year there is excess revenue even if volume does not change in response to price decline for STD/ISD, in the second year there is excess revenue if volume response is 10 per cent, and in the third year such excess revenue arises with a volume response of 25 per cent. The excess revenue would be even higher if the revenue
requirements were taken as Rs. 33,000, i.e. the amount of actual capital expenditure per additional DEL

in 1996-97.

4. The Authority considers the scenarios with lower revenue requirements as very plausible, and is therefore of the opinion that the DOT will have adequate resources to fund its expansion plans after the new tariffs are implemented. And this would be so after the DOT has met all its investment requirements in rural areas, even under operational cost conditions that are likely to be less advantageous than those for the private sector. The Authority has noted that the revenue requirements to cover the expansions of larger network, which constitute a significant share of the total, will be steadily going down.

Revenue implications for other basic service providers

5. The Association of Basic Service Operators (ABTO) had provided certain estimates for cost-based tariffs; they had calculated a cost based tariff of Rs. 2.38 to Rs. 2.97 per call. However, with these estimates, the cost based average tariffs for long distance and international calls would be much lower than those estimated in the Second Consultation Paper. The Authority is of the view that the ABTO's estimate gives an over-estimate of the cost based charge for local calls. Even otherwise, in effect, the ABTO submission shows a larger extent of tariff re-balancing than is embodied in the tariffs in this Order, or in the proposals contained in the Second Consultation Paper. The Authority is of the opinion that the private sector will continue to be viable under the new tariff regime.

A general review by the Authority after one year

6. **The Authority has decided that it will monitor the situation in regard to revenues and traffic and, if necessary, intervene provided the actual situation differs substantially from the expectations assumed in this exercise.**

(2) Items Addressed in Various Schedules

I. Items Addressed in Schedule I : Basic Services (Other than ISDN)

Rural/Urban Subscribers, and Low User Subscribers and Others

7. The Second Consultation Paper had distinguished between rural and urban subscribers with respect to rentals but not for call charges or free calls. The Order extends the distinction to include also call charges for those subscribers making up to 1,000 metered calls bi-monthly. In addition, the prevailing registration and installation charges as ceilings ensure that these conditions of the present rural package continue to apply. Further, a higher free call allowance is provided for rural subscribers than for urban subscribers.

This is mainly to smoothen the extent of adjustment required for rural subscribers, and to provide them with relatively higher concessions for access to and use of the telecom services.

8.	The objective of reducing the adjustment burden for subscribers in general is one of the reasons for the Authority creating the category of "low user subscribers", and providing them with both a lower rental and call charge. The coverage of "low user subscribers", i.e. those making up to 1,000 calls bi-monthly, is an attempt to address another objective that was emphasized by many during the consultations, i.e.

separation of the group of residential subscribers and business subscribers.

9. The Authority had consulted on (and had expressed a need to establish) a category for business subscribers. The normal methodology would be to charge a higher rental but a lower call charge for such subscribers in comparison to residential subscribers. With the Order giving flexibility to the service provider to offer alternative tariff packages, the service provider is free to provide any business tariff package with higher rentals and lower call charges. If service providers so desire, they are free to provide the existing tariffs as an alternative package to low end subscribers.

10.	In addition to the flexibility mentioned above, the Authority has decided to provide for a tariff package for business subscribers under the category "Commercial users subscribers". The rules for classifying

subscribers as commercial user subscribers will be laid down by the Authority after a consultation process to consider the various issues involved. In the interim, commercial subscribers will be those who opt for the rental category specified for this category.

11.	"General user subscribers" is another category specified by the Authority. This category is at present distinct from of that of commercial user subscribers only in the first two years of implementation, i.e. during April 1999 to March 2001. Further, in the first year of implementation it coincides with the category

"low users subscribers" subscribers, so that there is easier adjustment to the specified rental increases for these subscribers.

12.	Since the subscriber categories "low user subscriber" and "general user subscriber" are defined in terms of number of metered calls, it is possible that a particular subscriber might be part of more than one category during any year. However, this problem does not arise in the first year of implementation

because, as mentioned above, these two categories are in effect combined during that period. **The procedures for addressing this problem will be decided later this year so that the issue can be adequately dealt with when it becomes relevant after 31 March, 2000**.

Rentals

13. Though the rentals proposed in the Second Consultation paper were not cost based they were commonly perceived to be as such. In its proposals, the Authority had rejected cost based estimates of rentals on the ground that they were very high. Instead, rentals were proposed in general by increasing the levels prevailing in 1993 to account for the inflation rate and some of the real income increase since then. The consequent rentals proposed by the Authority were substantially below the cost based rentals, mainly with the objective of making them affordable.

14. The issue of affordability of rentals has already been discussed in above. This aspect was widely emphasized during the Authority's consultations, and rental was one of the issues emphasized in this regard. The Authority therefore has devised a category of "low user subscribers" with lower rentals for those with relatively lower bills. The increase in rentals for this category of subscribers ranges between 30 to 40 per cent for most subscribers. These rentals have been increased after 1993, and they will remain unchanged for the three year period 1 April, 1999 to 31 March, 2002. About 70 per cent of subscribers will not have any increase in rentals after the first year because they will be low users.

15. Since the constraint of affordability is not as binding for business subscribers, rentals for commercial user subscribers have been fixed at the levels proposed in the Second Consultation Paper. For others, i.e.

general user subscribers, a transition to the proposed rental has been provided. In year 1999-2000, rentals for general users are the same as for low users. They will increase in the second and third year towards the levels which were proposed as rentals in the Second Consultation Paper. It should be noted that general subscribers are those making more than 1,000 metered calls bi-monthly and are among the upper 30 per cent of the subscribers in terms of their bills. These subscribers have a greater capacity to bear the increase in rentals. For example, with the above-mentioned statistic that on average five per cent of income is spent on telecom, income levels for general user subscribers in metro areas would be above Rs. 13,800 per month, and in rural areas above Rs. 8,200 per month.

16. With regards to the cost basis for rentals, one comment was that the basis considered in the Second Consultation Paper for costs was an over-estimate. **It was stated that the relevant capital base to be considered for costs was that for the local loop, and not the whole local network as considered in the Second Consultation Paper. The Authority is continuing to look into which network elements should be taken into account to determine the cost basis for rentals. With a lower capital cost base, there is also a need to take account of a portion of the operating costs in the relevant cost base for rentals. That too is a matter for further consideration by the Authority, and will also be a part of the analysis regarding cost based access charges. It is worth recalling that the rentals specified (or earlier proposed) by the Authority were much less than the amounts derived on its estimate of the relevant cost base.**

Rentals for PBX, PABX and EPABX

17.	Three categories have been considered for PBX, PABX and EPABX. Rentals for both-ways and outgoing junctions taken by franchisees of Group PBX, PABX or EPAX has been specified to be ceilings equal to

the rentals for commercial user subscribers. A minimum reduction of Rs. 50 per month has been specified for incoming junctions. For extensions taken by users, rental of Rs. 125 monthly has been prescribed, thus providing a possibility to have cheaper access than for the higher rental categories for DELs. The schedule also specifies that in addition to service providers, franchisees will be allowed to give alternative tariff packages to extension users.

18. Rentals for both-ways and outgoing junctions for Subscriber Owned, and Service Provider Owned, Group PBX, PABX and EPABX have been specified as ceilings equal to the highest cost based rentals calculated in the Second Consultation Paper. A minimum reduction of Rs. 50 per month has been specified for incoming junctions. For Service Provider owned PBX, PABX and EPABX exchanges, the Authority has forborne with regard to rentals and installation charges for those exchanges. **In the Authority's view, the present tariffs for these two items are high, and further study and**
consultation are needed to decide on revised tariffs for them. This will be done later this year.

Pulse Rate and Call Charge for Local Calls

19.	The Second Consultation Paper had proposed a ceiling tariff of Rs. 1.30 per metered call. This was based on the information available earlier that the share of local calls in total metered calls was close to

25 per cent and the holding time for local calls was 2.5 minutes. Further information received from the DOT during the consultation process showed that the share of local calls in total is closer to 30 per cent, and the holding time is less than 3 minutes and may not be less than 2.5 minutes.

20. The Second Consultation Paper's proposal of 3 minute pulse for local calls is now specified in the schedule as the pulse rate for local calls.

21. Further, as mentioned in the Second Consultation Paper, the Authority intends to introduce a pulse rate of 60 seconds for local calls after two years, together with the corresponding reductions in pulse rates for long distance calls and the call charge per pulse.

22.	On the basis of the operational costs allocated to local calls in the Second Consultation Paper and 30 per cent as the share of local calls in total, the cost of a three minute local call (without margin) is as follows:

{Rs. 0.86 to Rs. 0.93 if average holding time of local calls is 3 minutes; {Rs. 0.92 to Re. 1.00 if average holding time for local calls is 2.8 minutes; {Rs. 1.03 to Rs. 1.12 if average holding time of local calls is 2.5 minutes.

1. The Authority has specified three different charges per metered call

{For the first 500 metered calls per month in a billing cycle, Rs. 0.80 per metered call for rural subscribers;
{For the first 500 metered calls per month in a billing cycle, Re. 1.00 per metered call for urban subscribers;
{For more than 500 metered calls per month in a billing cycle, Rs. 1.20 per metered call for both rural and urban subscribers.

1. The call charge for the first 500 metered calls per month in a billing cycle for rural subscribers is less than the lowest estimated cost based charge without any margin. The corresponding call charge for urban subscribers (again without margin or with a small margin) is equivalent to that estimated with average call holding time of 2.8 minutes. With a call holding time of 2.5 minutes, this tariff would be below cost.

2.	For calls in addition to the first 500 metered calls per month in a billing cycle, a margin of 20 per cent has been provided above the upper limit of the cost based charge with holding time of 2.8 minutes. This also provides a margin on the upper limit of cost cased charge (Rs. 1.12) estimated for average holding time

of 2.5 minutes.

Call charge for PBX, PABX, EPABX, and PCOs/VPTs

3. A call charge of Rs. 1.20 has also been specified for calls from PBX, PABX, EPABX and STD PCOs/VPTs.

4. The Second Consultation Paper had suggested a lower call charge for rural PCOs in comparison to urban PCOs. The comments on this issue suggested the Authority not to have dis-similar call charges for rural and urban STD PCOs, because otherwise there will be increasing instances of tariff bypass through call forwarding from rural PCOs. The Authority has therefore specified the same tariff for PCOs in both urban and rural areas, i.e. Rs. 1.20 per metered call. In the case of STD/ISD calls from PCOs, an additional charge of Rs. 2 per call (irrespective of duration) is specified as service charge collected by the PCO operator, similar to the prevailing situation.

5. In contrast to the situation for STD/ISD calls, the Authority has specified different tariffs for local calls from rural and urban PCOs/VPTs. The tariff from rural areas will continue to be Re. 1 per metered call, with the pulse duration being 3 minutes. For urban areas, Rs. 1.20 per metered call is specified for a pulse rate of three minutes.

6.	Together with a reduction of local call charge from the proposed Rs. 1.30 to Rs 1.20, the Authority has reduced the charge for coin collection boxes (CCBs) from the proposed Rs. 2 per three minute call to Re. 1 per three minute call. This is in line with the lower call charge for urban subscribers, and the constraint

of the coin unit to be used for CCBs.

7. A number of other issues were raised during the consultation process with regard to PCOs. These include, for example, commissions, additional lines for PCOs/VPTs, quality of service, license fee, and allotment of PCOs/VPTs. **The Authority will deal with these issues separately.**

Domestic long distance call charge

8. In the Second Consultation Paper, there was a link between the proposed rentals and long distance and international call charges. The difference between cost based rentals and the proposed rentals was added to the cost base for calculating these charges. Using this methodology, the lower rentals now specified for low user subscribers imply an increase in long distance and international charges. Thus, the final levels specified for these tariffs are now slightly more than those proposed earlier for most distance categories. In addition, the transition to these levels has been made more gradual in the first year of implementation to address the revenue implications that might arise on account of lower rental increases.

This latter change addresses the suggestions by service providers for a slower implementation of tariff declines for domestic long distance and international calls.

9.	Service providers had strongly argued for retaining the distance slab of "Above 1,000 kms." The Authority has at present decided to maintain this slab because it makes it possible to achieve a smoother implementation of the reduced tariffs for long distance. Retaining this distance slab implies a separate

distance slab of "Above 500 to 1,000 kms." with a tariff lower than the tariff ceiling that was proposed for the combined distance slab of "Above 500 kms."

10. There was also a suggestion to retain the distance slab of "36 to 50 kms.". The Authority has decided not to alter its initial proposal of having the first distance slab of 0 to 50 kms., and of applying to this slab an STD tariff same as for a local call. This STD tariff policy brings the distance based tariffs more in line with the tariffs arising after the extension of the local area to become co-terminus with the SDCA. In other

words, it makes the application of the Order extending the local area to SDCA more consistent with a distance based charging principle.

11. **The Authority will closely monitor the developments with regard to domestic long distance and international calls. The information will provide a basis for any further policy responses of the Authority in this context, including the tariffs and interconnection charges that should apply for preparing for any liberalization in the long distance segment of the market.**

International call charge

12.	For reasons similar to those mentioned for domestic long distance calls, tariffs for international call charges have also been increased slightly, and their pace of implementation has been made slower than that proposed earlier for the first year. As in the case of the proposal in the Second Consultation Paper,

tariffs for calls to SAARC and other neighbouring countries are the same as those for the highest distance slab in the case of domestic long distance calls.

Charge for manual trunk calls (domestic)

13.	Comments received by the Authority argued for a fixed charge (e.g. Rs. 5), plus an additional charge calculated for units of three minutes each. The Authority has considered three different categories of trunk calls:

{ordinary booked calls;
{other booked calls with special features such as demand calls, lightning calls, person to person calls, etc.

1. The first category of calls is treated analogous to subscriber trunk dialed calls, with the difference that they should be charged some additional amount because of the use of an operator to assist in making the calls. The additional amount specified for these calls is in two parts. One part is a fixed charge of Rs.

5 per call. The other gives a minimum duration and charge for a call. For the latter, the Authority has specified that the charge be the same as for a subscriber trunk dialed call, but the call be charged in units of one minute. Thus, the minimum charge will be Rs. 5 plus the STD charge for a one minute call. For calls more than one minute duration, the time period for charging will be calculated in discrete units of one minute each.

2.	The prevailing booked trunk call tariffs are lower than the tariff for a three minute STD call for certain prevailing call charges. With a decline in tariffs for STD calls, there should be a decline also in booked trunk call charges. This would also encourage the use of such calls by the large number of subscribers

which have not taken STD facilities on their DELs. The Authority has reduced the minimum duration for charging booked trunk calls from three minutes to one minute not only to reduce the minimum call charge but also to give greater flexibility to the users in making these calls.

3. For other booked calls, such as demand calls, lightning calls, etc., the Authority has forborne with regard to tariffs.

4. **The service providers will have to maintain a Table of charges for trunk calls. Users, including potential users, will have the right to see this Table when required by them.**

Charge for operator assisted international calls

5.	The basis for tariffs specified for operator assisted international calls is the same as for domestic calls, i.e. Rs. 5 plus the ISD call charge as appropriate, with the ISD charge being levied for discrete units of

one minute each.

6. The Authority has forborne with respect to the other types of international calls dialed using operator assistance, such as demand calls, lightening calls, etc.

7. **The service providers will have to maintain a Table of charges for operator assisted international calls. Users, including potential users, will have the right to see this table when required by them.**

Free call allowance

8.	The Second Consultation Paper had proposed a free call allowance of 120 metered calls bi-monthly, or 60 calls monthly. This was done by providing double the average number of metered calls made per day by subscribers making up to 150 calls bi-monthly.
9.	There was a strong body of opinion that the number of free calls should not be reduced, in particular for rural subscribers. However, with the extension of the local area to coincide with the SDCA, and a

reduction in long distance call charges, each metered call after the new tariff is equivalent to more than one metered call prior to these tariffs. This would be particularly true of the rural area where a larger portion of total calls are long distance calls. Thus for example, a call just below three minutes duration to the relevant distance of 36 to 50 kms. would have counted as five metered calls earlier, it is equivalent to only one call after implementation of the new tariffs. Moreover, the overall impact of any reduction in free calls has to be seen in terms of affordability, an issue which has already been addressed earlier.

10. Thus, for urban subscribers, the Authority has maintained its proposal on free calls, and has specified a free call allowance of 60 metered calls per month of the billing cycle. For rural subscribers, in view of the larger share of long distance calls in total, and that the present free call allowance is much larger (250 metered calls bi-monthly), the Authority has decided to provide 75 metered calls per month of the billing cycle.

11. For all subscribers linked to PBX, PABX and EPABX, the Authority has not given any free call allowance. It must be borne in mind, however, that for these as well as for subscribers to DELs, alternative packages

can be devised by service providers to give different combinations of rentals, call charges and free calls.

Billing cycle, fascimile, and other matters relevant for tariffs not specifically addressed in the Schedule

12. For all these matters, the Authority has decided for forbearance. The reason for forbearing with regard to billing period is that different service providers and subscribers may desire billing periods different from the present bi-monthly period used by the DOT. All these matters, however, will be subject to the reporting requirement and the Authority will intervene if there is any necessity for doing so.

II. Items Addressed in Schedule II: Cellular Mobile Telecom Service (CMTS)

Introduction

116. The existing tariff regime for cellular services, which is uniform across circle and metro operations, specifies prices in terms of ceilings. A conspicuous feature of the cellular market at present is the relatively low access charge (i.e. monthly rental) and a comparatively high usage charge. The maximum price that operators may charge for access is set at Rs. 156 per month. For the three time categories, peak, standard and off-peak specified in the licence conditions, maximum prices for usage are set at Rs 16.80/8.40/4.20 per minute respectively.

117. Empirical evidence on the cellular market suggests that the low monthly rental of Rs. 156 has allowed "easy" access to the cellular service, while the relatively high usage charge does not promote its usage. The price package thus obtainable attracts several subscribers who do not spend a large amount on the cellular service.

118. To a certain extent, operators have been able to circumvent the low access charge by way of *tariff plans* that charge a higher fixed fee, generally in addition to the monthly rental. It is likely that subscribers to these tariff plans will be those who in any case are the moderate to high users of the service. Thus the ceiling of Rs.156 could,

and according to many operators and commentators does, result in a group of subscribers who are a "net cost" to the operator.

119.	At any given time, each operator generally has more than one tariff plan on offer. A careful examination of various tariff plans reveals that free airtime comes "bundled" with membership fee, and the amount of free airtime varies

positively with the membership fee of the plan.

120.	For calls originating from the cellular network and terminating on the fixed one, the subscriber, in addition to the air time charge, pays call charges as applicable to PSTN for local, STD or ISD. For mobile to mobile calls within the same cellular service area, only airtime charges are levied. Within the existing tariff structure, calls terminating on the

cellular network have to be paid for and are subject to the same price ceilings as outgoing calls.

121. At present, the security deposit is Rs. 3000 and the installation charges Rs. 1200.

Tariff Proposals

122. Against this backdrop, the Authority issued tariff proposals for CMTS in the Second Consultation Paper on Telecom Pricing. Among the salient features of the proposals were increases in the monthly ceiling of rental from Rs. 156 to Rs. 600 and a reduction in the highest airtime usage charge from Rs. 16.80 to Rs. 6 per minute.

123.	The Second Consultation Paper showed that cost based tariff for circles taking into account circle licence fee would result in unacceptably high tariff levels. As a result, circle data was left out and the proposals

were based on data of only the metros. The cost basis for deriving the tariff for rental included capital expenses and 50% of the licence fee. The cost basis for deriving airtime charges included operating expenses and 50% of the licence fee. Thus rental and airtime prices included a 50:50 split of the licence fee into capital and operating expenses.

124.	A move toward the Calling Party Pays (CPP) regime in line with international practice was also proposed. In the proposals, *tariff packages* were allowed, provided that prices offered as part of a tariff package

could not exceed the specified ceilings. In addition, a 45-day reporting requirement was proposed for tariff changes that the CMTS operator desired to introduce in the market.

Summary of the main comments

125.	Of the comments made on the proposals for cellular, an overwhelming majority was from service providers and the Cellular Operators Association of India (hereinafter COAI). Subscribers and Consumer

Associations responded mainly to the proposals for Basic Services. The response can be broadly summarised as follows:

125.1 Extension of the tariff arrived on the basis of metro data to circles not justified

The approach of extending the metro data derived tariffs to circles is questionable since there are large differences in the cost structure between circles and metros. Any decision regarding circle tariff must also take into account the high licence fees payable, which crucially affects the viability of the service providers.

125.2 Proposals that increase the degree of regulation and limit the flexibility of the CMTS operator

The 45-day reporting requirement for all tariff changes was perceived as being restrictive. The service providers submitted that tariff changes could be filed with the Authority within 3 days of introduction. Besides, it was stated that service providers be allowed the freedom to offer alternative tariff packages, provided that the package proposed by the Authority was always available to the subscriber.

125.3 Issues relating to the implementation of the CPP regime

Apart from the technical difficulty, service providers felt that implementing the CPP regime along with the attendant tariffs would result in a revenue loss to the service providers in the short term.

125.4 Revenue implications of certain proposals

Since the prime source of revenue for cellular operators is airtime, service providers submitted that the highest rate for airtime use of Rs. 6 per minute is low and would decrease revenues.

126. **The Authority has given serious consideration to all the views expressed by service providers with regard to the proposed regime for CMTS**. **In addition, consumer interest has been kept in focus while deciding the tariffs for cellular services.** The prices for certain category of calls viz. mobile to mobile long distance calls, which were not made explicit in the proposals, have also been addressed.

Differential Tariff Regime

127.	As has been mentioned above, circle data were left out and the proposals based on data of only the metros. This was initially disputed by certain parties, who preferred the existing regime to continue in the circles until further review of the economics of circle cellulars. The COAI and the Industry have since had

time to evaluate TRAI's tariff proposals in detail and they too now support the implementation of these tariffs for metros as well as circles

128. **Although a differential tariff regime for metros and circles can be theoretically conceived, the Authority, at present, favours a uniform tariff regime across the Industry.**

Deposits and Installation charges

129.	**The prevailing charges as specified in the licence shall be the ceiling for Deposits and Installation**

charges. With regard to STD and ISD deposits, the Authority has decided to forbear (refer to the section on general issues for more details).

Standard Hours and Concessional Hours

130. In the second Consultation paper, the Authority had proposed a classification between peak and off-peak hours, with peak hours being subject to a ceiling of eight hours in a calendar day. **It has now been decided to adopt a different nomenclature for categorisation of hours for CMTS. Instead of peak and off-peak hours, the categorisation for tariff setting purpose shall be Standard and**
Concessional hours respectively. Moreover, to allow the CMTS operator more flexibility in pricing, the Authority has also decided to increase the number of Standard hours (which correspond to peak hours in the Second Consultation Paper) from eight to eleven.

131.	The CMTS operator shall also have flexibility in determining the timing of standard and concessional hours provided that standard hours do not exceed eleven in a calendar day. Airtime during the entire

calendar day on Sundays and three national holidays, i.e. 26th January, 15th August and 2nd October shall be priced at concessional tariffs. Tariffs for concessional hours have to be less than the corresponding tariffs for standard hours. The exact level has been left free for the service provider to decide.

Pulse Rate for Calls

132.	In the tariff paper, TRAI proposed that calls be charged on the basis of a "flag down" of 30 seconds and subsequently at intervals of 10 seconds. In their comments the operators had suggested a uniform billing interval of 60 seconds. This proposal is restrictive, especially when considered in the context of the

average call holding time, which is considerably less than 120 seconds. **The Authority has decided that the charging pulse for airtime will be at a uniform interval of 20 seconds in consumer interest.**

Rental and Airtime Charges

133.	In the second Consultation paper, the Authority had proposed a ceiling for monthly rental and "peak" (redefined as Standard in this Order) airtime tariff of Rs. 600 and Rs. 6 per minute respectively. Flexibility to exceed either of these ceiling amounts in alternative price packages was absent in TRAI's

tariff proposals. **In response to the Industry's suggestion, the Authority has agreed that flexibility in offering alternative price packages is a desirable condition for service providers as well as subscribers. As a result, such flexibility shall be available to the CMTS operator (refer to the section on general issues for more details)**.

134. Such flexibility in pricing, however, cannot meaningfully coexist with price ceilings. **Hence, the Authority has decided that the tariffs of Rs. 600 for monthly rental and Rs. 6 per minute for standard airtime shall be part of the standard package (see below for details) always available to the subscriber.**

Certain conditions shall apply to the alternative price packages that are offered by the operator. These conditions are elaborated in the section on general issues.

Free Airtime

135. **The Authority has decided that no free airtime will be available as part of the standard package**.

Calls from PSTN to Mobile

136.	**Until CPP is introduced, the called party shall pay airtime charges.**

Calls from Mobile to PSTN

137. **The Authority has decided that the tariff for such calls shall comprise two elements:**

i. **Airtime charges; plus**

ii. **PSTN charges for local or long distance as applicable from time to time to the fixed**

network.

Calls from Mobile to Mobile

116. The TRAI directive of August 19, 1998 allows for direct inter-connectivity between cellular networks

operating within the same region. The issue of direct inter-connectivity of cellular networks operating in

different regions is being examined separately under the domestic long distance liberalisation initiative.

117. **It has now been decided that the price for mobile to mobile calls will consist of:**

{**Airtime charges; plus**

{**A supplementary long distance charge based on distance.**

This shall apply in the case of all mobile to mobile calls **except** for those that fall within the Metro Licensee Service Area. For these calls, only airtime shall be charged. In addition, the service provider shall make the calling party aware of the quantum of supplementary charge, if any, to be paid by making appropriate technical arrangements. This is necessary because the called party may be at a different location, thus altering the charges to be paid by the calling party. This will ensure that there are "no surprises' when the party receives the bill.

Roaming, Pre-paid cards and other VAS

116. **The Authority has agreed to forbear the additional charge levied for roaming, except for the general reporting requirement. This condition shall also apply to pre-paid cards, other supplementary services, value added services within the cellular service and to the periodicity of the billing cycle.**

117. **The Authority is contemplating a detailed assessment of pre-paid card services as applicable to cellular mobile. If necessary, the tariff conditions for pre-paid cards decided in this Order shall be changed.**

Standard Tariff Package

118.	The Standard Tariff Package shall always be available to the subscriber at the tariffs specified in Schedule II for CMTS.

Alternative Tariff Packages

119. In the alternative tariff packages, items for which tariffs are specified as ceilings in Schedule II for CMTS cannot be exceeded. Items for which a particular amount is specified viz. rental and airtime may have a different price in the Alternative Tariff Package, subject to the general reporting requirement.

CPP

120.	The response to the proposed introduction of the Calling Party Pays (CPP) regime has been favourable.
121.	The DoT has indicated that it will take some time to make the technical adjustments required to implement the CPP system. The proposed date for implementation of CPP is fixed for August 1999. Until CPP is introduced, the existing regime in which the subscriber pays for incoming calls to cellular shall prevail. The price for these calls shall be the same as for outgoing calls i.e. Rs. 6 per minute at the

standard rate.

Revenue sharing from Long Distance

122. During the open house discussions, opinions sharply differed with regard to sharing of revenues from long distance and international calls originated by the cellular network. While the cellular operators favour sharing of these revenues, not surprisingly the basic operators are opposed to it. **The Authority has decided that, for the present, the existing non-sharing arrangement between the basic and cellular networks shall continue for domestic long distance and international calls. Since this is an interconnection issue, the Authority will take a decision with regard to revenue sharing under Interconnection Regulations to be issued separately.**

Review of Cellular Mobile Tariffs

123.	**In view of the circumstances surrounding the cellular industry at present, the Authority will**

review and modify notified tariffs, should that become necessary as a result of policy changes.

III. Items Addressed in Schedule III: Radio Paging Services

Introduction

148.**Radio Paging Services are available in two variants, the Alphanumeric Service and the Numeric Service. The existing tariff for access i.e. monthly rental to the service is specified as a price ceiling. For the Alphanumeric Service, this ceiling is Rs. 250 per month, while the corresponding figure for the Numeric Service is Rs. 150. There is no extra charge for operator assisted calls.**

149.**A deposit of Rs. 2000 is levied at the time of provision of the service. The registration fee of Rs.500 is adjusted against the deposit. There is no installation charge.**

150.**In the Second Consultation Paper on Telecom Pricing, the Authority had**
proposed to revise the tariff ceiling for the Alphanumeric Service to Rs. 300 per month and that for the Numeric Service to Rs.175 per month. In addition, the Authority had proposed to introduce revenue sharing between the Paging and Basic Service Providers (and Cellular service providers). For every call made to the Paging Control Terminal (PCT), Rs. 0.20 was proposed to be passed on to the

Radio Paging Operator. This was sought to be achieved by adding a surcharge of Rs. 0.20 to each call made to the PCT by PSTN (or cellular mobile).

Summary of the responses

151. Of the comments received on the proposals for Radio Paging Services, the majority were made by the Paging service providers and the Basic service providers including the DoT. The DoT stated that since metering of local calls cannot be separated in the present system, implementation of the revenue sharing formula proposed by the Authority was not possible at this time. Two options were suggested by the DoT in this regard:

{**Either the existing non-revenue sharing arrangement should continue or**
{**Each call made to the PCT be charged at twice the local call rate with the amount for one call passed on to the Radio Paging Operator**

152. **The latter proposition was opposed by the Radio Paging Service Providers, who wanted an increased revenue share of the prevailing local call charge.**

The Authority has seriously considered all the comments made and decided as under.

Deposits and Registration Fee

153. The prevailing charges as specified in the licence shall be the ceiling for Deposits and Registration Fees.

Rental

154. As in the current pricing structure, the rentals for Alphanumeric and Numeric services shall be different. The ceiling rate for Alphanumeric service shall be Rs. 300 per month while the corresponding rental for the Numeric service shall be Rs. 175. These are the same as proposed in the Second Consultation Paper where an elaboration of the basis is available.

Revenue Sharing

155. For the present, the existing non-sharing arrangement shall continue.

156. **In the absence of revenue sharing, the Authority had derived cost based monthly price ceilings of Rs. 325 for the Alphanumeric Service and Rs. 195 for the Numeric Service. Although revenue sharing is ruled out for the present, the Authority has decided to retain the lower estimates of monthly rental that were derived on the assumption of revenue sharing. This has been done for two reasons:**

i. **The notified tariffs are considerably higher than the prevailing prices; and**
ii. **The Authority will shortly review the tariffs for the Radio Paging Industry (see para 158)**

Other Matters

157. With respect to all other matters relevant to tariff including supplementary services, value added services within the Paging Service and the periodicity of the billing cycle, there will be forbearance, subject to the reporting requirement.

Review of Paging Tariff

158. The Authority released on 21st December, 1998, a detailed assessment of the viability of the Radio Paging Industry in cities that addresses, *inter-alia*, the issue of quantum of licence fee payable by operators from the fourth year on. Public consultations on this issue are underway. Once this process is complete, the Authority will review the tariff for Radio Paging Services decided in this Order and make changes, if necessary.

IV. Items Addressed in Schedule IV: Leased Circuits

Summary of the basis for proposed tariffs in the Second Consultation Paper

159.	In the Second Consultation Paper, proposed tariffs for leased circuits were estimated on cost basis for 64 Kbps and 2 Mbps leased circuits, mainly with reference to equipment of 140 Mbps. For the first 50 kms., costs were calculated for cables laid in bituminous soil, and after that for soft soil. Since the cost of laying cables in soft soil is less than that in bituminous soil, the tariff for 50 kms. was kept constant for about 25

more kms., i.e. the distance at which the cost of laying cables in soft soil became equal to that for bituminous soil. Beyond that distance, soft soil costs formed the basis of leased circuit tariffs.

160. On the basis that the catchment area for leased circuits in the shorter distance was 500 kms., costs for beyond 500 kms. were calculated on the basis of equipment with higher capacity, i.e. STM4 system. Such equipment implies substantially lower unit costs than those derived from equipment of 140 Mbps.

Given the large reduction in unit cost for such high capacity equipment, cost based price for leased circuits for even 1,500 kms with this capacity are lower than the cost based tariff for 500 kms using 140 Mbps; 1,500 kms. was suggested in certain comments as the distance that should be treated as cap for leased circuit tariffs. Thus, the Second Consultation Paper had proposed tariffs applicable for 500 kms. with capacity 140 Mbps as the upper limit of leased circuit tariffs.

161. In view of the ongoing decrease in costs of leased circuits, all tariffs for leased circuits were proposed as ceilings.

162.	Tariff ceilings calculated for 64 Kbps and 2 Mbps leased circuits, together with the coefficients suggested by Recommendation D.8 of the International Telecommunications Union for pricing N Times 64 Kbps leased circuits, were used to propose certain tariff ceilings in the Second Consultation Paper for N Times 64 Kbps leased circuits. Other tariffs were considered together in a basket, and a weighted average

reduction of 50 per cent was proposed for the tariffs for this basket. Apart from these tariff ceilings, it was proposed that costs for end-links or local leads could be charged in addition, as could some other cost elements such as the payment for use of National Highways land.

Summary of the main comments

163.	During consultations, there were some queries regarding the validity of certain cost items. Except in one case, these doubts were addressed through clarifications made by the Authority during detailed discussions with those raising these queries, which showed that the estimates used in the Second

Consultation Paper had taken account of points raised by these parties. For the one exceptional case, very high cost estimates had been provided to the Authority and the initial discussions could not be taken further because no clarification was provided to the Authority when the basis for these higher costs was questioned. Some other submissions to the Authority have shown that the cost estimates used in the Second Consultation Paper reflect the prevailing situation.

164. A number of other important points mentioned by prospective providers of leased circuits include:

{the relatively low tariffs for leased circuits will result in by-pass of long distance traffic;
{after 50 kms., tariffs should not be kept constant for a distance of about 25 kms. Instead, the cost of laying cables in soft soil should be added from 50 kms. itself so that the tariffs keep increasing beyond 50 kms. and are not unchanged for any distance;
{a higher profit margin, such as 40 per cent, should be provided to cover adequately for different technologies in use and to give an incentive for providing leased circuits;
{tariff ceilings for certain N Times Kbps capacities are more than those for 2 Mbps, which implies that the customer will take an over capacity of 2 Mbps rather than N Times 64 Kbps;
{the conditions under which leased circuits are provided should become more user friendly.

159. The Authority is of the view that service providers should devise methods to monitor the use of leased circuits so that by-pass does not take place.

160. The point regarding costs of soft soil being added at 50 kms. itself was made on the basis that soft soil costs do not include any element of the costs of laying cable in bituminous soil. That is not correct; even for soft soil, the cost components include cable laid in a certain proportion of bituminous soil which takes account of the concern raised in this context. However, for maintaining continuity of tariff increases till the distance of 500 kms., and to give some additional profit margin to encourage the provider of leased circuits, the additional costs for laying cable in soft soil is added from 50 kms. onwards. This is equivalent to a situation where for the first 50 kms. the cable is considered as being laid in bituminous soil and subsequently in soft soil. An important point in this regard is that since even for soft soil the Authority's cost estimates include a component of laying the cable in bituminous soil, the Authority has taken an over-estimate of the actual cost incurred by taking the higher cost of laying a cable in bituminous soil for the first 50 kms. This is particularly because the terrain under which cables are laid normally involves less than 50 kms. of bituminous soil. This in effect implies an additional profit element being given to the providers of leased circuits.

161.	Regarding the demand for a higher profit margin, in addition to the points mentioned above, it should be noted that the cost based tariffs include various elements which raise profits above the explicit profit margin of 10 per cent considered in the calculations. For instance, the annual recurring expenditure is taken about 2 to 3 per cent higher than the average, an interest rate of 15 per cent is taken fully on total

expenditure while in reality the amount subject to interest would be decreasing over time, and expenses for maintenance are considered in costing while these are already incorporated for basic service providers in the cost based tariffs calculated for local, long distance and international calls.

162.	Further, a large portion of the total cost base for leased circuits is accounted for by cable costs and the cost incurred in laying those cables. This is so in particular for distances beyond 5 kms. and the share of these cost elements in total keeps increasing with distance. Though depreciation has been applied to the

total cost base, depreciation does not apply to some of these cost elements (e.g., labour cost). For some other cost items (e.g., cables), as stated in the Second Consultation Paper, the depreciation rate taken into account is higher than that likely to be actually applicable. In effect, both these aspects imply a higher profit margin than explicitly considered. In view of these features, and that the costs of installing leased lines is continuing to decline, the Authority has decided that there is adequate profit margin in the cost based tariffs proposed for leased circuits. **In fact, as mentioned in the Second Consultation Paper, the Authority will review leased circuit tariffs again after one year in order to take account of the decline in costs during that period**.

163. Furthermore, the Authority is of the opinion that the reduced leased circuit tariffs will give rise to a very strong demand for them, resulting in a surge in revenues from leased circuits and in a strong impetus for related economic activity. Such opinion was very strongly expressed also by several commentators.

164.	For tariffs of N Times 64 Kbps leased circuits, the Authority recognizes the apparent anomaly in their tariffs and that for 2 Mbps circuit. However, the Authority is of the view that it is better to encourage customers to lease capacity of 2 Mbps or more, in order to consider a greater use of the capacity

available. Further, tariffs are ceilings and lower tariffs can be provided for N Times 64 Kbps capacities.

165. **The present Order is only a first step in addressing tariff issues for leased circuits. The Authority is next going to address in detail the conditions under which leased circuits are provided and will in due time give its decision on this matter.**

Tariffs ceilings for 64 Kbps and 2 Mbps leased circuits

166.	In view of the above, the Authority has specified virtually the same tariff ceilings for 64 Kbps and 2 Mbps leased circuits as were proposed in the Second Consultation Paper. These tariff ceilings are provided in

ready reckoners annexed to Schedule IV. As mentioned above, the provider of leased circuits may add to these tariff ceilings a cost based charge for local leads and any other additional cost element such as way leave charges.

167.	The tariff ceilings in the ready reckoner are provided for distances of 5 kms. For distances lying in between the distances specified in the ready reckoner, tariff shall be charged on a *pro rata* basis, taking for this purpose the tariff ceilings for the two distances of the ready reckoner between which the relevant

distance lies.

168. It should be noted that tariff ceilings for certain other capacities of leased circuits has been specified in terms of the ready reckoner tariff ceilings for 64 Kbps and 2 Mbps leased circuits. These derived tariff ceilings are therefore in the nature of ready reckoner prices. Hence, to these tariff ceilings also, the provider of leased circuits may add a component to account for the charge for local leads and for payments made such as way leave charges.

169. Similar to the specification for the charging for leased circuits, the Authority has specified for local lead tariffs that the first option for charging for local leads should be to provide them on lease. If this is not possible, then tariffs could be either on rent and guarantee terms, or on the basis of a mutual agreement between the parties concerned about the extent of contribution to costs that will be made by the party leasing the circuits.

Tariff ceilings for capacities below 64 Kbps

176. The Authority has decided to forbear with regard to tariffs for these leased circuits.

Tariffs for capacities N Times 64 Mbps

177. The Authority has decided to use coefficients in Recommendation D.8 of the International Telecommunications Union for these capacities. The tariff ceilings for these capacities are determined by multiplying these coefficients with the tariff ceiling for 64 Kbps leased circuits.

Tariffs for capacities above 2 Mbps

178. Specific requests were made to the authority to decide tariff ceilings for leased circuits for capacities above 2 Mbps. Calculations made for this purpose showed that the tariff ceilings for N Times 2 Mbps capacities should be N Times the ceiling tariff for 2 Mbps, with the exception that N should be 16 for 34 Mbps, and 64 for 140 Mbps. These tariff ceilings reflect the fact that
equipment costs are a small portion of the total leased circuit costs, in particular for distances above 10 kms. Most of the costs arise due to cables and laying of those cables, and these costs for N Times 2 Mbps capacity are about N Times the relevant costs for 2 Mbps.

Mandatory provision of leased circuits

179. The Authority has specified that leased circuits must be provided using excess capacity, or when such capacity is not available then on rent and guarantee basis.

Rent and guarantee basis

180. The Authority has specified that rent and guarantee terms should be based upon costs. **The Authority proposes to review at a later date various other aspects of rent and guarantee terms in greater detail.**

Application of tariffs specified in Schedule IV in relation to prevailing tariffs

181. Rent and guarantee tariffs will apply only to leased circuits taken from the date of
implementation of these tariffs. However, for other prevailing tariffs, tariffs specified by the Authority will replace them from the date of implementation. *Pro rata* corrections must be made to any advance payments that might have been made for leased circuits on the basis of the prevailing tariffs.

Tariffs for temporary connections

182. For temporary connections, twice the ready reckoner tariffs have been specified on a *pro rata* basis for a period up to three months. For circuits leased for more than three months, the annual ready reckoner tariff is specified as the ceiling tariff. In addition, the costs for local leads, if applicable, and any other relevant additional costs that might be incurred, will be part of the total tariff.

Tariffs when additional capacity has to be provided for meeting demand for leased tariffs

183.	It is possible that extra capacity might not be available for leased circuits, and the party demanding leased circuit might not want the total capacity that is established on rent and guarantee basis. Instead, the demand might be only for a portion of the additional capacity that might be installed, and the provider

of leased circuits will then have to assess its own use of the extra capacity. In such a situation, the Authority has specified that the tariffs be decided through bilateral negotiations among the parties concerned.

V. Items Addressed in Schedule V: Integrated Services Digital Network (ISDN)

Introduction

184. The Authority views ISDN services as a crucial input in promoting efficiency of business. Pursuant to this objective, the Authority had proposed cost based tariff ceilings for ISDN services in the Second Consultation Paper. These tariff ceilings were derived on the basis of available information; where information on costs was not available, existing rates charged by the DoT were proposed as the ceilings.

185. ISDN is available in two types of interface referred to as Basic Rate Access (BRA) and Primary Rate Access (PRA). The difference between BRA and PRA is in the number of B channels that each can support. BRA divides the phone line into three digital channels: 2B channels and 1D channel. PRA in India is configured to 30 B+D. Each of these channels can be used simultaneously so several communication tasks can be performed at the same time.

186. ISDN is a relatively new service, introduced for the first time in India in 1996. At present, usage is very low. Since the service is relatively new, and the market is developing, **the tariffs will be reviewed once a detailed consultative process on the subject is complete.**

Tariff Proposals

187. In the Second Consultation Paper, the tariff proposals were based on cost wherever possible.

The prices thus derived were proposed as ceilings. As a departure from DoT's prevalent pricing regime, the Authority had proposed that a minimum charge for usage of ISDN services should not exist. Another significant departure proposed was an increase in the rate per pulse when using ISDN media to Rs. 1.50 as opposed to Rs. 1.30 per pulse for Basic services. This was proposed on the basis that significant usage of the ISDN facility will be for internet services and the user should therefore be charged a premium for enhanced speed and quality as a result of using ISDN.

Response to the Tariff Proposals

188. Only the DoT responded to the proposals for ISDN defined in the Second Consultation Paper. The DoT agreed with all the proposals.

Initial Deposit and Registration Deposit

189. The Authority has decided that the aggregate of all deposits (excluding security deposit for ISDN equipment) shall not exceed one year's rental. The registration deposit shall be combined with the initial deposit for the purpose of comparing with the maximum limit on deposits.

Installation and Testing Charges

190. These shall be one time charges and the Authority has decided to retain the price ceilings outlined in the Second Consultation Paper

Monthly Rental for ISDN Equipment

191. These rates shall be applicable only when the equipment is hired from a service provider. These shall not apply in case the subscriber procures the equipment from an alternative source.

Monthly rental for Access

192. The Authority has decided to retain the price ceilings outlined in the Second Consultation Paper. For the PRA service the rental is linked to distance, while for the BRA, the monthly rental is independent of distance.

Usage Charges

193. **In their response to the Radio Paging Tariff proposals, the DoT mentioned that a higher charge for calls from PSTN to PCT could not be implemented, as it is not possible at present to separate the metering for local calls. Although no comment was received with regard to the higher rate proposed for using ISDN media, the Authority has decided that, for the present, the ceiling rate for usage for every B channel shall be the same as applicable to PSTN. Any change in the PSTN tariff will imply a corresponding change in the ceiling rate applicable for every B channel.**

194. **In addition, it has been decided, as proposed in the Consultation Paper, that there shall be no minimum usage charge for either the BRA service or the PRA service.**

Rental for Supplementary Services

195. With a view to foster growth of ISDN services, the Authority has decided that there shall be no charge for these services, as is now prevalent.

Rental for Temporary Connection and Minimum Period of Hire

196. The Authority has decided that the minimum period of hire shall be one month for BRA and PRA and the rental for a temporary connection shall be twice the regular connection for the particular service.

Surrender before provision

197. The Authority has decided that in this case actual expenses incurred shall be levied.

Security Deposit for Equipment Hired from the Basic Service Provider

198. The Authority has decided that security deposits for equipment shall not exceed their

prevailing market price.

Other Matters

199. With regard to all other matters relevant to tariff for ISDN services the Authority has decided,

for the present, to forbear.

VI. Items Addressed in Schedule VI: Internet

Introduction

200.	The Second Consultation Paper emphasised that Internet tariff should encourage the supply, use and expansion of

Internet services, and promote innovation in these services. The Internet sector in India is likely to have several

competing Internet service providers (ISP's), with both large as well as small private sector ISP's. The large ISP's

who possess their own network or Internet backbone are referred to as the major providers.

201. For Internet leased circuits (port charges), the second consultation paper had proposed cost based tariffs. This was

done with a view to improving the viability of the private sector ISP's and enhance competition.

202. For tariff regarding Internet TCP/IP dial up, the Authority had proposed two alternatives

{No price restriction on any ISP, including DoT and VSNL

{Fix tariffs for all major operators, including DoT and VSNL

Comments and Responses

203. Of the comments made on the proposals for Internet, a majority were from current and

prospective private sector ISP's. Accordingly, the comments related to the price and quality of

inputs for the private sector ISP's.

204. The comments can be summarised as under:

{Alternative media viz. VSAT may also be made available at competitive prices
{Although charges have been reduced, these are still higher compared to international prices {The hosts should guarantee the quality of service, in terms of availability and uptime as well as end to end bandwidth
{There should be a separate numbering plan for Internet access as in the case of Radio Paging and Cellular mobile
{PSTN lines for Internet should be made available on demand
{There should be PSTN connectivity through ISDN, E1 and higher capacity lines with exchange of choice

205. The issue of availability and uptime of the leased circuits is being addressed by the Authority separately under quality of service. Likewise the recommendation with regard to a specific numbering plan for Internet is being looked at separately by the Authority.

206. With regard to the reduction in price of alternate media like VSAT, the Authority has decided to forbear with regard to VSAT tariff (refer to the explanatory memorandum for VSAT for more details). Accordingly, these prices will be determined by the market. Special concessions for ISP's who use VSAT cannot be justified within the framework of the Authority's decision to forbear with regard to VSAT tariff.

207.	On-demand availability of PSTN and connectivity through higher capacity lines for ISP's are issues that go beyond the scope of tariff determination. The Authority is of the opinion that such issues should be settled between the parties involved within the framework of the tariffs specified in this Order.
208.	As regards the issue of input prices being still higher than international norms, the Authority believes that

a significant reduction has resulted from this Order and that the issue will be addressed in the next review of this Order in respect of Leased Circuits (Port charges) which may take place in about a years time.

Tariff for all Internet Services other than Internet Leased Circuits (Port Charges)

209. **The Authority has decided to forbear with regard to these tariffs, subject to the reporting requirement.** This decision is based on the premise that competition already exists in the provision of these services, and such competition is likely to increase in the future. Indications to that effect are already evident in the market.

210. Although the Order does not specify concessionary schemes of the kind that are available at present, **the Authority encourages ISPs to offer concessionary schemes to academic and research institutions and the media.**

Charge for Internet Leased Circuits (Port Charges)

211. In view of the need to provide a boost to Internet services and also based on the discussion above, the Authority has decided to retain the prices that were proposed on the basis of the lowest cost in the Second Consultation Paper. **These prices shall be in the form of ceilings.**

212. With regard to all other matters relevant to Internet Tariff the Authority has decided to forbear.

VII. Items Addressed in Schedule VII: Value Added Services

Introduction

213. The DoT has defined Value Added Services as "enhanced services which add value to the existing basic tele-services and bearer services". This is in conformity with International Telecommunications Union's (ITU) definition of Value Added Services.

In India, these services include, inter-alia,

i. ii. iii. iv. v.	Electronic Mail Voice Mail Closed Users Group Domestic 64 Kbps Data Network via Insat Satellite System Videotex Service and Video Conferencing

Tariff Proposals

214. In the Second Consultation Paper, the Authority had proposed to forbear with regard to the tariff for these services subject to the general reporting requirement. This was based on the *very nature* of Value Added Services as also the fact that there was likely to be considerable competition in the supply of these services.

Summary of the main comments

215. Most Value Added Service providers did not comment on the tariff proposals. The Authority regards this

as support for the proposed regime for Value Added Services.

216. There were, however, detailed comments made by VSAT service providers and a few by the Mobile Trunked Radio Operators Association (MTROA). During consultations, VSAT service providers mentioned that there were several constraints affecting the growth and viability of their business. A number of points mentioned by VSAT service providers, inter-alia, include:

{the relatively low tariffs for leased circuits will seriously affect the viability of the Industry
{High transponder charges and additional licence fee for 64 Kbps VSAT links also have an adverse impact on viability
{Non-availability of transponders and non-provision of space segment transponders in frequency bands other than extended C-Band affect the Industry
{PSTN connectivity, presently not allowed, be permitted

215.	The last point was also raised by MTROA. In addition, MTROA also recommended that a floor price be imposed on CMTS operators for offering the Closed User Group (CUG) facility. This point was made on the basis that the CMTS operators are cross subsidising the CUG service and thus, these prices were

predatory in nature. Additional points relating to the high licence fees payable to WPC and the restrictive nature of the 45-day reporting requirement were also mentioned.

216.	The Authority is of the opinion that reduced leased circuit tariffs will result in a very strong demand for them, resulting in a fillip to related economic activity. Such opinion was also expressed by several commentators, including by several Value Added Service providers. In view of this, the Authority does not support the contention that leased circuit tariffs should be raised to support the VSAT technology.

Likewise, the Authority does not agree with the imposition of a price floor for the CUG service offered by the cellular operators.

217.	Many of the other comments raised viz. lack of PSTN connectivity and high WPC charges relate to licence conditions for that particular service and therefore cannot be addressed by the Authority at present. On the point of the very high transponder charges levied on the VSAT service providers, the Authority has agreed to make a recommendation to the appropriate authority for review.

Tariffs for Value Added Services and all Services not Specified Elsewhere for example Intelligent Network (IN) Services

220. The Authority has decided to forbear, subject to the reporting requirement.

VIII. Items Addressed in Schedule VIII: Telex and Telegraph Services

Tariff for Telex and Telegraph Services

221. In the Second Consultation Paper, no tariffs were specified with regard to Telex and Telegraph Services.

The Authority has decided to forbear with regard to such services, subject to the reporting

requirement.

IX. Items Addressed in Schedule IX: Global Mobile Personal Communication by

Satellite (GMPCS)

Tariff

222.	The tariff for GMPCS was not addressed in the Second Consultation Paper. Subsequent to the publication of the Second Consultation Paper, Iridium India Telecom Limited (IITL), who provide GMPCS

services in India, approached the Telecom Regulatory Authority of India (TRAI) for approval of

provisional tariff for GMPCS Commercial Services in India.

223. The Authority is currently looking at the terms and conditions of the GMPCS licence.

224. The Authority has noted the fact that GMPCS services are in their nascent stage of development and that

their utilisation for the present would be restricted to certain high end users. **Keeping this in view, as**

also the need to provide flexibility in pricing at this stage, the Authority has decided to forbear

with regard to tariff for GMPCS for the present, subject to the general reporting requirement.

http://www.trai.gov.in/order.html 2/25/2003

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Telecom Regulatory Authority of India

New Delhi March 30, 1999/ Chaitra 9, 1920

In exercise of the powers conferred upon it under sub-section (2) of section 11 of the Telecom Regulatory Authority of India Act, 1997 to notify, by an Order in the Official Gazette, tariffs at which Telecommunication Services within India and outside India shall be provided, the Telecom Regulatory Authority of India hereby makes the following Order.

THE TELECOMMUNICATION TARIFF (First Amendment)ORDER 1999

Section ITitle, Extent and Commencement

1. Short title, extent and commencement:

(i) This Order shall be called "The Telecommunication Tariff (First Amendment) Order 1999."
(ii) The Order shall come into force from April 1, 1999.

Section IITariff

2. In Schedules I, II & V of the Telecommunication Tariff Order 1999, the date April 1, 1999 wherever it appears in these schedules shall be substituted by the date May 1, 1999.

Section IIIExplanatory Memorandum 3. This Order contains at Annex A, an Explanatory Memorandum which explains the reasons for this amendment to the Telecommunication Tariff Order 1999.

BY ORDER

Rakesh Kapur,

Joint Secretary

Annex 'A'

Explanatory Memorandum

On March 9, 1999, the Telecom Regulatory Authority of India had notified the Telecommunication Tariff Order,

http://www.trai.gov.in/order_amended.html 8/27/2002

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1999. The tariffs specified therein were to be implemented with effect from April 1, 1999. On the very next date, however, the Central Government issued a directive purporting to be under Section 25 of the TRAI Act, 1997 that the Tariff Order be held " in abeyance till the entire issue is considered by the Government". While this issue was under correspondence with the Government, the Secretary, Department of
Telecommunications, Government of India by his letter of March 27, 1999 requested that in order to avoid any confusion or disruption in effecting necessary changes in all computerised exchanges all over the country, the date of implementation for the tariffs provided for in Schedule I (Basic Services) of Telecommunication Tariff Order, 1999 not be earlier than April 15, 1999.

In the meanwhile, requests were also received from Cellular operators and other Basic service operators, namely M/s. BPL-Mobile, Birla AT&T, SkyCell, Hughes Ispat, Essar, Modi-Telstra, Maxtouch and Escotel, seeking a 2 - 4 week postponement of the implementation of the Telecommunication Tariff Order, 1999.

To consider these requests for postponement, the Telecom Regulatory Authority of India on March 29, 1999, at the official level, held an open house meeting with the associations of service providers and their representatives, including the representatives of DOT. At this meeting, representatives of DOT sought an over all 5 - week extension of time for implementation of the tariff order in respect of Schedule I (Basic Services) and Schedule V (ISDN), while private service providers in respect of Schedule I (Basic Services) and Schedule II (Cellular Services) requested for two to three weeks time for implementation after the DOT had made available its charging plans.

Keeping in view the process that will be required to be gone through by DOT in finalising its tariff and passing it on to the field units for conversion into charging plans and related software, the Telecom Regulatory Authority of India considered two weeks time to be justified for completing this exercise. After the charging tables are made available to the Cellular Mobile Telephone Service operators and the Basic service providers, the Telecom Regulatory Authority of India estimates that the time required is about 2 weeks to convert it into their software for all the exchanges. The Telecom Regulatory Authority of India thus considers a total of 4 weeks time to be justified for the necessary preparatory work for the introduction of new tariffs in Schedules I, II and V. Hence, this amendment changing the date of implementation of tariffs in the Schedules I, II and V to May 1, 1999.

The Telecommunication Tariff Order, 1999 in respect of other services namely, those in schedules III, IV, VI, VII, VIII and IX shall, however, come into effect from April 1, 1999. In respect of these services because of the reasons mentioned above, the service providers have not so far complied with the reporting requirement under clause 7 and publication requirement under clause 9 of the Tariff Order.

In view of the above, the Telecom Regulatory Authority of India has decided to grant a one-time waiver from the prior reporting and publication requirements in respect of services covered by Schedules III, IV, VI, VII, VIII and IX subject to service providers meeting these requirements no later than April 15, 1999.

http://www.trai.gov.in/order_amended.html 8/27/2002

Ethan Frome Page 1 of 3

TELECOM REGULATORY AUTHORITY OF INDIA NEW DELHI

31st May, 1999 **The Telecommunication Tariff (Second Amendment) Order, 1999** F.No. 301-4/99-TRAI (Econ.)-These are published for general information.

SECTION 1

Title, Extent and Commencement

1. Short title, extent and commencement :

(i) This Order shall be called "Telecommunication Tariff (Second Amendment) Order 1999".

(ii) This Order shall be deemed to have come into force with effect from April 1, 1999.

SECTION II

Amendment of Schedules

In partial modification of schedules to the Telecommunication Tariff Order 1999, the following additions/alterations are made in place of those mentioned in the said Order :-

Schedule I

Basic Services (other than ISDN)

(The date of implementation for these tariffs shall be May 1, 1999)

Item Tariff

(13) Peak hour Tariff

(13.a) For manual trunk calls

(13.a.i) From and to places with STD facilities Plus

(i) Rs. 5 per call

(ii) Tariff for subscriber trunk dialed domestic long distance calls @ Rs.1.20 per metered call,

Provided that,

http://www.trai.gov.in/amend2.html 8/27/2002

Ethan Frome Page 2 of 3

the minimum tariff under this plan may be the amount applicable to a one minute subscriber trunk dialed domestic long distance call.

The above tariffs are ceilings.

(13.a.ii) From/to places without STD facilities	Tariffs shall be the same as in (13.a.i.) above, assuming as if these places have STD facilities.

Schedule IV

Leased Circuits

(add Clause (3.f) as follows)

Item Tariff

(3) Ready Reckoner Tariff for leased circuits of speed:

(3.f) Chargeable distance	The radial distance may be converted into chargeable distance by multiplying the radial distance by a factor not exceeding 1.25.

The title to Annex 1 to Schedule IV should be read as:

READY-RECKONER CEILING TARIFF PER ANNUM FOR 64 Kbps LEASED CIRCUITS Instead of

READY-RECKONER CEILING TARIFF FOR 64 Kbps LEASED CIRCUITS BASED ON 140 Mbps SYSTEM

The following typing corrections be carried out in the ready-reckoner table:

As mentioned in the order		Corrected Tariffs	
Distance (Kms.)	Tariff in Rupees	Distance (Kms.)	Tariff in Rupees
350	61,475	350	75,061
275 (placed between distance slabs 370 and 380 Kms.)	78,457	375	78,457

The title to Annex 2 to Schedule IV should be read as **:**
READY-RECKONER CEILING TARIFF PER ANNUM FOR 2 Mbps LEASED CIRCUITS Instead of

READY-RECKONER CEILING TARIFF FOR 2 Mbps LEASED CIRCUITS BASED ON 140 Mbps SYTSTEM

The following typing corrections be carried out in the ready-reckoner table :

As mentioned in the order		Distance	Corrected Tariffs
Distance (Kms.)	Tariff in Rupees		Tariff in Rupees
(Kms.)			
350	1,163,319	350	1,570,895
275 (placed between distance	1,672,790	375	1,672,790

slabs 370 and 380 Kms.

Schedule VII
The title to Schedule VII should be read as:
Value Added Services and Other Services Not Elsewhere Specified Instead of
Value Added Services

SECTION III
Explanatory Memorandum to the 2nd Amendment
3. This Order contains at Annex 'A', an Explanatory Memorandum which explains the reasons for this amendment of the Telecommunication Tariff Order 1999.

By Order

(Harsha Vardhana Singh)
Economic Adviser

Annex 'A'

Explanatory Memorandum

1. The Telecom Regulatory Authority of India notified the telecommunication tariffs for various telecom. services on March 9, 1999 and these were published in the Gazette of India on March 15, 1999.

2. The amendment under item (13.a.i.) of Schedule I is necessitated due to certain technical difficulties in implementing more than one charge per metered call . The change under item (13.a.ii) is to clarify the coverage of the tariffs. The addition of item (3.f) under Schedule IV is a clarification in response to queries about the link between radial distance and chargeable distance. The corrections to Annexes 1 and 2 to Schedule IV address two misprints in the tables, and the change in the title is to clarify that the leased circuits tariffs have general application. The title of Schedule VII has been altered for clarifying that the schedule covers all telecommunication services.

3. To expedite the implementation of these directives in this notification, the Authority has already sent letters to Service Providers and Service Providers' Associations, informing them of these amendments

Telecom Regulatory Authority of India
New Delhi
May 31, 1999/ Jyaistha 10, 1921

No.301-4/99-TRAI (Econ.)- In exercise of the powers conferred upon it under sub-section (2) of section 11 of the Telecom Regulatory Authority of India Act, 1997 to notify, by an Order in the Official Gazette, tariffs at which Telecommunication Services within India and outside India shall be provided, the Telecom Regulatory Authority of India hereby makes the following Order.

THE TELECOMMUNICATION TARIFF (Third Amendment) ORDER 1999

1. Short title, extent and commencement:

(i) This Order shall be called "The Telecommunication Tariff (Third Amendment) Order 1999."

(ii) The Order shall be deemed to have come into force from May 1, 1999.

2. In Schedule I (Basic Services Other Than ISDN) of the Telecommunication Tariff Order 1999:

(i) The existing clause (g) shall be deleted and substituted to read as under:

(g) Alternative tariff packages	Alternative tariff and free call allowance offered to subscribers by service providers, in addition to those provided for in the Standard Tariff Package.

In the Alternative Tariff Packages, there is no restriction on any tariff to be charged, except that all tariff packages offered by any service provider shall have the **same** charge for security deposit (other than for STD/ISD), installation and registration as in the Standard Tariff Package offered by that service provider.

(ii) A new clause (o) shall be added to read:

(o) Refund of Deposits	All deposits (including, *inter-alia*, STD/ISD deposits) must be refunded in full to the subscriber at the time of disconnection subject to the condition that outstanding

subscriber bills, if any, may be adjusted in the final
transaction.

3. In Schedule II (Cellular Mobile Telecom Service) of the Telecommunication Tariff Order 1999:

(i) The existing clause (b) shall be deleted and substituted to read as under:

(b) Alternative tariff packages	Alternative tariff offered to subscribers by service providers, in addition to those provided for in the Standard Tariff Package.

In the Alternative Tariff Packages, there is no restriction on any tariff to be charged, except that all tariff packages
offered by any service provider shall have the same charge for security deposit (other than for STD/ISD) and installation as in the Standard Tariff Package offered by that service provider.

(ii) A new clause (d) shall be added to read:

(d) Refund of Deposits	All deposits (including, *inter-alia*, STD/ISD deposits) must be refunded in full to the subscriber at the time of disconnection subject to the condition that outstanding subscriber bills, if any, may be adjusted in the final

transaction

4. This Order contains at Annex A, an Explanatory Memorandum that explains the reasons for this amendment to the Telecommunication Tariff Order 1999.

BY ORDER

Harsha Vardhana Singh

Economic Advisor

ANNEX A
EXPLANATORY MEMORANDUM

1. The tariff notifications from the service providers and the various queries raised by them suggest a need to clarify and amend the Telecommunication Tariff Order 1999 in certain respects with a view to helping customers and promoting competition in the market.

2. The clarifications pertain, *inter-alia,* to certain queries from cellular mobile service providers relating to one-time charges other than those specified in the Tariff Order 1999 and the possibility of charging Wireless Planning and Co-ordination (WPC) charges in addition to the rentals and airtime charges specified for the Standard Tariff Package.

3. The Tariff Order 1999, bars service providers from charging any other initial one-time charge other than that specified in the Standard Tariff Package. This has also been communicated to the cellular mobile service providers through a letter of the Authority, dated April 26th, 1999. This letter states, *inter alia*, that: "no provision has been made for a registration charge (or any similar one-time charge, such as SIM card charge) in Schedule II for Cellular Mobile". The letter further points out that all costs relating to activation and customer acquisition and the like had been included in the cost base while deriving the Standard Tariff Package. The letter therefore, also stated that: "The Authority has decided that no additional charges towards WPC are to be recovered from the subscribers."

4. During the open house discussions on the Second Consultation Paper, several CMTS Operators were of the opinion that flexibility in pricing should be available to them. The Authority agreed with this principle and has accordingly provided for flexibility in the Tariff Order through Alternative Tariff Packages (ATP). The flexibility that the Authority had in mind however, was with respect to airtime and rental charges and not with regard to one time charges (such as membership fee and enrolment fee). The 'entry costs' to the cellular service were therefore limited to security deposit and installation charge and were specified as ceilings in Schedule II. No other one-time cost was envisaged.

5. In their tariff notifications to the Authority, a number of CMTS Operators have included in the ATPs, a one-time charge (such as membership fee and enrolment fee) in addition to the security deposit and installation charge. Since any one-time charge has to be paid up-front, this increases the cost of entry for a subscriber.

6. The Authority has analysed the tariff notifications submitted by CMTS Operators. Although entry costs are higher for certain ATPs, in a majority of the cases it appears the additional one-time charge in these ATPs provides advantage to certain class of subscribers in terms of reduced charges for monthly rental or airtime or both. It further allows for the possibility of additional consumer benefit through the competition that this flexibility is likely to create. In view of the matter, the Authority has decided to amend Telecommunication Tariff Order, 1999, to allow for this additional flexibility.

7. The Telecommunication Tariff Order, 1999, stipulated that the prevailing ceilings in the standard package shall be carried over to the ATPs. The Authority has now decided that in the ATPs, there shall be no restriction on tariffs to be charged. This permits the cost of entry for the subscriber to ATPs to be different from the cost of entry to the Standard Tariff Package. **In order to facilitate mobility between packages offered by the same CMTS Operator, the Authority has also decided that the security deposit and installation charge for all ATPs shall be the same as for the Standard Tariff Package.**

8. As an illustration, consider the following hypothetical examples.

Table I (All amounts in rupees)

Tariff Plan	**Standard**	**Alternative Tariff**	**Alternative Tariff**
Installation fee	**Package**	**Package I**	**Package II**
	1,200	1,200	1,200
Security Deposit	3,000	3,000	3,000
Membership fee (one-time)	NIL	5,000	1,000

Table II (All amounts in rupees)

Tariff Plan	**Standard**	**Alternative Tariff**	**Alternative Tariff**
Installation fee	**Package**	**Package I**	**Package II**
	1,000	1,000	1,000
Security Deposit	2,000	2,000	2,000
Membership fee (one-time)	NIL	4,000	1,500

Presuming the subscriber had entered the network on the Standard Tariff Package and now wishes to changeover to ATP I at the prices shown in Table I above. In this case, the subscriber shall pay an additional Rs. 5,000 as the one-time entry cost for this particular package. On the other hand, if the subscriber wishes to changeover from the Standard Package to ATP II, then the subscriber shall pay an additional Rs. 1,000 towards the one-time membership fee for this package.

9. Alternatively, consider the prices shown in Table II above. If the CMTS Operator has fixed the installation charge and security deposit for the standard package below their respective ceilings as shown in Table II, then these amounts shall carry over to the alternative packages as illustrated in the Table. **The idea of these examples is also to make clear that installation and security deposit shall not be duplicated when the subscriber changes over from one package to another.**

10. In certain tariff plans notified by CMTS Operators, it is not clear whether the entire security deposit and other deposits will be refunded. The view of the Authority is clearly that all deposits must be refunded when the subscriber leaves a network. The Authority's directive in this regard is that **all deposits must be refunded to the subscriber in full at the time of disconnection.** To the extent, the customer has an outstanding amount due to the service provider at the time of disconnection, this amount may be adjusted in the final transaction.

11. Another clarification with regard to Alternative Tariff Packages is that no tariff classified as Wireless Planning and Co-ordination charge (or "WPC charge") should be levied under these packages. This restriction is, therefore, similar to that applicable to the Standard Tariff Package.

12. In the Tariff Order, flexibility to provide alternative packages was also given for Basic Services.

The regulatory framework envisaged was common across both these services. As a result the changes in the regulatory framework for alternative packages for cellular shall apply to Schedule I as well, i.e. to Basic Services (other than ISDN). The necessary changes have been incorporated in the revised Schedule for Basic Services (other than ISDN).

Telecom Regulatory Authority of India

New Delhi July 28, 1999

[F. No. 301-4/99-TRAI (Econ.)]. In exercise of the powers conferred upon it under sub-section (2) of section 11 of the Telecom Regulatory Authority of India Act, 1997 to notify, by an Order in the Official Gazette, tariffs at which Telecommunication Services within India and outside India shall be provided, the Telecom Regulatory Authority of India hereby makes the following Order.

THE TELECOMMUNICATION TARIFF (Fourth Amendment) ORDER 1999

1. Short title, extent and commencement:

(i) This Order shall be called "The Telecommunication Tariff (Fourth Amendment) Order 1999."

(ii) The Order shall be deemed to have come into force from May 01, 1999.

2. In Schedule I (Basic Services Other Than ISDN) of the Telecommunication Tariff Order 1999:

(i) The existing clause (g) shall be deleted and substituted to read as under:

(g) Alternative tariff packages	Alternative tariff and free call allowance offered to subscribers by service providers, in addition to those provided for in the Standard Tariff Package.

In the Alternative Tariff Packages, the ceilings with respect to the security deposit (other than for STD/ISD), installation charge and registration charge specified in the standard package shall be carried over to all alternative packages.

Further, installation charge shall be imposed by any service
provider only when a customer subscribes initially to the packages offered by the service provider. No installation charge shall be imposed when a subscriber moves from one package to another offered by a particular service provider.

3. In Schedule II (Cellular Mobile Telecom Service) of the Telecommunication Tariff Order 1999:

(i) The existing Footnote * in Schedule II shall be deleted and substituted to read as under:

The applicability of the tariffs notified in the Telecommunications Tariff Order (TTO) 1999, and the subsequent Amendments to TTO 1999, to remain in place till they are substituted by tariffs relevant to the 'Calling Party Pays' (CPP) regime. The tariffs applicable under a CPP regime shall be notified by the Authority in due course of time.

(ii) The existing clause (b) shall be deleted and substituted to read as under:

(b) Alternative tariff packages	Alternative tariff and free call allowance offered to subscribers by service providers, in addition to those provided for in the Standard Tariff Package.

In the Alternative Tariff Packages, the ceilings with respect to the security deposit (other than for STD/ISD) and installation charge specified in the standard package shall be carried over to all alternative packages.

Further, installation charge shall be imposed by any service
provider only when a customer subscribes initially to the packages offered by the service provider. No installation charge shall be imposed when a subscriber moves from one package to another offered by a particular service provider.

4. This Order contains at Annex A, an Explanatory Memorandum that explains the reasons for this amendment to the Telecommunication Tariff Order 1999.

5. The Explanatory Memorandum of Telecommunications Tariff Order 1999 shall be numbered as Explanatory Memorandum-I and that at Annex A as Explanatory Memorandum-4.

BY ORDER

Harsha Vardhana Singh

Economic Advisor

ANNEX A
EXPLANATORY MEMORANDUM - 4

1. In the Third Amendment to it's Telecommunication Tariff Order (TTO), 1999, released on 31st May 1999, the Authority had, *inter-alia*, stated,

*"In Alternative Tariff Packages, there is no restriction on any tariff to be charged, except that all tariff packages offered by any service provider shall have the **same** charge for security deposit (other than for STD/ISD), installation and registration as in the Standard Tariff Package offered by that service provider".*

2. The Authority received communication from certain service providers that they wished to provide lower security deposits in particular alternative tariff packages, but the Third Amendment to TTO 1999 precluded them from doing so.

3. The Authority's decision in the Third Amendment was to facilitate mobility of subscribers across packages and thus increase the scope of options available to them. It was intended to decrease the rigidities in the marketing of alternative packages. The Authority's intention is to provide a framework for migration between different tariff packages so that subscriber interest is fully protected and that the service providers give sufficient information in a transparent manner so as to facilitate an informed choice by the subscriber. The Authority issued two Orders, to define the framework in a way that would achieve this objective. With a view to discussing the possibility of devising a system so that a customer does not face any problem in migrating from one tariff package to another, a consultation meeting was organised with basic and cellular mobile service providers, in which TRAI emphasised that:

(i) A customer with any service provider has a right to migrate from one tariff package to another.

(ii) In migrating from one package to another, the customer should not pay charges for items for which service providers incur no additional cost. An example of this would be 'installation charge'.

(iii) The customer should be informed about the conditions applicable to migration from one tariff package to another.

4. To maintain the possibility of lower deposits charged to customers in alternative tariff packages, the Authority has decided to provide more flexibility for this item in alternative tariff packages. Further, the Authority wishes to maintain a ceiling for security deposits for all tariff packages. This ceiling is the same as specified for the standard tariff package, i.e. Rs. 3000.

5. Since lower security deposits will be in the interest of customers, the Authority has decided to grant flexibility to service providers to determine the amount charged towards security deposit (other than STD/ISD) provided that this amount is within the specified ceiling of Rs. 3000. The import of this decision is that security deposits may be different for different packages. In case the subscriber moves from one tariff package with a particular amount as security deposit to another with a lower security deposit, the Authority has decided that

the difference will be either refunded to the subscriber or adjusted against the amount payable by the subscriber, as applicable. This refund must be made in the subscriber's billing cycle subsequent to the move to another tariff package. In addition, as mentioned in the Third Amendment to TTO 1999, a service provider shall refund all security deposits in full at the time a subscriber leaves the network. To the extent, the customer has an outstanding amount due to the service provider at the time of disconnection, this amount may be adjusted in the final transaction.

6. With regard to installation charge, the Authority wishes to clarify that these charges may be imposed only when a customer joins the network of a particular service provider. Installation charge shall not be levied when the subscriber moves from one tariff package to another tariff package of the same service provider. If acustomer moves from one service provider to another, that customer will have to pay installation charge again, but only at the time of subscribing to the services provided by another service provider and not for any subsequent move from one package to another offered by that service provider.

7. One aspect of concern to service providers relates to 'too frequent changes' in tariff packages by customers since this results in additional cost to be incurred by them each time there is a change. Accordingly, service providers have proposed that they should be permitted to charge a fee from the customer to recover cost of migration, which involves changes in the billing system, data entry, and certain operational and administrative costs. The estimates given by them range from Rs. 200 to Rs. 1200 per change.

8. The Authority has decided, in consumer interest, not to accede to the proposal of service providers to allow a fee for migration when the subscriber moves from one tariff package to another. In this context, it should be mentioned that in their tariff submissions to the Authority, service providers have included a charge for migration that ranges from Rs. 500 to Rs. 1200 per change. This charge has been reported under item 8 of the general terms and conditions of service specified in the format for publishing and reporting of tariffs. Item 8 of the general terms and conditions for service reads as follows:

Conditions of entry/exit with regard to tariff packages

{*Service providers*
{*Customers*

9. The intention of including this item in the general terms and conditions of service was to ensure that the service provider clearly communicated to the subscriber, the terms and conditions of migration, such as billing cycle, from one tariff package to another. It was not intended to include a charge for migration. Accordingly, schedule II for CMTS in the TTO 1999 did not envisage a charge for migration. **This Amendment clarifies that a service provider shall not levy a charge when a subscriber moves from one tariff package to another.** The Authority will study this aspect further with the help of data on the changes in tariff packages requested by customers over a period of time.

10. In addition, a subscriber's request for a change in tariff package must be implemented by the service provider in the subscriber's billing cycle subsequent to the request being made. A service provider can thus reject the subscriber's request for a change of tariff package only until the completion of the subscribers billing cycle during which the request is made for a move to another tariff package. At the conclusion of that billing cycle, the service provider must effect the requested change.

11. The Third Amendment provided additional flexibility with regard to Alternative Tariff Packages by removing the previous restrictions on one-time charges such as membership fee or enrolment fee, while maintaining the restrictions with respect to the security deposit and installation charges. That additional flexibility shall continue to be applicable.

12. In addition, while advertising for alternative packages, it shall be necessary for service providers to include in the same advertisement, tariffs applicable to the standard package.

13. In Schedule II of TTO 1999, footnote * states that the tariffs in that schedule remain applicable only till 31 July 1999 and that tariffs applicable to Calling Party Pays regime will be implemented from August 01, 1999.

The application of these tariffs has been extended till they are replaced by tariffs applicable to a Calling Party Pays regime. A separate notification will address that matter in the near future

Telecom Regulatory Authority of India

New Delhi September 17, 1999

In exercise of the powers conferred upon it under sub-section (2) of section 11 of the Telecom Regulatory Authority of India Act, 1997 to notify, by an Order in the Official Gazette, tariffs at which Telecommunication Services within India and outside India shall be provided, the Telecom Regulatory Authority of India hereby makes the following Order.

THE TELECOMMUNICATION TARIFF (FIFTH AMENDMENT) ORDER 1999

1. Short title, extent and commencement:	**(6 of 1999)**

(i) This Order shall be called "The Telecommunication Tariff (Fifth Amendment) Order 1999."

(ii) The provisions of this Order shall to the extent of their variance override those of the Telecommunication Tariff Order 1999, Telecommunication Tariff (First Amendment) Order 1999, Telecommunication Tariff (Second Amendment) Order 1999, Telecommunication Tariff (Third Amendment) Order 1999 and Telecommunication Tariff (Fourth Amendment) Order 1999.

(iii) In this Order, "Act" means the Telecom Regulatory Authority of India Act, 1997.

2. In Schedule I (Basic Services other than ISDN) of the Telecommunication Tariff Order 1999, with effect from the date of implementation of the calling party pays **(**CPP) regime for cellular mobile:

(i) Item 1.bis to be added as under:

(1.bis) Date of implementation for tariffs for calls to cellular mobile under a calling party pays tariff (CPP) regime for cellular mobile 01 November, 1999

(ii) Under Item 11, Item 11.a.bis as under to be inserted between Items 11.a and 11.b:

(11) Pulse Rate for local calls

(11.a.bis) Calls to cellular mobile	Two pulses on answer at the beginning of the call, and one pulse every 60 seconds thereafter.

(iii) Under Item 12, Item 12.a.bis as under to be inserted after Item 12.a, and Items 12.a.bis.i to 12.a.bis.iii as

under to be inserted after Item 12.a.iii:

(12) Pulse rates for peak hours

(12.a.bis) For Subscriber trunk dialed domestic long distance calls to cellular mobile	Two pulses on answer at the beginning of the call, and one pulse thereafter at the rates specified below.

Radial distance From 1 November, 1999 to 31 March, 2000 Between the originating charging centre and (Seconds) charging centre in which the Gateway MSC Is located

---------- ----------

Up to 50 kms. Same as for local call to cellular mobile

Above 50 kms.

and up to 200 kms. 11

Above 200 kms.

and up to 500 kms. 4.4

Above 500 kms.

and up to 1,000 kms. 3.3

Above 1,000 kms. 2.3

Note:

(1) The pulse rates for subsequent period will be separately prescribed later.

(2) "Gateway MSC" is the MSC which is connected to other public networks, such as PSTN, by a clearly defined Network-Network Interface.

(12.a.bis.i) Peak hour tariffs for a STD call of one minute duration to cellular mobile at	**Radial distance From 1 November, 1999 to 31 March, 2000 Between the originating charging centre and (Seconds)**	8/27/2002

pulse charge of	**charging centre**
http://www.trai.gov.in/cppo.html	

g	**g**
Rs. 0.80 per	**in which the**
metered call	**Gateway MSC**
(12.a.bis.ii) Peak	**Is located**
	---------- ----------
	Up to 50 kms. 2.40
	Above 50 kms.
	and up to 200 kms. 5.60
	Above 200 kms.
	and up to 500 kms. 12.00
	Above 500 kms.
	and up to 1,000 kms. 16.00
	Above 1,000 kms. 22.40
	Note: The above amounts provide for a double pulse on answer.
	Radial distance From 1 November, 1999 to 31 March, 2000
	Between the
	originating
hour tariffs for a	**charging**
STD call of one	**centre and (Seconds)**
minute duration to	**charging centre**
cellular mobile at	**in which the**
pulse charge of	**Gateway MSC**
Re. 1 per metered	**Is located**
call	---------- ----------
	Up to 50 kms. 3.00
	Above 50 kms.
	and up to 200 kms. 7.00
	Above 200 kms.
	and up to 500 kms. 15.00
	Above 500 kms.
	and up to 1,000 kms. 20.00
	Above 1,000 kms. 28.00

		Note: The above amounts provide for a double pulse on answer.	
http://www.trai.gov.in/cppo.html			

Radial distance From 1 November, 1999 to 31 March, 2000 Between the originating

(12.a.bis.iii) Peak hour tariffs for a STD call of one minute duration to cellular mobile at pulse charge of Rs. 1.20 per metered call	**charging centre and (Seconds) charging centre in which the Gateway MSC Is located** **---------- ----------** **Up to 50 kms. 3.60**

Above 50 kms.

and up to 200 kms. 8.40

Above 200 kms.

and up to 500 kms. 18.00

Above 500 kms.

and up to 1,000 kms. 24.00

Above 1,000 kms. 33.60

Note: The above amounts provide for a double pulse on answer.

(iv) Under Item 13.a, Item 13.a.i.bis as under to be inserted after Item 13.a.i, and Item 13.a.ii.bis as under to be inserted after Item 13.a.ii:

(13.a) For manual trunk calls	
(13.a.i.bis) To cellular mobile from/to places with STD facilities	(i) Rs. 5 per call Plus

(ii) Tariff for STD domestic long distance calls, as applicable to calls to cellular mobile

Provided that,

The minimum tariff under this plan may be the amount applicable to a one minute STD domestic long distance call.

The above tariffs are ceilings.

(13.a.ii.bis) To cellular mobile from/to places without STD facilities	Tariffs shall be the same as in (13.a.i.bis) above, assuming as if these places have STD facilities.

3. In Schedule II (Cellular Mobile Telecom Service) of the Telecommunication Tariff Order 1999, with effect from the date of implementation of CPP for cellular mobile, the existing Items 1, 7, 8, 9, 10, 11, 12, and 13 shall be substituted to read as under:

ITEM	01 November, 1999	**TARIFF**
(1) Date of implementation		
(7) Rental	Rs. 475 per month for metro service areas, and Rs. 500 per month for circle service areas	
(8) Airtime charge for all outgoing	(a) For metro service areas: Rs. 4 per minute for the first minute and thereafter Rs. 2 per 30 seconds duration	

calls during
standard hours (b) For circle service areas: Rs. 4.50 per minute for the first minute and thereafter Rs. 2.25 per 30 seconds duration

(9) Airtime charge for all outgoing calls during concessional hours	Forbearance, subject to condition that tariff should be below standard hour tariff; Provided that airtime during Sundays and three National Holidays (26th January, 15th August, and 2nd October) shall be priced at Concessional rates
(10) Tariffs for all incoming calls to cellular mobile	No charge to the called party

(11)Tariffs for outgoing calls from Mobile to PSTN	Tariff to comprise airtime; plus Supplementary long distance charge if applicable; plus Payment by cellular mobile network provider to PSTN network provider for local or long distance call as applicable from time to time for the fixed network
(12) Tariffs for outgoing calls from Mobile to Mobile within Metro Licensee Service Areas	Calling party to pay airtime, and If call is to another network, to pay an additional charge specified in the Telecommunication Interconnection (Charges and Revenue Sharing – First Amendment) Regulation 1999, by way of revenue share to the terminating cellular mobile network

(13) Tariffs for outgoing calls from Mobile to Mobile not included in item (12) above	Tariff to comprise airtime, plus A supplementary long distance charge based on distance; and If call is to another network, an additional charge specified in the Telecommunication Interconnection (Charges and Revenue Sharing – First Amendment) Regulation 1999, by way of revenue share to the terminating cellular mobile network.

The Service Provider shall make the calling party aware of the quantum of the supplementary charge to be paid by the party, by making appropriate technical arrangements

Notes:

http://www.trai.gov.in/cppo.html 8/27/2002

Consultation regarding treatment of security deposit and installation charges in alternative tariff pa.. Page 6 of 11

1. Call-forwarding shall be treated as two calls, one from calling party to called party prior to call being forwarded, another from called party to the number where call is forwarded. The tariffs specified in this Order apply to the calling party in each of these two calls. In the case of the second call (i.e. the forwarded call), the called party that forwards the call shall be treated as the calling party for that call.

2. Roaming shall be treated as two calls, similar to call-forwarding. One, from calling party to the called party, prior to the transfer of the call (if any) to the called party in case of roaming. The other, in case of roaming, from the called number to the roaming party. The tariffs specified in this Order apply to the first portion of the call, with the second portion (i.e. forwarding the call to the roaming party) at present subject to forbearance.

3. This Order contains at Annex A, an Explanatory Memorandum - 5 that explains the reasons for this amendment to the Telecommunication Tariff Order 1999.

ANNEX A
EXPLANATORY MEMORANDUM - 5

1. The Authority's consultations leading to the Telecommunication Tariff Order (TTO) 1999 showed a widely held view that airtime charge for incoming calls is a strong disincentive that limited the use of the phone. In several instances, it was pointed out that cellular mobile subscribers were reluctant to give their numbers to others so as to avoid payment of airtime charge for incoming calls. This was also reportedly one of the reasons for the telephone directory for cellular mobile subscribers not being made available.

2. An important objective of the telecom tariff mechanism is to encourage usage, and a calling party pays (CPP) regime for cellular mobile (similar to that prevailing for basic services) would contribute in a major way towards this objective. Further, CPP would make the mobile cellular service more affordable to cellular mobile subscribers, including those receiving calls in rural areas. It also transfers the payment responsibility to the calling party, which is the party that needs to make the call in order to contact the called party. Greater usage will lead to consumer satisfaction in general and to greater economic and social interaction. Over time, this will lead to lower average costs and thus provide a basis for reducing tariffs for both cellular mobile and basic services. The Authority therefore decided to implement CPP for the cellular mobile sector.

3. In its TTO 1999, the Authority had stated that CPP regime would be implemented for the cellular mobile sector from 1 August, 1999. This decision was taken in consultation with various service providers, in particular the Department of Telecommunications (DOT). During the Authority's more recent consultations with the service providers directly involved in making the changes required for CPP, it has emerged that some additional time period would be needed to implement CPP.

4. A comprehensive change that addresses all the problems inherent in altering from the present system to CPP would require substantial technical up-gradation in several areas. At present, CPP is being introduced in a manner that deals with most aspects of the situation, while pointing a need to address certain issues in the future.

5. In the course of its consideration of the tariff regime under CPP, there was a major policy development that led to an ad interim change in the license fee payments by cellular service providers. Under the new regime, there would, in general, be a substantial reduction in the license fee payments by the service providers. The reduction in license fee, which is an element of cost, would improve the viability of the service providers. The Authority recognizes that there is still a measure of uncertainty about the application of the revenue share arrangement. However, the Authority is of the opinion that when there are substantial cost changes, the tariff should reflect these changes. For example, with the cost decrease encompassed in the migration to the new license fee regime, the benefit should be passed on also to the customer in the form of lower

tariffs. Consequently, the Authority prepared a consultation paper (Consultation paper No. 99/4, dated 31 August, 1999) based on quick estimates, and proposed certain tariff reduction arising due to the changed license fee regime within a framework of CPP for cellular mobile.

6. An open-house consultation meeting was held in New Delhi on this issue on 7 September, 1999. The main

points that emerged from the meeting were that:

{the amount proposed as revenue for incoming call (Rs. 0.60 per minute on the basis of a three- minute call) was extremely low – a contrasting view was that of the basic service providers, namely that Rs. 0.60 per minute was too high an amount to give the cellular service providers; {the adverse effect of the above low amount would be accentuated due to the call-back to cellular mobile that would arise on account of the relatively low tariff for basic to cellular mobile calls; {metros and circles should be treated in a different manner;
{the proposed tariffs would adversely affect the possibility for financial closure (and financial viability) for cellular mobile service providers, especially in view of the existing deficits incurred by the service providers;
{in this context, internal rates of return should not be emphasised, instead the cash-flow position should be emphasised;
{the increase in CAPEX would be much more than is taken into account by the Consultation Paper;
{there is a need for cellular mobile to obtain an ad interim revenue share from long distance tariffs;
{tariffs should not be changed before the revised license fee regime is actually implemented on a permanent basis;
{the tariff regime should have stability and should not be frequently altered;
{the CPP regime would involve additional expenditure by the basic service providers.

7. Those making a claim that their financial position would be adversely affected by the proposed tariffs were asked by TRAI to present data to support their claims. Some of the data that has been provided to TRAI suggests that the analysis (and data) were not appropriate to consider the impact of the proposed tariffs. The TRAI will continue its examination of the corrected information that will be provided to it in this regard.

Meanwhile, on a purely ad interim basis, the TRAI is notifying certain tariff reductions together with the introduction of the CPP regime for cellular mobile. This notification is made for the following reasons:

{customers should obtain the benefits of a reduction in costs in the form of reduced tariffs; {to the extent that this reduction is delayed, the reduction in cost under a new license fee regime would have occurred for a significant time period and passing the benefits to customers for the interim duration would be a difficult task;
{a case of providing customers with the benefits of a substantial cost reduction is even stronger when one considers the actual tariffs packages (with low tariffs) that are actually applied in several places;
{further, the present exercise has to be seen together with two other initiatives of the TRAI, one on cost based access/usage charge regime, and the other on the recommendation for the percentage of revenue that should be charged as license fee;
{these initiatives are important because the viability exercise involves both tariffs as well as the percentage of revenue to be charged as license fee, and because the access/usage charge regime addresses the issue of a low incoming revenue for cellular mobile;
{the revised tariff regime would also incorporate the effect of the levy to be proposed for funding Universal Service Obligations.

8. The main feature of a CPP regime for the cellular mobile subscriber is that no payment is made for incoming calls. The cellular mobile tariff as presently determined by the Authority has a charge for incoming calls. The overall tariff structure in the Telecommunication Tariff Order 1999, including the charge for incoming calls, was determined by the Authority to cover the costs incurred in providing the cellular mobile service. As explained in the second Consultation Paper on tariffs (Consultation Paper No. 98/3, dated 9 September, 1999), these costs were for metro service areas because of the difficulty in linking cellular mobile tariffs to costs in circle service areas. Any removal of the charge for incoming calls under CPP would result in a reduction in revenue that is available to cover the costs for cellular mobile service providers. While the introduction of CPP would give rise to an increase in usage and subscriber base for cellular mobile, the incremental revenue provided by this usage and subscriber base is unlikely to fully compensate the reduction in revenue due to the removal of the incoming call charge. Hence, some revenue to cover the costs involved has to be provided from another source in order to help the cellular mobile service provider to remain viable.

As mentioned above, this revenue would not be additional revenue for cellular mobile but a partial substitute for the revenue that is presently provided by incoming call charge for cellular mobile.

9. Irrespective of the revenue aspect mentioned above, each incoming call to cellular mobile should be provided with revenues to the terminating network because of the task of completing the call by the network, and because without such a revenue there will not be any incentive for maintaining the network. Further, in general, such a cost should cover costs in a situation where there is a strong likelihood of call-back. This revenue for incoming calls is funded mainly from calls from basic service to cellular mobile service.

10. In several countries, as shown in the second Consultation Paper on tariffs, a call from basic service to cellular mobile costs more than a similar call to basic service subscriber. A call to cellular mobile provides a premium service because the called party can be contacted in situations not ordinarily possible with a fixed line services. Hence, it is justifiable to ask the calling party to pay an additional amount for utilizing this premium service (which is not, for instance, a service that is to be provided under a Universal Service Obligation). In addition, as mentioned above, this call charge has also to fund the payment of incoming calls made to cellular mobile.

11. The second Consultation Paper on tariffs had proposed a revenue sharing arrangement under which calls from basic service subscriber to cellular mobile were to be charged at Rs. 3.90 per minute, and that 85 per cent of this amount be passed on to the cellular mobile service provider.

12. The Authority has received several comments on its proposals regarding CPP. In general, the introduction of CPP is supported by all concerned. However, some state that a tariff of Rs. 3.90 per minute (or of Rs. 3.60 per minute subsequent to the TTO 1999) is too high an amount and will discourage calls being made from basic service subscriber to cellular mobile subscriber. Further, while basic service providers want to retain 40 to 50 per cent of the amount charged per minute for such calls, cellular mobile service providers want a share larger than 85 per cent. Both support their claims on the grounds that their revenues would decline in the alternative scenario. In this regard, basic service providers have also pointed out that they provide a number of calls free of charge, or at tariff rates below the upper limit of Rs. 1.20 per metered call. It

should be recalled that the Department of Telecommunications had emphasized during the tariff re-balancing exercise that their revenues should not decline substantially if national telecom development and objectives of attaining the desired improvement in teledensity have to be achieved.

13. These diverse, and conflicting, objectives emphasised by different service providers have to be considered together with the objective that there should not be an undue burden on customers. In this regard, it is important to bear in mind that cellular mobile service facilitates others to get in touch with the cellular mobile subscriber (i.e. these are premium calls). The CPP regime makes it more likely for the cellular mobile subscriber to respond to the calls of those who seek that subscriber on the cellular mobile phone.

14. The statement that the CPP regime will imply lower cost burden for the users of cellular mobile is self-evident. Under the CPP regime, tariffs specified by the Authority for a call from basic service subscriber to cellular mobile balance two important objectives: keeping low the charge for this premium call by basic service subscribers, while providing a reasonable amount of revenue to cellular mobile network to partially substitute for the revenue loss on account of removing the incoming call charge for cellular mobile, and to pay for utilizing the network.

15. The revenue share arrangement specified here is an ad interim arrangement, and is aimed at providing an amount for the usage of the cellular mobile network. This will be replaced later by a cost-based usage charge that will be derived by the Authority. The ad interim revenue share provides some payment for usage as a termination charge. In this Order, this revenue provided to the terminating cellular network for incoming calls is termed as "mobile termination charge" (MTC).

16. CPP for cellular mobile is being implemented in a manner that the terminating cellular mobile network receives MTC for all incoming calls, whether from basic service subscriber or from cellular mobile, except for calls made within its own network (i.e. intra-network calls). The payment of MTC would be made even for STD or ISD calls (for further detail, see the Telecommunication Interconnection (Charges and Revenue Sharing – First Amendment) Regulation 1999).

17. Further, the same MTC is specified irrespective of the nature of the call, e.g. local, STD, ISD, because that obviates the need to distinguish between these calls being handed over by basic service network to

cellular mobile in implementing CPP for cellular mobile. This implies a change in the charges for STD calls made to cellular mobile from both basic as well as cellular mobile subscribers.

18. Bearing the various objectives in mind, the Authority has decided that the initial amount paid for calls from basic to cellular mobile should be a minimum charge that provides some reasonable amount of revenue to be shared among the service providers involved. This requires changing the pulse rate in such a manner that the revenue considerations for both service providers are kept in mind, and the customer does not bear an undue burden. The Authority has done this by providing a double pulse at answer for calls from basic service subscriber to cellular mobile, plus providing for a long pulse duration that would in effect make it possible to have a lower tariff than that proposed in the second Consultation Paper on tariff. Thus, for a local call from basic service subscriber to cellular mobile, the customer has a longer time period to converse after paying the initial charge, and the amount charged per minute to the customer decreases for a call longer than one minute.

19. In its recent Consultation Paper of 31 August, 1999, the Authority had proposed a pulse rate of 120 seconds and a payment of Rs. 0.60 per pulse to the terminating cellular mobile network for incoming calls. This was with a view to not much disturb the existing situation for basic service subscribers, and because the forthcoming access/usage charge regime would address the charge for incoming calls on a more
comprehensive basis. That exercise will also address certain other aspects such as revenue share for cellular mobile in long distance call revenues.

20. Inputs provided during consultations suggest to the Authority that increase in call-back is a strong possibility even during the interim period for which the present tariff regime is being implemented. Hence, the burden of keeping a low charge of Rs. 0.60 per pulse would get exacerbated, and needs to be addressed. This implies a higher tariff for calls from basic to cellular mobile than was suggested in the Consultation Paper of 31 August, 1999. This would provide for higher revenue on incoming calls as well address, to some extent, the issue of call-back to cellular mobile. However, the Authority is still of the opinion that the revenues for incoming calls during the interim regime should not be as high as, for example, suggested in the second Consultation Paper on tariffs.

21. The Authority has decided that for local calls from basic service to cellular mobile, the call should have a double pulse on answer and a pulse rate of one minute. Hence, if a local call from basic network to cellular mobile is of duration less than 60 seconds, the customer pays for two metered calls; the actual amount paid by the customer depends on the call charge that applies to the metered calls. For a call of 60 seconds, the payment is for three metered calls. The subsequent 60 seconds are charged only one metered call. For illustration, if a charge of Rs. 0.80, or Re. 1, or Rs. 1.20 per metered call is applied, a basic service subscriber making a local call to cellular mobile will pay as follows:

Duration of the local call	Amount charged if	Amount charged if	Amount charged if
from basic service to	Rs. 0.80 charged per	Re. 1 charged per	Rs. 1.20 charged per
cellular mobile	metered call	metered call	metered call
Up to 60 seconds	Rs. 1.60	Rs. 2.00	Rs. 2.40
60 seconds or more, but less than 2 minutes	Rs. 2.40	Rs. 3.00	Rs. 3.60
2 minutes or more, but less than 3 minutes	Rs. 3.20	Rs. 4.00	Rs. 4.80

22. The basic service calling party making a local call is not to pay any additional charge other than that mentioned above, calculated on the basis of a double pulse at the beginning of the call and a 60 second pulse thereafter.

23. The Authority has decided that the terminating cellular mobile network be given Rs. 0.80 per pulse (or metered call unit). Given that a constant amount of MTC per unit time has to be paid to the terminating cellular mobile network, irrespective of the source of the call that transits through (or originates in) a basic service network, the above Table shows that the payment of MTC by the originating service provider is not strictly linked to the tariffs paid by the customer for calls made to cellular mobile. Further, the above-mentioned charges are comprehensive charges for local calls from basic service subscriber to cellular mobile that transit through the basic service network, and the calling party should not be charged any additional amount for payment of usage charge to the transit network.

24. For inter-network cellular mobile to cellular mobile calls, including those which transit through the basic service network, an MTC amount is specified as part of the tariff, in additional to the airtime (or other supplementary) charges specified in Schedule II.

25. The Authority has specified that the first pulse for an outgoing call from cellular mobile should be 60 seconds, followed thereafter by pulse rates of 30 seconds. This will provide some additional revenue as well as discourage attempts to generate call-back to cellular mobile.

26. In any event, the Authority will monitor the situation and address it, if required, in the course of a tariff review next year. The review would also take account any important change in the policy framework for cellular mobile, including those relating to license fee payments. In this regard, it is worth recalling the Authority's statement in paragraph 147 of the Telecommunication Tariff Order (TTO) 1999 that: "*In view of the circumstances surrounding the cellular industry at present, the Authority will review and modify notified tariffs, should that become necessary as a result of policy changes*" (emphasis added).

27. Similar to local calls, a double pulse is specified at the beginning of a STD call. Subsequently, pulse rates are derived so that the amount charged in general provides for the payment of MTC to the terminating cellular mobile network. For basic service subscribers, these pulse rates are specified in the changes made to Schedule I of the TTO 1999, together with an illustration of the charges for STD calls to cellular mobile (similar to the amounts specified in the TTO 1999 for a STD call made to basic service subscriber). For STD calls other than to cellular mobile, the charges remain as they were specified under TTO 1999.

28. At present, under the standard tariff package, the calling party making a STD call from cellular mobile to cellular mobile that transits through basic network (i.e. Department of Telecommunications network) is charged airtime and the STD charge for an equivalent call by the basic service subscriber. The same system would continue with the introduction of CPP, but the applicable pulse rates would be different from those applicable to STD calls to basic service subscriber in order to provide revenues for payment of MTC. The same also applies for calls from basic service to cellular mobile, i.e. the pulse rates would imply a higher tariff in order to make payments of MTC. Details of the MTC charge have been specified in the Telecommunication Interconnection (Charges and Revenue Sharing – First Amendment) Regulation 1999.

29. In its Consultation Paper of 31 August, 1999 the Authority had raised the question of whether metro and circles service areas should be treated differently for the purpose of cellular mobile tariffs. Though there was no unanimity in the answers provided, there was a strong body of opinion that there is a basis for differential treatment through tariff and/or the license fee regime. The Authority had noted the cost difference in circles even in its second Consultation Paper on tariffs. The Telecommunication Tariff Order 1999 attempts to provide greater tariff flexibility to circle service area with respect to long distance calls. Further consideration of the issue suggests that not only are the costs higher in circles, the scope of service in circles is different from that in metros given the larger area of coverage by circles. The Authority is of the opinion that circles and metros need to be treated in a different manner for tariffs. Thus, the present Order marks an important change in the tariff regime that was specified in the Telecommunication Tariff Order 1999, dated 9 March 1999, by specifying different tariffs for metros and circles. In the standard tariff package specified by this Order, both rental and airtime charge for outgoing calls for circles are higher than for metro service area. Since there is a limit on the extent to which tariffs could be raised to cover costs in circles, this differential treatment is also indicative of a possibility of the Authority differentiating between circles and metros in the recommendations for license fee levied in terms of percentage of revenues. Such recommendations will be based on more detailed analysis of the financial situation of cellular service providers, including an assessment of cash flows.

30. At present, CPP cannot be implemented for calls made from local call PCOs and Coin Collection Boxes.

This is a gap that would need to be addressed in the future. In this regard it should be noted that STD/ISD PCO booths and manually operated trunk call service will permit calls to cellular mobile under a CPP regime.

31. The situations regarding roaming and call forwarding have to be treated as comprising two calls. For example, roaming should be conceptualized as two calls, one to the home of the roamer and the other from home to another place when the roamer is not home. The first call should be treated as any other call, and the second portion of the call should be treated as the roaming portion. The latter is subject to forbearance, while tariffs have been specified for the former call (i.e. the first portion of the call).

32. Likewise, call forwarding should be treated as two calls, one from the calling party to the called party prior to forwarding, and second from called party prior to forwarding to the party to whom the call has been forwarded. Each of these two call segments should be treated as two separate calls. The calling party for the first segment is the initial calling party, and for the second segment the calling party is the party that has forwarded the call.

33. An important point regarding CPP is that customers may want to have a facility to dynamically lock calls to cellular mobile, and to obtain detailed bills to ensure that they have not been incorrectly charged. The Authority has decided that all basic service subscribers should initially be provided the facility of calling cellular mobile. The subscribers should, however, have the freedom to decide whether they want the facility to bar their calls from basic network to cellular network. At the same time, customers who wish to be connected to the cellular network should not be forced to obtain that connection in a manner that creates an additional burden on them

TELECOM REGULATORY AUTHORITY OF INDIA

NOTIFICATION

New Delhi, the 30th September, 1999

No. 301-4/99-TRAI (Econ.) - In exercise of the powers conferred upon it under sub-section (2) of section 11 of the Telecom Regulatory Authority of India Act, 1997 to notify, by an Order in the Official Gazette, tariffs at which Telecommunication Services within India and outside India shall be provided, the Telecom Regulatory Authority of India hereby makes the following Order.

THE TELECOMMUNICATION TARIFF (SIXTH AMENDMENT) ORDER 1999
7 of 1999

SECTION I

1. Short title, extent and commencement :

(i)This Order shall be called “Telecommunication Tariff (Sixth Amendment) Order 1999.”

(ii)This Order shall be deemed to have come into force with effect from September 24, 1999.

SECTION II

2. (i) Clause 11 of the Telecommunication Tariff Order 1999, shall be substituted to read as under:

The tariff specified by the Authority relates to quality of service parameters that may be set by the Authority from time to time. Service Providers shall clearly indicate the terms and conditions of the provision of telecommunication services to subscribers which shall not in any manner be inconsistent with the provisions of this Order. Such terms and conditions shall inter-alia include the following:

(a)Terms and conditions under which such services may be obtained, utilized and terminated;

(b)Terms and conditions relating to the use of service, billing, repair, fault rectification and the like;

(c)Choice of the tariff packages available to a subscriber and procedure available for revising the choice along with the conditions thereof.

(ii)In Schedule I (Basic Service Other Than ISDN) of the Telecommunication Tariff Order 1999 :

(a)Note(4) under Item 5 shall be deleted and substituted by the following:

From 1 April , 2000, rentals for low user subscriber and general user subscriber are to be charged at the end of the billing cycle, based on the extent of usage by the subscriber during that billing cycle. Therefore, usage during the billing cycle will determine whether the subscriber is a low user subscriber or a general user subscriber, and the respective rental corresponding to these categories will be charged according to that determination at the end of the billing cycle.

(b)Note(4) under Item 6 shall be deleted and substituted by the following:

From 1 April , 2000, rentals for low user subscriber and general user subscriber are to be charged at the end of the billing cycle, based on the extent of usage by the subscriber during that billing cycle. Therefore, usage during the billing cycle will determine whether the subscriber is a low user subscriber or a general user subscriber, and the respective rental corresponding to these categories will be charged according to that determination at the end of the billing cycle.

(iii)After Item (18.e) the following shall be added:

(18.bis)	**ITEM**		**owned**	**TARIFF**
	Service	**Provider**		

“Centrex” Service

All matters relevant to tariff Forbearance

SECTION III

3. Thus Order contains at Annex A, an Explanatory Memorandum-6 which
explains the reasons for this amendment to the Telecommunication Tariff Order, 1999.

By order

(Harsha Vardhana Singh)
Economic Advisor

ANNEX ‘A’

EXPLANATORY MEMORANDUM - 6

I. Procedure for migration of subscribers from one category to another

1. The Telecommunication Tariff Order(TTO) 1999, states as follows:

“ The Procedures for migration of subscribers from one category to another (i.e. low user subscribers to general user subscribers, and vice versa) on the basis of the extent of usage usage will be notified before 30 September, 1999, as this issue becomes relevant only with effect from 1 April, 2000”.

2.A need for this clarification arises because from 1 April, 2000, higher monthly rentals are specified in TTO 1999 for general user subscribers in comparison to low user subscribers.

3.When TTO 1999 was issued, rentals were charged as advance. Subsequently, rentals are being charged by the Department of Telecommunications at the end of the billing cycle. With this method of charging rentals, the categorization of low user subscribers and general user subscribers in a billing cycle becomes straightforward, based on the extent of usage by the subscriber.

II. Tariffs for Centrex

4.Tariff for “Centrex” services had not been prescribed by the Authority in it’s TTO 1999. A new tariff category has been added for “Centrex” in Schedule I for Basic Services (other than ISDN). Centrex services are being offered for the first time in September 1999. This is Item 18-II. The Authority has decided that tariffs for this service shall be subject to forbearance at the present time

TELECOM REGULATORY AUTHORITY OF INDIA

NOTIFICATION

New Delhi, the 30th March , 2000

No.301-8/2000-TRAI(Econ.). – In exercise of the powers conferred upon it under sub-section (2) of section 11 of the Telecom Regulatory Authority of India Act, 1997 to notify, by an Order in the Official Gazette, tariffs at which Telecommunication Services within India and outside India shall be

provided, the Telecom Regulatory Authority of India hereby makes the following Order.

The Telecommunication Tariff (Seventh Amendment) Order 2000 (1 of 2000)

Section I

Title, Extent and Commencement

1.Short title, extent and commencement :

(i) This Order shall be called “Telecommunication Tariff (Seventh Amendment) Order 2000.”

(ii)The Order shall come into force with effect from April 1, 2000.

Section II

Tariff

2.For items 5, 6 and 12 in the Telecommunication Tariff Order, 1999, the implementation of tariffs/pulse rates/charges specified for the period 1st April 2000 to 31st March, 2001 shall be postponed by four months. Tariffs/pulse rates/charges specified for the period 1st April, 1999 to 31st March, 2000 shall continue to apply till 31st July, 2000.

Section III

Explanatory Memorandum

3.This Order contains at Annex A, an Explanatory Memorandum to provide clarity and transparency

to the tariffs specified in this Order.

By Order,

Harsha Vardhana Singh,
Economic Adviser

Annex A

Explanatory Memorandum

1.The Telecommunication Tariff Order, 1999 (TTO '99) envisaged re-balancing of tariffs wherein an increase in the rentals was accompanied with a reduction in call charges for STD and ISD. This resulted in a change in the revenue pattern for existing operators including the DTS and

MTNL.

2.The increase in rentals and the reduction in STD/ISD call charges encompassed in the tariff re-balancing exercise were assessed to be too steep to be implemented in one phase. Therefore, the implementation of tariff re-balancing was specified in three phases. The first phase commenced with effect from 1st April 1999 and was to be followed by the second phase with effect from 1st April 2000.

3.The Authority had stated in paragraph 73 of the Explanatory Memorandum to the

Telecommunication Tariff Order, 1999 that:

"The Authority has decided that it will monitor the situation in regard to revenues and traffic and, if necessary, intervene provided the actual situation differs substantially

from the expectations assumed in this exercise."

4.The Department of Telecom Services ("DTS") has communicated to TRAI that during the financial year 1999-2000, "the net adverse impact on the revenues of DTS may be in the range of approximately Rs. 2000 - 2200 Crores". As such DTS has requested the Authority to review the TTO '99 which prescribes further reduction in long distance charges w.e.f. 1st April, 2000 so that the DTS does not face further loss of revenue, curtailing its capacity to finance further

expansion programmes.

5.To conduct a proper review, the TRAI requires data for the entire financial year 1999-2000, from all operators. The data has so far been available with a lag of about three to four months. It is, therefore, not possible to carry out the tariff review before 1st April, 2000, i.e. the date on

which the second phase is to be implemented.

6.The Authority decided to review the tariffs specified in Telecommunication Tariff Order, 1999, on basis of data for the entire financial year. In view of this decision, implementation of the second phase of tariff re-balancing that was to begin from 1st April, 2000 to 31st March, 2001

has been deferred by four months. Tariffs/pulse rates/charges specified for the period 1st

April, 1999 to 31st March, 2000 shall continue to apply till 31st July, 2000.

TELECOM REGULATORY AUTHORITY OF INDIA

NOTIFICATION

New Delhi, the 31st July, 2000

No.301-8/2000-TRAI (Econ.). – In exercise of the powers conferred upon it under sub-section (2) of section 11 of the Telecom Regulatory Authority of India Act, 1997 to notify, by an Order in the Official Gazette, tariffs at which Telecommunication Services within India and outside India shall be

provided, the Telecom Regulatory Authority of India hereby makes the following Order.

The Telecommunication Tariff (Eighth Amendment) Order 2000 (2 of 2000)

Section I

Title, Extent and Commencement 1.Short title, extent and commencement :

(i)This Order shall be called "Telecommunication Tariff (Eighth Amendment) Order 2000." (ii)The Order shall come into force with effect from August 1, 2000.

Section II

Tariff

2.For items 5, 6 and 12 in the Telecommunication Tariff Order, 1999, the implementation of tariffs/ pulse rates/ charges specified for the period 1st April, 2000 to 31st March, 2001 postponed by four months vide Telecommunication Tariff (Seventh Amendment) Order 2000 dated March 30, 2000 shall be postponed by another one month. Tariffs/pulse rates/charges specified for the period 1st April, 1999 to 31st March, 2000, shall continue to apply till 31st August, 2000.

Section III

Explanatory Memorandum

3. This Order contains at Annex A, an Explanatory Memorandum to provide clarity and transparency

to the tariffs specified in this Order.

By Order,

HARSHA VARDHANA SINGH,
Economic Adviser

Annex A

Explanatory Memorandum

1. The Telecommunication Tariff Order, 1999 (TTO '99) envisaged rebalancing of tariffs wherein an

increase in the rentals was coupled with a reduction in call charges for STD and ISD. This resulted in a change in the revenue pattern for existing operators including the DTS and

MTNL.

2. The increase in rentals and the reduction in STD/ ISD call charges required for a rebalancing of tariffs were found to be too sharp to be implemented in one phase. Therefore, the implementation of tariff re-balancing was specified in three phases. The first phase was implemented on 1st April, 1999. The second phase was scheduled to be implemented with effect from 1st April, 2000.

3. The Authority had stated in paragraph 73 of the Explanatory Memorandum to the

Telecommunication Tariff Order 1999 ("TTO 1999") that:

"The Authority has decided that it will monitor the situation in regard to revenues and traffic and, if necessary, intervene provided the actual situation differs substantially

from the expectations assumed in this exercise"

4. The Department of Telecom Services ("DTS") communicated to TRAI that during the financial year 1999-2000, "the net adverse impact on the revenues of DTS may be in the range of approximately Rs.2000-2200 crores." As such DTS has requested the Authority to review the TTO '99 which prescribes further reduction in long distance charges w.e.f. 1st April, 2000 so that the DTS does not face further loss of revenue, curtailing its capability to finance further

expansion programmes.

5. To conduct the required review, the TRAI requested for relevant data for the entire financial year 1999-2000, from all operators. In order to get the requisite inputs from all operators and for its analysis, the Authority deferred the second phase of tariff rebalancing by four months vide Telecommunications Tariff (Seventh Amendment) Order 2000 dated 30th March, 2000.

6. The required data was received from some operators only very recently, leaving no time for the Authority to process and analyse the information for the required review. It has been decided, therefore, that the time period within which the decision is to be taken on the tariff changes specified in the TTO 1999 be extended by one more month, i.e. till 31st August, 2000

TELECOM REGULATORY AUTHORITY OF INDIA NOTIFICATION

New Delhi, the 28th August, 2000

No.301-8/2000-TRAI (Econ.). – In exercise of the powers conferred upon it under sub-section (2) of section 11 of the Telecom Regulatory Authority of India Act, 1997 to notify, by an Order in the Official Gazette, tariffs at which Telecommunication Services within India and outside India shall be provided, the Telecom Regulatory Authority of India hereby makes the following Order.

The Telecommunication Tariff (Ninth Amendment) Order 2000 (3 of 2000)

Section I

Title, Extent and Commencement

1.Short title, extent and commencement :

(i)This Order shall be called "Telecommunication Tariff (Ninth Amendment) Order 2000."

(ii)The Order shall come into force with effect from 1st October, 2000.

Section II

Tariff

2. For items (5) and (6) in Schedule I, Basic Services (other than ISDN) in the Telecommunication Tariff Order, 1999, notwithstanding the dates mentioned there-in, the rentals specified for the period 1st April, 1999 to 31st March, 2000 shall remain in operation also for the period 1st April, 2000 to 31st March, 2002.

3. For item (12) in Schedule I, Basic Services (other than ISDN) in the Telecommunication Tariff Order, 1999, notwithstanding the dates mentioned there-in, the implementation of tariffs/ pulse rates/ charges specified for the period 1st April, 2000 to 31st March, 2001 shall be operative from 1st October, 2000 to 31st March, 2002.

Section III

Explanatory Memorandum

4. This Order contains at Annex A, an Explanatory Memorandum to provide clarity and transparency to the tariffs specified in this Order.

By Order,
HARSHA VARDHANA SINGH,
Economic Adviser

Annex A

Explanatory Memorandum

1.One of the main objectives of the Telecommunication Tariff Order, 1999 ("TTO '99") relating to basic services was to rebalance tariffs which envisaged an increase in rentals and a

reduction in long distance call charges, i.e. for STD and ISD. The re-balancing was to be implemented in three phases. The first phase was implemented in May, 1999. The Authority in its Order of March, 1999 had worked out the revenue implications of the tariff re-balancing exercise at paragraph 63 (Table 9) of the Explanatory Memorandum to TTO '99. It was estimated that the first phase of the re-balancing exercise would result in overall positive revenue (plus Rs. 233 crores) for the incumbent operators. In paragraphs 12 and 73 of the Explanatory Memorandum, the Authority had also agreed to compare the actual revenues with its own projections of the revenue implications for the incumbent and that if at the end of the first year, the actual scenario turned out to be significantly different it would take necessary corrective measures.

2.After the notification of TTO '99, and consequent upon the announcement of New Telecom Policy (NTP) 1999 in March 1999, Secretary, Department of Telecommunication, wrote to TRAI stating, inter alia, that:

"Since the tariff order of 9th March was announced by the TRAI, there have been significant developments by way of the announcement of a New Telecom Policy yesterday which significantly alters the economics of the Telecom Sector as a whole. The new policy stipulates a shift to a Revenue Sharing arrangement with a one time Entry Fee. The policy also stipulates that TRAI recommendations will be sought by the Government on the aforesaid issue. The methodology employed and the calculations therein for calibrating tariff rates would therefore in the light of these developments undergo significant changes. While, therefore, implementing the tariff order of 9th March, 1999 for the first year, TRAI, should rework the tariff rates in the light of these developments for the subsequent period so that the new rates are in synchronisation with Government's New Telecom Policy.

3.A review by the Authority thus had to be carried out both in the light of actual situation being substantially different from that envisaged under the TTO '99 and pronouncements of a new policy by the Government, i.e. NTP 1999, which came after TTO '99 was announced. NTP 1999 has set very ambitious teledensity targets for the country, namely, 15 per cent by 2010. It also envisages an increase in rural teledensity from 0.4 to 4 by 2010. This has necessitated a re-look on the impact of the tariff structure, on affordability, and on the consequent demand and teledensity, particularly of rural teledensity which is projected to rise to 4 per cent by 2010.

4.TTO '99 specified a standard tariff package, and allowed service providers to give alternative tariff packages together with the standard tariff package. The DTS (and MTNL) provided an alternative tariff package, under which rentals were not changed for rural subscribers, nor for urban subscribers making up to 200 metered call units (MCUs) per month. In addition, there was no reduction in the number of free calls that were provided in urban and rural areas. While this policy improved affordability of the tariffs for low callers, it also resulted in lower revenues than could have been earned if the standard tariff package were to be implemented. It is estimated that by not implementing the standard tariff package, revenues were approximately Rs.1,100 to Rs. 1,200 crores lower than the amount of revenue which could have been earned had the standard tariff package been implemented in 1999-2000.

5.The standard tariff package envisaged a decrease in STD/ISD call charge and an increase in rentals in order to re-balance tariffs and prepare the grounds for further opening up of the basic services. The change in STD/ISD call charge and rentals was considered too steep to be implemented in one step and, therefore, a three stage phase-in was specified. Most of the tariff change was to be achieved during the first two phases itself. The first phase was implemented on 1st May, 1999. The second phase was scheduled to be implemented with effect from 1st April, 2000.

6.As the end of the first phase was approaching, DTS represented to the Authority that as a result of the tariff changes, their revenues were adversely affected. In their letter dated 8th March, 2000, DTS communicated to TRAI that during the financial year 1999/2000, "the net adverse impact on the revenues of DTS may be in the range of approximately Rs.2000-2200 crores." As such DTS requested the Authority to review the TTO '99 which stipulated a further reduction in long distance charges w.e.f. 1st April, 2000 so that the DTS does not face further loss of revenue, curtailing its capability to finance further expansion programmes, particularly in loss-making urban as well as rural areas, which is considered essential to meet the teledensity targets.

7.The Authority decided to conduct a review of the tariff re-balancing exercise as envisaged at paragraphs 12 and 73 of the Explanatory Memorandum of TTO '99.

8.To conduct a review, the implementation of the second phase of tariff re-balancing exercise was deferred by a period of four months. This period had to be further extended by one month because some service providers submitted data at the end of the four-month period leaving no time for its proper analysis by the Authority. On receipt of data from service providers, TRAI has completed its tariff review, the important findings of which with respect to growth of DELs and MCUs are summarised in Tables 1, and 2 below:

Table 1. Percentage Increase In Metered Call Units (MCUs) and Direct Exchange Lines (DELs) During 1999-2000

MCUs	**Projected in TTO, 1999**	DTS	**Actual Increase**	DTS and MTNL
			MTNL	
	12.9%	10.95%	7.37%	10.2%
(12% in last six months)				
DELs	18%	25.36%	7.82%	22%

Source: DOT (letters dated 31st May, and 1st and 3rd August, 2000)

9.Table 1 above shows that the principal incumbent DTS was able to achieve the projected average percentage increase in DELs and the increase in MCUs was somewhat lower than that envisaged in the TTO '99. This is also valid if we consider the average achievement of DTS and MTNL together. Further, the rate of MCU increase for the last six months of the year suggests that response of STD volume to price decline will be more pronounced in the second year than in the first year of the tariff re-balancing; the increase in overall MCUs in the last four months of the financial year was 13.2 per cent. This would indicate that with the additional time for which the first phase of tariff change has been implemented, i.e. the period beyond 31st March, 2000, the overall performance regarding DELs and MCUs has been similar to what was estimated in the TTO 1999. An important point in this context is that though the overall increase in DELs and MCUs has been close to that envisaged in the TTO '99, the increase in international call MCUs was much below expectation, even if we consider only the second half of the financial year.

10.Despite DEL and MCU growth being similar to anticipation, revenues may be lower than expected because the standard tariff package was not implemented and due to a greater than anticipated fall in average charge per call. TRAI reviewed the revenue situation on the basis of the information provided by the service providers, using the methodology that had been

used by DOT for estimating revenue reduction when requesting TRAI for a review in March, 2000. With the data available at that time, DTS had anticipated a reduction in rental and call revenue of approximately Rs.2,150 crores.

11.TRAI's calculations are based on more recent data, shown in Table 2 below.

Table 2. Metered Call Units (MCUs), Call Revenue, Average Charge Per Metered Call Unit, Rental Revenue for 1998-99 and 1999-2000 for DTS and MTNL

MCUs (crores)	**1998-99**	**DTS**	**1998-99**	**MTNL**
		1999-2000		**1999-2000**
	11,390	12,638	3,374	3,638
Call Revenue (Rs. crore)	11,180	12,280	3,704	3,717

Average charge per MCU (Rs.)	0.98	0.97	1.10	1.02
Rental revenue (Rs. crore)	2,643	3505*	887	920*

Source: DOT (letters dated 31st May, and 1st and 3rd August, 2000)
* Includes TRAI estimate of amounts for rentals relating to the year 1999-2000 collected in the year 1998-99 and taken credit for in the accounts of that year.

12.Prior to the finalization of TTO '99, DOT had provided its projection of DOT/MTNL call and rental revenues. These were without taking into account the proposed tariff re-balancing. For 1999-2000, the DOT projected these revenues to be Rs. 23,253 crore. This estimate was based on a charge of Rs. 1.243 per chargeable call, a rate which obtained in 1997-98 and which DOT expected to continue if re-balancing was not to be introduced. The projected amount was slightly adjusted by TRAI to Rs. 23,181 crore, as reported in the Explanatory Memorandum to the TTO '99. TRAI made its own estimates in respect of revenues for 1999-2000 taking into account the various changes envisaged in its proposals for tariff re-balancing. Assuming a 10 per cent volume increase in STD/ISD traffic due to tariff reduction, a situation which TRAI considered as most likely in the first year of tariff re-balancing, it estimated revenues for the year 1999-2000 to be Rs. 23,414 crore. This estimate was based on figures provided by DOT in respect of average charge per chargeable call, which they expected to obtain consequent upon the tariff re-balancing in 1999-2000. At the time of the present review, the actual call charges for the year 1998-99 (i.e. the year immediately preceding tariff re-balancing) was made available. This worked out to about Rs.

1.12 per chargeable call, i.e., lower than the call charge based on which the earlier estimate of Rs. 23,414 crore was made. A revised estimate of revenue has, therefore, been made taking the lower, and actual, call charge prevailing in 1998-99. This revised estimate amounts to about Rs. 21,870 crore. Any shortfall in revenue has to be judged from this base. As against this, the actual revenue earned in 1999-2000 amounted to Rs. 20,424 crore, resulting in a gross shortfall of about Rs. 1,450 crore. This amount includes the loss of revenue caused by not implementing the standard tariff package specified by TTO '99. Such loss of revenue to DTS/MTNL is estimated to be approximately Rs. 1,200 crore. The conclusion, therefore, is that the loss of revenue in 1999-2000 that can justifiably be ascribed to the TTO '99 is no more than Rs.250.00 crores.

13.Of the gross revenue shortfall of about Rs. 1,450 crore mentioned above, the respective shares of the incumbent operators,viz. DTS and MTNL are estimated to be Rs.600.00 crores and Rs.850.00 crores. As stated already, a substantial portion of this revenue decrease is due to non-implementation of the Standard Tariff Package.

14.The above revenue estimates have to be considered together with the declining costs of telecom equipment. This was one of the factors considered by the Authority while deciding upon the revenue effect of tariff re-balancing, as stated in paragraphs 70-71 of the Explanatory Memorandum to TTO '99. This aspect, and the service providers getting an extension of the period for the first phase of tariff re-balancing, now lead to the conclusion that the effect of the first phase of tariff re-balancing on revenue of the operators cannot be deemed to be severe. Another noteworthy point is that the Authority had expected an improvement in efficiency of the incumbent operator to also take care of some of the revenue decline occurring in the course of tariff re-balancing. Based on these considerations, the Authority is of the opinion that the decline in long-distance call revenue is not such as to warrant any further postponement of the second tranche of reduction in STD/ISD call charges envisaged in TTO '99.

15.Therefore, the Authority has decided that the proposed reduction in the STD/ISD rates for the second phase be introduced from 1st October, 2000. The Authority appreciates that a preparatory period of four weeks is required by the service providers to implement the changes in all the relevant exchanges, and to make other arrangements for effectuating the tariff changes properly.

16.Further, the Authority has decided that the second phase of STD/ISD tariffs will continue till 31st March, 2002. In all, therefore, the implementation of the entire TTO, 1999 will now extend over three years, i.e. from 1.4.99 to 31.3.2002.

17.A longer period for the second phase of tariff reduction has been permitted to enable the market to adjust to the effects of the recent policy changes in the telecom sector. Also, implementing the second phase over one- and a half years instead of one year would provide more time for the demand elasticity to manifest itself, and would give the incumbents some additional time for structural re-adjustment in an environment where competition is increasing in all segments of the telecom service market.

18.The third phase involves a decline in STD tariffs of about 11.5 per cent from the average level of these tariffs in 1999-2000. The first two phases together achieve a reduction in STD tariff of almost 85 per cent of the total reduction that has been envisaged in the TTO '99. The Authority has taken a note of the Government's decision to open the national long distance (NLD) market for free competition and expects that the STD rates, on their own will register a significant decline due to increased competition resulting from the entry of the private sector in the NLD market. The Authority intends keeping a close watch on these developments and in line with the latest trends in telecommunication regulation, proposes to examine adoption of a market driven approach to tariff re-balancing consisting of the effect of competition on the market and its growth.

19.The second phase of tariff change included also an increase in rentals for general user subscribers, i.e. subscribers making more than 500 MCUs per month of the billing cycle. The Authority has decided not to increase these rentals, mainly for the following reasons.

(a)The additional amount of revenue that would result from the rental increase envisaged in the second phase of tariff re-balancing is about Rs. 200 crore, i.e. less than 1 per cent of the total expected revenues next year. Such a revenue loss can reasonably be expected to be more than made up through improvements in the efficiency and productivity of the incumbent operator. Also, having observed that demand is sensitive to rental or access charge, the Authority expects that not increasing rentals would spur demand and result in additional revenues. While re-balancing tariffs as a matter of policy, the Authority considers it important to achieve a good balance between cost and affordability and help build up demand for telephones in a manner which while observing the teledensity target of 15 by 2010, will endeavour to protect the financial viability of the telecom services.

(b)The Authority has permitted additional time for the first as well as the second phase of the tariff re-balancing, which in turn implies accretion of additional revenues that would more than make up for the revenue increase that could be generated by the increase of rentals in the second phase.

(c)Equipment costs have continued to decrease. If forward looking cost of only the traffic non-sensitive portion of the network is reckoned for calculating rentals then that should work as a further check on their increase.

(d)During the tariff review, the Authority has reworked cost based tariffs on the basis of a revised methodology that is mentioned in paragraph 83 of the Explanatory Memorandum to the TTO '99. This methodology and the latest forward looking cost estimates, which will be subject of consultations in the near future, would involve a review and reconsideration of some of the basis for fixing rentals and call charge. Therefore, the Authority considers it proper to defer any further increase in rental till a review of the Tariff Order along with basis of costing is undertaken in January, 2002.

TELECOM REGULATORY AUTHORITY OF INDIA NOTIFICATION

New Delhi, the 9th November, 2000

No.306-1/99-TRAI (Econ.). – In exercise of the powers conferred upon it under sub-section (2) of

section 11 of the Telecom Regulatory Authority of India Act, 1997 to notify, by an Order in the

provided, the Telecom Regulatory Authority of India hereby makes the following Order.

The Telecommunication Tariff (Tenth Amendment) Order 2000 (4 of 2000)

Section I

Title, Extent and Commencement

1.Short title, extent and commencement :

(i)This Order shall be called "Telecommunication Tariff (Tenth Amendment) Order 2000." (ii)The Order shall come into force with effect from 1st December, 2000.

Section II

Tariff

2. The tariff for Franchised Group PBX, or PABX and EPABX with DID facility (for Multistorey Buildings, other Buildings, Co-operative Housing Societies) is changed as detailed below.

3. For item (16.b.ii) in Schedule I of the Telecommunication Tariff Order (TTO), 1999 prescribing Monthly Rental, the changes are as under:

Read In place of
"Rs.100 per month" "Rs.125 per month"

4. In (16.b.iv) in Schedule I of the Telecommunication Tariff Order (TTO), 1999 prescribing call charges, the existing entry is replaced as under:-
(a) Call charge per metered call unit
up to 500 metered call units per month Rs.0.90

(b)For calls above 500 metered call units
per month, call charge per metered call unit Rs.1.10

Section III

Explanatory Memorandum

5. This Order contains at Annex A, an Explanatory Memorandum to provide clarity and transparency to the tariffs specified in this Order.

By Order,
HARSHA VARDHANA SINGH,
Advisor (Economic)

Annex A
Explanatory Memorandum
1. The Telecom Regulatory Authority of India (hereinafter the "Authority") noted that DID Franchisees provide a cheaper alternative to the low user group, particularly after the increase in rentals was ordered by the TRAI last year as part of its tariff rebalancing exercise.

2. The tariff for extension users of DID Franchisees was fixed in TTO, 1999, keeping the standard tariff package in view. The Authority noted that with the tariffs remaining unchanged for urban low callers (i.e. those making up to 200 metered calls per month), tariffs for extension users of DID franchisees had become much less attractive than was envisaged in TTO, 1999. The viability of the service had also been adversely affected.

3. The Authority recalled the emphasis given in TTO, 1999 to DID franchisees as a means of expanding tele-density in the context of enhanced rentals. The Authority further noted that the extension user of DID has an easier access to a DID Franchisee, than does a corresponding user of DEL to his service provider. Thus, the service is likely to be more user-friendly than a DEL. The Authority also noted that DID provides an option that requires less investment per user in comparison to a DEL. The Authority further noted that at the prevailing tariffs needed to change for the extension users of DID to find the service attractive in comparison to a DEL. Accordingly, the tariffs for end-users of DID have been amended.

TELECOM REGULATORY AUTHORITY OF INDIA NOTIFICATION
NEW DELHI, the 25th JANUARY, 2001
No.310-1(5)/TRAI-2000
In exercise of the powers conferred upon it under sub-section (2) of Section 11 of the Telecom Regulatory Authority of India Act, 1997 to notify, by an Order in the Official

Gazette, tariffs at which Telecommunication Services within India and outside India shall be provided, the Telecom Regulatory Authority of India hereby makes the following Order.

The Telecommunication Tariff (Eleventh Amendment) Order 2001 (1 of 2001) Section I
Title, Extent and Commencement

1. Short title, extent and commencement :

i) This Order shall be called "Telecommunication Tariff (Eleventh Amendment) Order 2001".

Section II

In Schedule-I (Basic Services other than ISDN) of the Telecommunication Tariff Order, 1999 under notes for the item 12(a) i.e. for 'STD long distance calls' an additional item (5) shall be inserted as follows:

(5). "The pulse rate for a long distance PSTN call carried on the networks of two fixed operators will be the same as the pulse rate corresponding to the lowest tariff applicable for the same distance intra-network call. The pulse rate for the fixed leg of a call originating in the fixed network and terminating in mobile network shall be the same as pulse rate corresponding to the lowest tariff applied by the service provider, for intra-network calls for identical carriage from the originating SDCC to the SDCC in which the POI is located."

Section III

This Order contains at Annex A, an Explanatory Memorandum to provide clarity and transparency to the tariffs specifed in this Order.

By Order HARSHA VARDHANA SINGH
Advisor (Economic)

Annex A EXPLANATORY MEMORANDUM

1. In a letter dated 29.12.2000 BSNL reported tariffs to the Authority seeking to reduce the STD call charge from 26th January, 2001, by extending the duration of peak pulse rates for distance categories 50 to 200 kms compared to the TRAI standard tariff package for basic services. According to the letter, these revised pulse rates of BSNL, however, would apply only to "intra-circle calls originated by the telephone subscribers of BSNL, and terminating in the basic service network".

2. The Authority has received representations from COAI and ABTO that sought the Authority's intervention to enlarge the scope of BSNL's proposal in respect of inter-network calls also. They sought the Authority's intervention and requested that in the interest of level playing field:

(a) the revised pulse rates (or tariffs) should apply also to calls from fixed network to cellular mobile;

(b) the revised pulse rates should also apply for calculating the carriage charge to be paid by cellular mobile network to the fixed network;

(c) the revised pulse rates should apply for the carriage charge paid by private basic service providers to BSNL on intra-circle fixed to fixed network calls.

3. The Authority has examined the above requests at length and has determined that to ensure 'non-discrimination' and a 'level playing field', and also in the interest of consumers BSNL's revised pulse rates should also apply to the inter-network calls in cases detailed at items 2 (a), 2 (b) and 2 (c) above. While the issues covered by 2(b) and 2(c) are addressed by a Direction under Section 13 of the TRAI Act 1997, this Order relates to inter network call scenario described at 2(a) above.

4. In order to ensure that the benefit of the lower tariff offered by BSNL actually passes on to the subscribers of the private basic service operators, the latter is being directed to modify his charging regime in respect of inter-network calls originating on his network to fully reflect the tariff changes proposed by BSNL. The underlying principle is that the same tariff should be levied for same network elements used. As such, the same tariff should be applied for the fixed leg of an inter network call that traverse the same distance on the fixed network, irrespective of its termination in a fixed or a mobile network.

TELECOM REGULATORY AUTHORITY OF INDIA
NOTIFICATION
New Delhi, the 25th of January, 2001

[No. 303-1/2000-TRAI (Econ.)- In exercise of the powers conferred upon it under sub-section (2) of section 11 of the Telecom Regulatory Authority of India Act, 1997 to notify, by an Order in the Official Gazette, tariffs at which Telecommunication Services within India and outside India shall be provided, and in view of the decision of the Honorable High Court of Delhi in CW- 6483/99, the Telecom Regulatory Authority of India hereby makes the following Order.

The Telecommunication Tariff (Twelfth Amendment) Order 2001 (2 of 2001)

SECTION I

a) Short title, extent and commencement:

i. This Order shall be called "Telecommunication Tariff (Twelfth Amendment) Order 2001."

ii. This Order shall be deemed to have come into force with effect from 1st August 1999

iii. This Order contains Tables I through VIII in Section II specifying the amount of refunds that shall be made by cellular service providers to subscribers of cellular mobile services as a result of reduction in the license fee payable by the service providers following their acceptance of migration from the fixed license fee regime to revenue sharing.

iv. This Order contains at Annex A, an Explanatory Memorandum that explains the reasons for this amendment to the Telecommunication Tariff Order 1999.

SECTION II
Refunds

Tables I through VIII provide for the amounts of refunds that shall be made to different categories of subscribers in metros and circles following the change in the license fee regime with effect from August 01, 1999.

Table I : Standard Tariff Package - METROSRefund Amounts from August 1999 to January 2000 (In Rs.)

Refund of Rental Per Subscriber PLUS

Refund Per Minute of use by the subscriber

Metro	**Operators**	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
		99	99	99	99	99	2000	99	99	99	99	99	2000
Delhi	Airtel	178.00178.00178.00			53.00	53.00	53.00	1.35	1.35	1.35	1.35	1.35	1.35
Delhi	Essar	178.00178.00178.00			53.00	53.00	53.00	1.35	1.35	1.35	1.35	1.35	1.35
Mumbai	BPL	178.00178.00178.00			53.00	53.00	53.00	1.35	1.35	1.35	1.35	1.35	1.35
Mumbai	HMTL	178.00178.00178.00			53.00	53.00	53.00	1.35	1.35	1.35	1.35	1.35	1.35
Chennai	RPG	178.00178.00178.00			53.00	53.00	53.00	1.35	1.35	1.35	1.35	1.35	1.35
Chennai	Skycell	178.00178.00178.00			53.00	53.00	53.00	1.35	1.35	1.35	1.35	1.35	1.35
Calcutta	Spice Cell	178.00178.00178.00			53.00	53.00	53.00	1.35	1.35	1.35	1.35	1.35	1.35
Calcutta	UMTL	178.00178.00178.00			53.00	53.00	53.00	1.35	1.35	1.35	1.35	1.35	1.35

Table II : Standard Tariff Package - CIRCLES Refund Amounts from August 1999 to January 2000 (In Rs.)

Refund of Rental Per Subscriber Refund Per Minute of use by

PLUS the subscriber

Aug. Sept. Oct. Nov. Dec. Jan. Aug. Sept. Oct. Nov. Dec. Jan.

Category Circle Operators 99 99 99 99 99 2000 99 99 99 99 99 2000

A' Circle Maharashtra BPL 178.00178.00178.0078.0078.0078.001.35 1.35 1.351.351.35 1.35

MaharashtraBirla At&T178.00178.00178.0078.0078.0078.001.35 1.35 1.351.351.35 1.35

Gujarat Fascel 178.00178.00178.0078.0078.0078.001.35 1.35 1.351.351.35 1.35

Gujarat Birla 178.00178.00178.0078.0078.0078.001.35 1.35 1.351.351.35 1.35

A.P Tata 178.00178.00178.0078.0078.0078.001.35 1.35 1.351.351.35 1.35

TRAI	A.P	Bharti	178.00178.00178.0053.0053.0078.001.35	1.35	Page 2 of 5	
					1.351.351.35	1.35
B' Circle	Karnataka	Bharti	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35
	Karnataka	Spice	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35
	T.N.	BPL	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35
	T.N.	Aircel	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35
	Kerala	Escotel	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35
C' Circle	Kerala	Spice	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35
	Punjab	BPL	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35
	Haryana	Escotel	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35
	U.P (W)	Escotel	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35
	U.P (E)	ADL	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35
	U.P (E)	Koshika	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35
	Rajasthan	Hexacom	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35
	M.P	RPG	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35

	M.P	Reliance	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35
	W.B	Reliance	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35
	H.P	Bharti	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35
	H.P	Reliance	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35
	Bihar	Reliance	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35
	Orissa	Reliance	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35
	Assam	Reliance	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35
	N.E	Reliance	178.00178.00178.0078.0078.0078.001.35	1.35	1.351.351.35	1.35

Table III: Standard Tariff Package - METROS (In Rs.)Monthly Refund Amounts from February 2000 onwards

Metro	**Operators**	**February 2000 onwards Refund amount in Rs.(Cannot be**
		less than Zero)
Delhi	Airtel	Rs 53.00 - Rs. 0.65 *(MOU)
Delhi	Essar	Rs 53.00 - Rs. 0.65 *(MOU)
Mumbai	BPL	Rs 53.00 - Rs. 0.65 *(MOU)
Mumbai	HMTL	Rs 53.00 - Rs. 0.65 *(MOU)
Chennai	RPG	Rs 53.00 - Rs. 0.65 *(MOU)
Chennai	Skycell	Rs 53.00 - Rs. 0.65 *(MOU)
Calcutta	Spice Cell	Rs 53.00 - Rs. 0.65 *(MOU)
Calcutta	UMTL	Rs 53.00 - Rs. 0.65 *(MOU)

Note: MOU is minutes of use by the subscriber in a specific month

Table IV: Standard Tariff Package - CIRCLES (In Rs.)Monthly Refund Amounts from February 2000 onwards

Category	**Circle**	**Operators**	**February 2000 onwards Refund amount in Rs.**
			(Cannot be less than Zero)
A' Circle	Maharashtra	BPL	Rs 78.00 - Rs. 0.15 *(MOU)
Maharashtra		Birla At&T	Rs 78.00 - Rs. 0.15 *(MOU)
Gujarat		Fascel	Rs 78.00 - Rs. 0.15 *(MOU)
Gujarat		Birla	Rs 78.00 - Rs. 0.15 *(MOU)
A.P		Tata	Rs 78.00 - Rs. 0.15 *(MOU)
A.P		Bharti	Rs 78.00 - Rs. 0.15 *(MOU)
Karnataka		Bharti	Rs 78.00 - Rs. 0.15 *(MOU)
Karnataka		Spice	Rs 78.00 - Rs. 0.15 *(MOU)
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	Kerala	Spice	Rs 78.00 - Rs. 0.15 *(MOU)	
	Punjab	BPL	Rs 78.00 - Rs. 0.15 *(MOU)	
	Haryana	Escotel	Rs 78.00 - Rs. 0.15 *(MOU)	
	U.P (W)	Escotel	Rs 78.00 - Rs. 0.15 *(MOU)	
	U.P (E)	ADL	Rs 78.00 - Rs. 0.15 *(MOU)	
	U.P (E)	Koshika	Rs 78.00 - Rs. 0.15 *(MOU)	
	Rajasthan	Hexacom	Rs 78.00 - Rs. 0.15 *(MOU)	
	M.P	RPG	Rs 78.00 - Rs. 0.15 *(MOU)	
C' Circle	M.P	Reliance	Rs 78.00 - Rs. 0.15 *(MOU)	
	W.B	Reliance	Rs 78.00 - Rs. 0.15 *(MOU)	
	H.P	Bharti	Rs 78.00 - Rs. 0.15 *(MOU)	
	H.P	Reliance	Rs 78.00 - Rs. 0.15 *(MOU)	
	Bihar	Reliance	Rs 78.00 - Rs. 0.15 *(MOU)	
	Orissa	Reliance	Rs 78.00 - Rs. 0.15 *(MOU)	
	Assam	Reliance	Rs 78.00 - Rs. 0.15 *(MOU)	
	N.E	Reliance	Rs 78.00 - Rs. 0.15 *(MOU)	

Note: MOU is minutes of use by the subscriber in a specific month

Table V: Refund Amount per Minute of Actual Use (In Rs.) Alternative Tariff Package (ATP) SubscribersMetro Service Areas

Metro	Operators	Aug.99	Sept.99	Oct.99	Nov.99	Dec.99	Jan.99	Feb.99	Mar.99
Delhi	Airtel	1.40	1.42	1.95	1.53	2.39	2.29	3.37	0.68
Delhi	Essar		0.76						
Mumbai	BPL								
Mumbai	HMTL								
Chennai	RPG	0.07	2.25	3.05	1.91	2.01	3.66	2.12	1.88
Chennai	Sky Cell								
Calcutta	Spice Cell								
Calcutta	UMTL								

Note: Where cells have been left blank indicates that no refunds are required to be made

Table VI: Refund Amount per Minute of Actual Use (In Rs.) Pre Paid SubscribersMetro Service Areas

Metro	Operators	Aug.99	Sept.99	Oct.99	Nov.99	Dec.99	Jan.99	Feb.99	Mar.99
Delhi	Airtel	3.31	1.16	0.80	0.32			0.14	
Delhi	Essar	3.61	0.06	0.33	0.16	0.74	1.69	1.95	0.89
Mumbai	BPL								
Mumbai	HMTL	3.34	1.87	1.81	1.61	0.78	0.67	1.18	1.18
Chennai	RPG	0.67	0.08						
Chennai	Sky Cell								

Calcutta	Spice Cell								
Calcutta	UMTL								

Note: Where cells have been left blank indicates that no refunds are required to be made

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Table VII: Refund Amount per Minute of Actual Use (In Rs.) Alternative Tariff Package (ATP) SubscribersCircle Service Areas

Category	Circle	Operators	Aug.99Sept.99Oct.99			Nov.99	Dec.99	Jan.2000	Feb.2000Mar.2000
A' Circle	Maharashtra	BPL	0.45	0.41	0.18	0.59	0.24	0.13	0.02
	Maharashtra	Birla At&T				0.19	0.35		
	Gujarat	Fascel	0.65						
	Gujarat	Birla							
	A.P	Tata							
B' Circle	A.P	Bharti							
	Karnataka	Bharti							
	Karnataka	Spice					0.20	0.10	
	T.N.	BPL							
	T.N.	Aircel							
	Kerala	Escotel							
	Kerala	Spice							
	Punjab	BPL							
C' Circle	Haryana	Escotel	0.51	0.71	1.11	1.42	1.31		
	U.P (W)	Escotel							
	U.P (E)	ADL							
	U.P (E)	Koshika							
	Rajasthan	Hexacom							
	M.P	RPG							
	M.P	Reliance	0.50		0.20				
	W.B	Reliance							
	H.P	Bharti							
	H.P	Reliance							
	Bihar	Reliance							
	Orissa	Reliance							
	Assam	Reliance							
	N.E	Reliance							

Note: Where cells have been left blank indicates that no refunds are required to be made

Table VIII: Refund Amount per Minute of Actual Use (In Rs.) Pre-paid SubscribersCircle Service Areas

Category	Circle	Operators	Aug.99Sept.99Oct.99	Nov.99Dec.99Jan.2000	Feb.2000	Mar.2000
A' Circle	Maharashtra	BPL				0.66
Maharashtra		Birla At&T				
Gujarat		Fascel				
Gujarat		Birla				
A.P		Tata				
A.P		Bharti				
Karnataka		Bharti	1.09			
Karnataka		Spice				
T.N.		BPL				
T.N.		Aircel				8/23/2002
B' Circle	Kerala	Escotel				
Kerala		Spice				
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p

	Punjab	BPL	0.21	0.22						
	Haryana	Escotel								
	U.P (W)	Escotel								
	U.P (E)	ADL								
	U.P (E)	Koshika								
	Rajasthan	Hexacom								
	M.P	RPG								
C' Circle	M.P	Reliance	1.53	1.65	1.82	0.81	0.37	1.24	0.87	0.53
	W.B	Reliance								
	H.P	Bharti								
	H.P	Reliance								
	Bihar	Reliance								
	Orissa	Reliance								
	Assam	Reliance								
	N.E	Reliance								

Note: Where cells have been left blank indicates that no refunds are required to be made

HARSHA	VARDHANA	SINGH

ADVISOR [ECONOMIC]

TELECOM REGULATORY AUTHORITY OF INDIA NOTIFICATION NEW DELHI, the 1st May, 2001

No.303-4/TRAI-2001 - In exercise of the powers conferred upon it under sub-section (2) of Section 11 of the Telecom Regu India Act, 1997 to notify, by an Order in the Official Gazette, tariffs at which Telecommunication Services within India and outs provided, the Telecom Regulatory Authority of India hereby makes the following Order.

The Telecommunication Tariff (Thirteenth Amendment) Order 2001 (3 of 2001) Section I
Title, Extent and Commencement

1. Short title, extent and commencement :

i) This Order shall be called "Telecommunication Tariff (Thirteenth Amendment) Order 2001".

Section II

2. In Schedule-II (Cellular Mobile Telecom Service) of the Telecommunication Tariff Order, 1999, the existing clause (14.d) a entries shall be deleted and substituted to read as under: -

Item	Forbearance;	**Tariff**
(14.d) - Tariff for pre-paid service.	Provided that -	

a) At least one denomination of pre-paid cards offered by every Service Provider amount of Rs.300.00 or less with a corresponding validity period of at least one month

b) The charges for replacement of lost/ damaged SIM card shall be based on cost with mark-up.

c) If there is any amount that is unused at the end of the validity period, this amount sho over to the renewed card, if such renewal is done within a reasonable, specified period

d) In the case of each pre-paid card package, the customer should be prominen informed of the total amount that is available in the pre-paid card package for makin pay towards usage.

(14.e) - Other matters relevant to tariff including billing cycle.	Forbearance.

Section III
EXPLANATORY MEMORANDUM

This Order contains at Annex A, an Explanatory Memorandum to provide clarity and transparency to the tariffs specified in this

By	**Order**	**HARSHA**	**VARDH**

Advisor (Economic)

Annex A EXPLANATORY MEMORANDUM

Background:

The Authority has received a number of complaints from Consumer Organizations relating to the pre-paid cards. The compla policy toward unused amounts on prepaid cards, provision of replacement of SIM Cards against lost/damaged Sim Cards specified for items like administrative/or processing by CMSPs. While the Authority is examining the issues in a comprehensi decided to address following issues through this Amendment :

1. Charges for replacement of lost/damaged SIM Card.

At present, operators charge varying amounts that range between Rs.200.00 to Rs.1200.00 for replacement of SIM cards prescribed a ceiling of Rs.1,200.00 for activation/installation charges. This amount accounts for costs relating to provis registration of the subscriber in the network, activation charges etc. In a situation where the activation/installation charge

Rs.1200.00 which also includes the cost of SIM card, a charge of Rs.1200.00 for the SIM card by itself is not justified. Accor provided by operators the cost of the SIM Card at present varies between Rs.150.00 to Rs.175.00. Some other estimates pla at only about one-fifth of these estimates. The Authority has, therefore, decided in consumer interest, that the charge t subscribers for replacement of lost/damaged SIM card shall not exceed the cost to the service provider plus a reasonable mark

2. Denomination value and validity period for pre-paid cards:

At present the pre-paid SIM Cards of various denominations ranging from Rs.250.00 to Rs.5000.00 are available. The validity SIM Cards varies from 15 days to 60 days. A study conducted by the Authority showed that the minimum denomination value sold by most operators is Rs.500.00, and very few operators offer denominations of less than Rs.500.00. The current industr paid cards is that if a residual amount obtains at the end of the validity period, it lapses i.e. the subscriber loses that a recharges the pre-paid card within the validity period. Certain service providers allow the balance amount to be carried over recharges the card during a 'grace period' that is generally 15-30 days beyond the validity period. All things considered, the A view that in the interest of low-user subscribers, pre-paid cards of lower denominations with a reasonable validity period shou that the unused value on the card is restricted to the minimum possible. Visitors to a particular service area for a limited perio pre-paid cards of smaller denomination more convenient. In view of the above, Authority has decided that at least one denomi cards offered by every Service Provider must be for an amount of Rs.300.00 or less with a corresponding validity period of at The operators are free to provide validity period beyond 30 days or grace period after expiry of validity period.

3. Carry Forward of Unused Amount :

Keeping in view the interest of pre-paid subscribers, the Authority has decided that any unused amount that obtains at the e period should be credited to the subscriber in cases where the subscriber renews subscription within a reasonable period, w referred to as "Grace Period". Although certain service providers already offer such a facility, the intention of the Authorit customer friendly practice uniform across the industry. 4. Transparency : The Authority has noticed that in certain cases su suitably informed of

the break-up of the total amount charged from them for the pre-paid service. This Amendment makes service providers to prominently display the amount of talk time value available to a pre-paid subscriber. Thus, service provide to specify various components of maximum retail price (MRP) including talk time value, on the package itself.

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TELECOM REGULATORY AUTHORITY OF INDIA NOTIFICATION NEW DELHI, the 24th May, 2001

No. 306-2/TRAI-2001 - In exercise of the powers conferred upon it under sub-section (2) of Section 11 of the Telecom Regu India Act, 1997 to notify, by an Order in the Official Gazette, tariffs at which Telecommunication Services within India and outs provided, the Telecom Regulatory Authority of India hereby makes the following Order.

The Telecommunication Tariff (Fourteenth Amendment) Order 2001 (4 of 2001) Section I
Title, Extent and Commencement

1. Short title, extent and commencement :

i) This Order shall be called "Telecommunication Tariff (Fourrteenth Amendment) Order 2001".

Section II

In Schedule I (Basic Services other than ISDN) of the Telecommunication Tariff Order, 1999 with effect from the date of i tariffs, usage charge registration etc. for WLL (Mobile).

i) Under item 3 of Schedule I item 3.c to be inserted after item 3.b

(3) Installation Charges Forbearance **3.c Limited Mobility telephony service using wireless in local loop technology**

ii) Under item 4 of Schedule I item 4.c and 4.d to be inserted after item 4.b

(4) Deposits Forbearance **(4.c) Limited Mobility telephony service using wireless in**
local loop technology

(4.d) Handset for Limited Mobility telephony service using wireless in local loop technology if provided by service provider .

iii) Under item 5 of Schedule I items 5.d and 5.e to be inserted after item 5.c

(5) Monthly Rental for rural subscribers
(5.d) For Limited Mobility telephony service using wireless in local loop technology

5.e) For Limited Mobility telephony service using wireless in local loop technology if handset provided by Service provider

iv) Under item 6 of Schedule I items 6.d and 6.e to be inserted after item 6.c

(6) Monthly Rental for Urban subscribers
(6.d) For Limited Mobility telephony service using wireless in local loop technology

(6.e) For Limited Mobility telephony service using wireless in

local	**loop**	**technology**	**if**	**handset**	**provided**	**by**	**Service**

provider

v) Item 7 of Schedule I to be substituted as under

Ceiling of Rs. 10,000; to be refundable in cessation of service to the subscriber

Floor of Rs. 450.00 per month Ceiling of Rs. 550.00 per month

As in (5.d) above Plus Ceiling of Rs. 80.00 pe This ceiling applies to all other amounts includ example, depreciation, and insurance premium, including deposits.

Floor of Rs. 450.00 per month Ceiling of Rs. 550.00 per month

As in (6.d) above Plus Ceiling of Rs. 80.00 pe This ceiling applies to all other amounts includ example, depreciation, and insurance premium, including deposits

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(7) Tariff per metered call for rural subscribers

(7.a) For all calls, except Limited Mobility telephony

service	**calls**	**using**	**wireless**	**in**	**local**	**loop**

technology

(7.b) For Limited Mobility telephony service calls using wireless in local loop technology

vi) Item 8 of Schedule I to be substituted as under

(8) Free calls (or uncharged) calls for rural subscribers

First 500 metered calls per Metered calls in excess of month of the billing cycle the first 500 metere per month of the cycle
(Rs.) (Rs.)
---------- 0.80 1.20

Rs. 1.20 per Metered Call for all calls

(8.a) Free calls except for Limited Mobility telephony 75 metered calls per month of a billing cycle

service using wireless in local loop technology

(8.b) Free calls for Limited Mobility telephony service using wireless in local loop technology

vii) Item 9 of Schedule I to be substituted as under

(7) Tariff per metered call for urban subscribers

No free calls shall be provided

First 500 metered calls per Metered calls in excess of

month of the billing cycle the first 500 metere

(7.a) For all calls, except Limited Mobility telephony							per	month	of	the
service	**calls**	**using**	**wireless**	**in**	**local**	**loop**	cycle (Rs.) (Rs.) ----------			
technology										

1.00 1.20

(7.b) For Limited Mobility telephony service calls using wireless in local loop technology

viii) Item 10 of Schedule I to be substituted as under

(10) Free calls (or uncharged calls) for urban subscribers

Rs. 1.20 per Metered Call for all calls

(10.a) Free calls, except for Limited Mobility telephony 75 metered calls per month of a billing cycle

service using wireless in local loop technology

(10.b) Free calls for Limited Mobility telephony service using wireless in local loop technology

No free calls shall be provided

Explanatory Notes: After item g, additional item gg to be added and after item (n) item (o) to be added.

(gg) Alternative Tariff Package(s)

(o) Treatment of existing monthly rentals for Limited Mobility telephony service using wireless in local loop technology that are not within the band specified in this Order

Section III

No Alternative Tariff Packages shall be permitted fo Mobility telephony service using wireless in loc technology.

The existing monthly rentals which are above the c monthly rentals specified in this Order should be ref subscribers to the extent of the amount to which they the specified ceiling. For monthly rentals charged b lower limit, the subscriber should not be charged the a amount except that the floor amount shall be the monthly rental from the date of notification of this Orde

EXPLANATORY MEMORANDUM

This Order contains at Annex A, an Explanatory Memorandum to provide clarity and transparency to the tariffs specified in this **By Order I. LIBERHAN Advisor (FA)**

TELECOM REGULATORY AUTHORITY OF INDIA NOTIFICATION NEW DELHI, THE 20TH JULY 2001

No. 310-1(5)/TRAI-2000 - In supersession to the notification dated 25th January, 2001 containing the Telecommunication Tariff (Eleventh Amendment) Order, 2001 (1 of 2001) and in exercise of the powers conferred upon it under sub-section (2) of Section 11 of the Telecom Regulatory Authority of India (Amendment) Act, 2000 to notify, by an Order in the Official Gazette, tariffs at which Telecommunication Services within India and outside India shall be provided, the Telecom Regulatory Authority of India hereby makes the following Order.

The Telecommunication Tariff (Fifteenth Amendment)

Order 2001 (5 of 2001)

Section I

Title, Extent and Commencement

1. Short title, extent and commencement.

i) This Order shall be called "Telecommunication Tariff (Fifteenth Amendment) Order 2001".

ii) The Order shall come into force from 20th July, 2001

Section II

2. In Schedule-I (Basic Service other than ISDN) of the Telecommunication Tariff Order, 1999 under Notes for the item 12(a) i.e. for 'STD long distance calls' an additional item (5) shall be inserted as follows :

"(5) The pulse rate for a long distance PSTN call carried on the networks of two fixed operators will be the same as the pulse rate corresponding to the lowest tariff applicable for the same distance intra-network call. The pulse rate for the fixed leg of a call originating in the fixed network and terminating in mobile network shall be the same as pulse rate corresponding to the lowest tariff applied by the service provider, for intra-network calls for identical carriage from the originating SDCC to the SDCC in which the POI is located."

Section III

This Order contains at Annex A, an Explanatory Memorandum to provide clarity and transparency to the tariffs specified in this Order.

By Order
Dr. Harsha Vardhana Singh Secretary

Annex A

EXPLANATORY MEMORANDUM

1. In a letter dated 29/12/2000 BSNL reported tariffs to the Authority seeking to reduce the STD call charge from 26th January, 2001 by extending the duration of peak pulse rates for distance categories 50 to 200 kms compared to the TRAI standard tariff package for basic services. According to the letter, these revised pulse rates of BSNL, however, would apply only to "intra-circle calls originated by the telephone subscribers of BSNL, and terminating in the basic service network".

2. The Authority has received representations from COAI and ABTO that sought the Authority's intervention to enlarge the scope of BSNL's proposal in respect of inter-network calls also. They sought the Authority's intervention and requested that in the interest of level playing field:

a) the revised pulse rates (or tariffs) should apply also to calls from fixed network to cellular mobile;

b) the revised pulse rates should also apply for calculating the carriage charge to be paid by cellular mobile network to the fixed network;

c) the revised pulse rates should apply for the carriage charge paid by the private basic service providers to BSNL on intra-circle fixed to fixed network calls.

3. The Authority has examined the above requests at length and has determined that to ensure 'non-discrimination' and

a 'level playing field', and also in the interest of consumers, BSNL's revised pulse rates should also apply to the inter-network calls in cases detailed at item 2 (a), (b) and 2 (c) above. While the issues covered by 2 (b and 2 (c) are addressed by a Direction under Section 13 of the TRAI Act 1997, this Order relates to inter network call scenario described at 2 (a) above.

4. In order to ensure that the benefit of the lower tariff offered by BSNL actually passes on to the subscribers of the private basic service operators, the latter is being directed to modify his charging regime in respect of inter-network calls originating on his network to fully reflect the tariff changes proposed by BSNL. The underlying principle is that the same tariff should be levied for some network elements used. As such, the same tariff should be applied for the fixed leg of an inter network call that traverse the same distance on the fixed network, irrespective of its termination in a fixed or a mobile network. Accordingly, Telecommunication Tariff (Eleventh Amendment) Order, 2001 (1 of 2001) was issued on 25/1/2001.

5. However, BSNL did not implement the direction and order of the Authority and filed an appeal with the Telecom Disputes Settlement and Appellate Tribunal (TDSAT). TDSAT passed an interim order on 22/2/2001 staying the implementation of the order/direction of TRAI dated 25/1/2001. On 24th April, 2001 TDSAT passed its final order in this matter. While setting aside the direction/order of TRAI dated 25/1/2001 and 7/2/2001, the Tribunal observed that adequate opportunity had not been given to BSNL to present their case. While passing the order the Hon'ble Tribunal further observed that TRAI would be at liberty to pass fresh Order and/or Directions in accordance with law after giving all the parties a fresh hearing.

6. In accordance with TDSAT's Order, the Authority held a meeting with the representatives of BSNL, MTNL, COAI and ABTO on 16th May 2001 for the parties to present their case to the Authority. After due deliberation and in the light of the discussion/examinations on various issues, the Authority has reached the conclusion that its earlier directions/orders issued under the Telecom Regulatory Authority of India (Amendment) Act, 2000 do not warrant any alteration. The Authority's decision is based on the view that by not extending the facility of reduced tariff, as reflected in the new pulse rate or distance slabs up to 200 kms for the fixed leg of an Inter-Network, BSNL is denying the advantage of a cheaper calling rate to the subscribers of other network, which is clearly anti-consumer. Such PSTN-PLMN Inter-Network calls have two distinct tariff elements i.e. one for the PSTN leg and another for PLMN leg, called 'airtime'. They are quite independent of each other. For the PSTN leg the tariff has to be identical as for an Intra-Network PSTN call of identical carriage.

Telecom Regulatory Authority of India Notification

New Delhi, the 14th August, 2001

No. 310-5(17)/2001-TRAI(Econ.).

In exercise of the powers conferred upon it under sub-section (2) of the section 11 of the Telecom Regulatory Authority of India Act, 1997 to notify, by an Order in the Official Gazette,tariffs at which Telecommunications Services within India and Outside India shall be provided,the Telecom Regulatory Authority Of India hereby makes the following Order.

THE TELECOMMUNICATION TARIFF (SIXTEENTH AMENDMENT) ORDER, 2001
(6 OF 2001)

Section I

Title, Extent and Commencement

1. Short title, extent and commencement:

(i) This Order shall be called " The Telecommunication Tariff (Sixteenth Amendment) Order, 2001". (ii) This Order shall come into force from the date of its publication in the Official Gazette.

Section II

2. Under Schedule VI (Internet) of the Telecommunication Tariff Order, 1999 :

(i) The title of existing item (3) shall be deleted and substituted to read as: "Charge for Internet Leased Circuits(Shared Port Charges)".

(ii) The title of existing item (4) shall be deleted and substituted to read as: "All other matters relevant to Internet Tariff, including dedicated ports and billing cycle".

Section III

This Order contains at Annex A, an Explanatory Memorandum to provide clarity and transparency to the tariffs specified in this Order.

By Order,

(Dr. Harsha Vardhana Singh)
Secretary-cum-Principal Advisor

Annex - A

EXPLANATORY MEMORANDUM

1) In the view of the tariff reports regarding Port Charges for "Dedicated Ports" it was felt necessary to clarify and amend Schedule VI of the Telecommunication Tariff Order (TTO) 1999.

2) Schedule VI of the TTO, 1999 specifies charges for the Internet Leased Line Ports. Item (3) of this Schedule which read as Charge for Internet Leased Circuits (Port Charges) did not specify that these tariffs were applicable only to shared ports.

3) Similarly, item (4) of this Schedule which reads as All other matters relevant to Internet Tariff, including billing cycle did not explicity include the term "Dedicated Ports".

4) Paragraph 201 of the Explanatory Memorandum annexed to the TTO, 1999 read as : "For Internet leased circuits (port charges), the Second Consultation Paper had proposed cost based tariffs. This was done with a view to improving the viability of the private sector ISP's and enhance competition" and did not specify that these Cost Based Tariffs were applicable to Internet leased circuits (port charges), with compression. The Authority has also noted that there has been a significant increase in a competition in this segment since early 1999. Further, the applicable tariffs for shared ports that are specified above, has declined substantially over this period. Keeping in mind these developments, the Authority will give further consideration to these tariffs in its forthcoming tariff review later this year. At present , the changes introduced through this amendment is to provide clarifications to the tariff schedule applicable to port charges.

Telecom Regulatory Authority of India Notification

New Delhi, the 22nd January 2002

No.301/2 /2002-TRAI (Econ.)

In exercise of the powers conferred upon it under sub-section (2) of the section 11 of the Telecom Regulatory Authority of India Act, 1997 as amended by TRAI (Amendment) Act, 2000, the Telecom Regulatory Authority of India (TRAI) hereby makes the following order by an amendment to the Telecommunication Tariff Order, 1999 by notification in the Official Gazette, in respect of tariffs at which Telecommunication services within India and outside India shall be provided:

THE TELECOMMUNICATION TARIFF (SEVENTEENTH AMENDMENT) ORDER, 2002
(1 of 2002)

Section I

1. Short title, extent and commencement:

(i) This Order shall be called " The Telecommunication Tariff (Seventeenth Amendment) Order, 2002". (ii) This Order shall come into force from the date of its publication in the Official Gazette.

Section II

2.1 Under Section II (Definitions) of the Telecommunication Tariff Order, 1999, after sub-section d), following sub-section shall be inserted namely:

"(dd) "Date of Reporting" means the date on which the report from a service provider regarding the proposed tariff plan or any change in the existing tariff plan, is received at the Authority's office."

2.2 Under Section II (Definitions) of the Telecommunication Tariff Order, 1999, sub-section (l) shall be substituted by the following:

" (l) "Reporting Requirement" means the obligation of a service provider to report to the Authority at least FIVE working days before the proposed date of implementation of any new tariff for telecommunication services under this Order and/or any changes therein, for the approval of the Authority."

2.3 Under Section III, in Clause 7 (Reporting Requirement) of the Telecommunication Tariff Order,1999, sub-clause (iii) shall be substituted by the following :

"(iii) If the service provider does not hear from the Authority within FIVE working days from the date of reporting, the service provider shall, before implementation or making public announcement through any media, wait for another FIVE working days, unless in the meantime, the Authority intervenes."

2.4 Under Section III, in Clause 7 (Reporting Requirement) of the Telecommunication Tariff Order, 1999, after sub-clause (iii) following sub-clause shall be inserted namely:

" (iv) No new tariff plan or any change in the existing tariff for any telecommunication service or part thereof which requires approval of the Authority prior to its implementation, shall be announced through any media prior to approval of that tariff plan or any change in the existing tariff by the Authority."

Section III

This Order contains at Annex A as an Explanatory Memorandum which explains the reasons for this amendment to the Telecommunication Tariff Order, 1999.

By Order,

(Dr. Harsha Vardhana Singh)
Secretary-cum-Principal Advisor

Annex - A

EXPLANATORY MEMORANDUM

1. The Telecommunication Tariff Order, 1999 (TTO,99) under Clause 7 of Section III stipulates the provisions in respect of Reporting Requirement. All service providers shall comply with the Reporting Requirement in respect of all the Tariff Plans and any changes in the existing Tariff Plans before implementation.

2. The service providers are required to file their tariff plans or amendments in the existing tariff structure for approval of the Authority before five working days from the proposed date of implementation. The text also takes account of the point that the Authority may take more than five working days for approval.

3. In some cases, the Authority has noted that service providers are not reporting their tariff proposals before clear five working days from the date of implementation of their tariff plan. The Authority feels that a definition of the date of reporting will help the service providers to understand the time period of reporting.

4. It has been noted by the Authority that in certain cases, service providers are announcing and publicising their tariff proposals prior to the reporting of the same to the Authority as per clause 7 of TTO, 1999. This practice is not in spirit of the reporting requirement envisaged in TTO, 1999.

5. In order to achieve strict compliance of the Reporting Requirements, the Authority has decided to bring an amendment to Clause 7 of Section III of the TTO, 1999.

(Dr. Harsha Vardhana Singh)

Secretary-cum-Principal Advisor

Telecom Regulatory Authority of India

Notification

New Delhi, the 30th January 2002

No.303/3/2002-TRAI (Econ.)

In exercise of the powers conferred upon it under sub-section (2) of the section 11 of the Telecom Regulatory

Authority of India Act, 1997 as amended by TRAI (Amendment) Act, 2000, the Telecom Regulatory Authority of

India (TRAI) hereby makes the following order by an amendment to the Telecommunication Tariff Order, 1999

outside India shall be provided:

THE TELECOMMUNICATION TARIFF (EIGHTEENTH AMENDMENT)

ORDER, 2002

(2 of 2002)

Section I

1. Short title, extent and commencement:

(i) This Order shall be called " The Telecommunication Tariff (Eighteenth Amendment) Order, 2002".

Section II

Under Schedule II Cellular Mobile Telecom Service (CMTS) for the existing clause "14.a (Roaming)" the

following shall be substituted, namely.-

"14.a Regional and National Roaming:-

Item Tariff

Refundable Security Deposit Forbearance

Entry Fee (One time charge) Nil

Monthly Access Charge for Regional and/or Rs.100.00 as ceiling

National Roaming

Airtime charge Rs.3.00 per minute as ceiling

PSTN charge As applicable from time to time to the

fixed network

Surcharge	15%	as	ceiling	on	airtime

	component.			

14.aa International Roaming : Forbearance

14.aaa Other matters related to Roaming : Forbearance."

The tariffs under this Section shall be effective from 1st March 2002.

Section III

This Order contains at Annex A an Explanatory Memorandum to provide clarity and transparency to the tariffs specified in this Order.

By Order,

(Dr. Harsha Vardhana Singh)
Secretary-cum-Principal Advisor

Annex - A

EXPLANATORY MEMORANDUM

I.Introduction

1) In the Telecommunication Tariff Order (TTO), 1999, tariffs for all supplementary telecommunication services and value added services including roaming are subject to forbearance. The Authority has received complaints in respect of high tariffs charged by service providers for provision of roaming and Authority's intervention has been sought in streamlining tariffs for roaming. The Authority has considered all aspects of roaming tariffs and has decided, in consumer interest, to regulate the tariffs for national/regional roaming. This amendment, however, does not change the existing regime for international roaming.

II. Current Charging

2) TRAI examined the roaming charges levied by various cellular mobile operators. In general, roaming attracts two charges; a fixed charge for access to the facility and variable charges that depend on usage. The monthly fixed access charge for roaming for service providers varies between Rs. 0.00 to Rs. 400.00 across operators. Only one operator levies a charge of Rs. 400.00 per month, while others are generally in the range of Rs. 100.00 to Rs. 150.00 per month. Data from service providers shows that airtime charge for national automatic roaming is Rs. 10.00 per minute on a 60 seconds pulse. In addition, the subscriber is also required to pay the applicable PSTN charge and a surcharge ranging between 10% and 15% on total billed amount for the call (airtime plus applicable PSTN charges). In certain cases, the surcharge is levied only on airtime and not the applicable PSTN charges.

3) Thus the various elements of charge for roaming can be summarised as follows:

a) Refundable security Deposit
b) Fixed one time charges for the roaming facility
c) Monthly access charges for roaming
d) Airtime charge
e) Applicable PSTN charges; and
f) Surcharge on the billed amount

III. Analysis of Roaming Charges

4) A comparison of the airtime charge for national automatic roaming (Rs.10.00 per minute) and the peak charge for airtime across various tariff plans shows that roaming charges are considerably higher than airtime charges levied by service providers on their own subscribers. While airtime rates applicable in the subscribers home network have been declining over the last few months, roaming charges have remained at Rs.10 per minute. In this context, the Authority felt it justifiable to examine the incremental costs for provision of roaming and sought relevant data from the Cellular Operators Association of India (COAI).

5) The Authority has taken into consideration the various capital and operational cost elements provided by cellular mobile operators through COAI. In all, COAI submitted data for eight operators of which two were from metros. For the estimation of tariffs, due to incompleteness of the information given, data for one metro operator and three circle operators has been used. In tune with the methodology followed in the past, capital costs have been used to derive monthly rentals and operating costs have been used to derive airtime charge per minute.

6) In deciding on the tariff regime applicable for national roaming, the Authority considered only the additional or incremental costs associated with provision of the roaming facility. All the fixed costs submitted by COAI have been considered in the cost base for determining monthly rental for roaming. In addition, the Authority has taken into account the signalling links which the various operators share with BSNL and for which BSNL charges Rs.25.00 per roaming subscriber.

IV. Estimation of Bench Mark charges for Rental and Airtime

7) For estimation of monthly rental, 22% Annual Recurring Expenditure (ARE) has been applied to the capital cost. To this figure, signalling charge levied by BSNL of Rs. 25.00 per subscriber per month and revenue share license fee of 10% has been added to derive the monthly rental of national roaming.

8) The median cost based monthly rental is estimated from the sample as Rs.38.00. Taking account of an average prevailing airtime per minute and adding the incremental OPEX cost for roaming, we obtain an airtime charge for roaming at somewhat less than Rs. 3.00 per minute. The Authority considered that the roaming airtime charges arrived at are based on charges and cost data currently available from the service providers and that it is a value added service. The cost data available has, however, been limited. Therefore, while the Authority decided to reduce the prevailing charges for roaming, it has permitted some margin in the cost based estimates of rental, and has specified the tariffs as ceilings. The Authority has decided to specify a ceiling monthly rental of Rs.100.00, a ceiling roaming airtime charge at Rs.3.00 per minute and a ceiling surcharge (only on airtime) at 15%.

9) The Authority is of the view that there should be no fixed one-time access fee for roaming, since the relevant costs would be covered by the applicable tariffs. The refundable security deposit for roaming, however, continues to be under forbearance and shall be subject to the general regulation on security deposits prescribed in the Telecommunication Tariff Order (TTO) 1999.

(Dr. Harsha Vardhana Singh)
Secretary-cum-Principal Advisor

Telecom Regulatory Authority of India Notification

New Delhi, the 28th February 2002

No.303/3/2002-TRAI (Econ.)

In exercise of the powers conferred upon it under sub-section (2) of the section 11 of the Telecom Regulatory Authority of India Act, 1997 as amended by TRAI (Amendment) Act, 2000, the Telecom Regulatory Authority of India (TRAI) hereby makes the following order by an amendment to the Telecommunication Tariff Order, 1999 by notification in the Official Gazette, in respect of tariffs at which Telecommunication services within India and outside India shall be provided:

THE TELECOMMUNICATION TARIFF (NINETEENTH AMENDMENT) ORDER, 2002
(3 of 2002)

Section I

1. Short title, extent and commencement:

(i) This Order shall be called " The Telecommunication Tariff (Nineteenth Amendment) Order, 2002". (ii) This Order shall come into force with effect from the date of notification in the Official Gazette.

Section II

Under Schedule II Cellular Mobile Telecom Service (CMTS), for the existing clause "14.a Regional and National Roaming" for the item the following shall be substituted, namely.-

"14.a Regional and National Roaming:-

Item Tariff

Refundable Security Deposit Forbearance

Entry Fee (One time charge) Nil

Monthly Access Charge for Regional and/or National Roaming

Airtime charge

Rs.100.00 as ceiling
Rs.3.00 per minute as ceiling

PSTN charge Surcharge	As applicable from time to time to the fixed network i) 8 % as ceiling on both airtime and PSTN charges till 31.12.2002.

ii) 15% as ceiling on airtime component
only w.e.f.1.1.2003.

The tariffs under this Section shall be effective from 1st March 2002, except for items for which a different date is specified.

Section III

This Order contains at Annex A an Explanatory Memorandum to provide clarity and transparency to the tariffs specified in this Order.

By Order,

(Dr. Harsha Vardhana Singh)
Secretary-cum-Principal Advisor

Annex - A

EXPLANATORY MEMORANDUM

1) The Telecommunication Tariff (18th Amendment) Order notified on 30/1/2002 specified tariffs applicable for Regional and National Roaming. The tariffs were to be effective from 1/3/2002. The 18th Amendment inter alia provided that surcharge of 15% (ceiling) can be levied on airtime component only. This was contrary to the existing practice of levying surcharge on both airtime and PSTN charges.

2) Following notification of the 18th Amendment to the Telecommunication Tariff Order, the Authority received representations from cellular operators and their Association with reference to the implementation of the 18th Amendment. While the COAI expressed their commitment to implement the tariffs specified by the Authority as per the time schedule, more time was sought to implement the provisions relating to one item, namely the surcharge on airtime as it would take considerable time to implement this properly.

3) The Authority reviewed the matter and has permitted some more time till 31st December, 2002 so that all cellular operators can install systems capable to implement the surcharge on airtime as notified in the 18th Amendment to the Telecommunication Tariff Order. Until then but, in any case, not beyond 31/12/2002, the surcharge shall be applicable to both components of the call i.e. airtime and PSTN charges, but magnitude of surcharge shall be reduced to 8% so that an equivalent amount is paid by subscribers. From 1st January, 2003 the surcharge shall be 15% as ceiling on airtime component only. All other items of tariff specified in the 18th Amendment shall be effective from 1st March 2002 without any change.

4) Tariffs for roaming as specified in this Order shall be applicable for both post paid and prepaid cellular service.

5) All reporting of tariff plans for roaming effective from 1st March, 2002 would be allowed a lag of one week i.e. till 8th March, 2002. Subsequently all tariff reports for roaming must meet the provisions of reporting

requirement envisaged in the Telecommunication Tariff Order, 1999 as amended from time to time.

(Dr. Harsha Vardhana Singh)

Secretary-cum-Principal Advisor

Telecom Regulatory Authority of India Notification

New Delhi, the 14th march 2002

No.312-7 /2001-TRAI (Econ.)

In exercise of the powers conferred upon it under sub-section (2) of the section 11 of the Telecom Regulatory Authority of India Act, 1997 as amended by TRAI (Amendment) Act, 2000, the Telecom Regulatory Authority of India (TRAI) hereby makes the following order by an amendment to the Telecommunication Tariff Order, 1999 by notification in the Official Gazette, in respect of tariffs at which Telecommunication services within India and outside India shall be provided:

THE TELECOMMUNICATION TARIFF (TWENTIETH AMENDMENT) ORDER, 2002
(4 of 2002)

Section I

1. Short title, extent and commencement:

(i) This Order shall be called "The Telecommunication Tariff (Twentieth Amendment) Order, 2002". (ii) This Order shall come into force from the date of its publication in the Official Gazette.

Section II
(Tariff)

2. The tariffs / pulse rates / charges specified for the period up to 31st March, 2002 under existing clauses 5.a, 5.b and 5.c of item 5, clauses 6.a, 6.b and 6.c of item 6, clauses 8.a and 8.b of item 8, clauses 10.a and 10.b of item 10, clauses 12.a, 12.a.i, 12.a.ii, 12.a.iii, 12.b, 12.b.i, 12.b.ii, and 12.b.iii of item 12 of Schedule I pertaining to Basic Services (Other than ISDN) in the Telecommunication Tariff Order, 1999 shall be deleted and substituted to read as under.

i) the existing clauses 5.a, 5.b & 5.c of item 5 of Schedule I are deleted and substituted as 5.a and 5.b as under

5. Monthly Rentals
for Rural Subscribers

20th Amendment	Exchange System	From	Page 2 of 10
(5.a) Rural			
Non-Commercial	Capacity	1, April 2002	
User Subscribers	(Number of Lines)	(Rs)	
	----------	----------	
	Up to 999	70	
(5.b)Rural	1,000 to 29,999	120	
	30,000 to 99,999	180	
	1 lakh and above	250	
	Exchange System	From	
Commercial	Capacity	1, April 2002	

User Subscribers	(Number of Lines)	(Rs)	
	----------	----------	
	Up to 999	120	
	1,000 to 29,999	160	
	30,000 to 99,999	220	
	1 lakh and above	310	

Notes to Item 5 are deleted and substituted as under:

(1)The service provider will identify the consumers who are to be categorised as commercial user subscribers for applicability of tariff rates specified for such subscribers. Each subscriber will be given a notice of atleast 14 days prior to making effective such tariff.

(2) Rural subscribers are those who reside in rural areas. For the purpose of this schedule, the definition of rural area shall be the same as used in conducting the Census of India 2001.

(3) "Commercial user subscribers" shall mean and include a person and/or an establishment carrying on any trade, business or profession or any work in connection with or incidental or ancillary thereto.

ii) the existing clauses 6.a, 6.b & 6.c of item 6 of Schedule I, are deleted and substituted as 6.a and 6.b as under

6. Monthly Rentals
for Urban Subscribers

(6.a) Urban	Exchange System	From	
Non-Commercial	Capacity	1, April 2002	
User Subscribers			
(Number of Lines)		(Rs)	
----------		----------	8/23/2002
Up to 29,999		120	
30,000 to 99,999		180	
1 lakh and above		250	
http://www.trai.gov.in/TTO%2020TH%20AMENEMENT.htm			

20th Amendment	Exchange System	From	
(6.b) Urban			
Commercial	Capacity	1, April 2002	
User Subscribers	(Number of Lines)	(Rs)	Page 3 of 10
	----------	----------	
	Up to 29,999	160	
	30,000 to 99,999	220	
	1 lakh and above	310	

Notes to Item 6 are deleted and substituted as under:

(1) The service provider will identify the consumers who are to be categorised as commercial user subscribers for applicability of tariff rates specified for such subscribers. Each subscriber will be given a notice of atleast 14 days prior to making effective such tariff.

(2) Urban subscribers are those who reside in urban areas. For the purpose of this schedule, the definition of urban area shall be the same as used in conducting the Census of India 2001

(3) "Commercial user subscribers" shall mean and include a person and/or an establishment carrying on any trade, business or profession or any work in connection with or incidental or ancillary thereto.

iii) the existing clauses 8.a and 8.b of item 8 of Schedule I (as amended by TTO (Fourteenth Amendment), 2001) are deleted and substituted as 8.a,8.b and 8.c as under

8) Free Calls
(or uncharged calls) for
rural subscribers

(8.a) Free calls for Non
Commercial subscribers,
except for Limited Mobility
telephony service using
wireless in local loop
technology

(8.b) Free calls for Commercial
Subscribers, except for Limited
Mobility telephony service
using wireless in local loop
technology

(8.c) Free calls for Limited
Mobility telephony service
using wireless in local loop

75 metered calls per month of a billing cycle

45 metered calls per month of a billing cycle

No free calls shall be provided

technology Note:	The service provider will identify the consumers who are to be categorised as commercial user subscribers for applicability of tariff rates specified for such subscribers. Each subscriber will be given a notice of atleast 14 days

prior to making effective such tariff.

iv) the existing clauses 10.a and 10.b of item 10 of Schedule I (as amended by TTO (Fourteenth Amendment),
2001),are deleted and substituted as 10.a,10.b and 10.c as under

(10) Free Calls
(or uncharged calls) for
urban subscribers

(10.a) Free calls for Non
Commercial Subscribers,
except for Limited Mobility
telephony service using
wireless in local loop
technology

(10.b) Free calls for
Commercial Subscribers,
except for Limited Mobility
telephony service using
wireless in local loop
technology

(10.c) Free calls for Limited

Mobility	telephony	service

using wireless in local loop
technology

60 metered calls per month of a billing cycle

30 metered calls per month of a billing cycle

No free calls shall be provided

The service provider will identify the consumers who are to

be categorised as commercial user subscribers for

Note:	applicability of tariff rates specified for such subscribers. Each subscriber will be given a notice of atleast 14 days prior to making effective such tariff.

v) the existing clauses 12.a, 12.a.i, 12.a.ii, 12.a.iii, 12.b, 12.b.i, 12.b.ii, and 12.b.iii of item 12 of Schedule I are deleted and substituted by 12.a, 12.a.i, 12.a.ii, 12.a.iii, 12.b, 12.b.i, 12.b.ii, and 12.b.iii as under

(12) Pulse rates for ceiling tariffs for peak hours

(12.a) Pulse rates forceiling tariffs	Radial distance	From
for subscriber trunk dialled long	between any two	1, April 2002
distance calls	exchanges or between any two charging centres	(in seconds)
	----------	----------
	Up to 50 Kms	180.0
	Above 50 Kms And up to 200 kms	18.0
	Above 200 Kms And up to 500 kms	6.8
	Above 500 Kms	4.6

And up to 1000 kms

These pulse rates imply the following peak hour ceiling tariffs for an STD call of 1 minute duration.

(12.a.i) At pulse charge of Rs.0.80 per	Radial distance	From
metered call	between any two	1, April 2002
	exchanges or between any two charging centres	(In Seconds)
	----------	----------
	Up to 50 Kms	0.80
	Above 50 Kms And up to 200 kms	3.20

	Above 200 Kms	7.20

And up to 500 kms

(12.a.ii) At pulse charge	Above 500 Kms	11.20
	And up to 1000 kms	
	Above 1000 Kms	14.40
	Radial distance	From

of Re.1.00 per metered	between any two	1, April 2002
call	exchanges or	(In Seconds)
	between any two	
	charging centres	
	----------	----------
	Up to 50 Kms	1.00
	Above 50 Kms	4.00
	And up to 200 kms	
	Above 200 Kms	9.00

And up to 500 kms

Above 500 Kms	14.00	8/23/2002
And up to 1000 kms		
Above 1000 Kms	18.00	
http://www.trai.gov.in/TTO%2020TH%20AMENEMENT.htm		

20th Amendment	Radial distance	From	Page 6 of 10
(12.a.iii) At pulse charge			
of Rs.1.20 per metered	between any two	1, April 2002	
call	exchanges or	(In Seconds)	
	between any two		
	charging centres		
	----------	----------	
	Up to 50 Kms	1.20	
	Above 50 Kms	4.80	
	And up to 200 kms		
	Above 200 Kms	10.80	

And up to 500 kms

Notes of Item (12.a) are	Above 500 Kms	16.80
	And up to 1000 kms	

	Above 1000 Kms	21.60
	The above tariffs are ceilings.	

deleted and substituted as

(12.b) Pulse rate for ceiling	Categorisation	From
tariffs for International	of various countries	1 April, 2002

Subscriber Dialled Calls	for the purpose of charging	(Seconds)
	----------	----------
	SAARC and other	3.3
	Neighbouring Countries	
	Countries in Africa, Europe,	2.3

Gulf, Asia and Oceania

Countries in American Continent and Other Places	1.8

In Western Hemisphere

These	**pulse**	**rates**	**imply**	**the**

following peak hour ceiling tariffs
for an ISD call of 1 minute duration.

(12.b.i) At pulse charge	Call made to	From

of Rs.0.80 per metered	----------	1 April, 2002
		(Rs.)
		----------
call	SAARC and other	14.40
	Neighbouring Countries	
	Countries in Africa, Europe,	21.60
	Gulf, Asia and Oceania	
	Countries in American	27.20

Continent and Other Places
In Western Hemisphere

20th Amendment	Call made to	From	Page 7 of 10
(12.b.ii) At pulse charge			
of Re.1.00 per metered		1 April, 2002	
call		(Rs.)	

---------- SAARC and other Neighbouring Countries Countries in Africa, Europe,	---------- 18.00 27.00

Gulf, Asia and Oceania

(12.b.iii) At pulse charge	Countries in American	34.00
	Continent and Other Places	
	In Western Hemisphere	
of Rs.1.20 per metered	Call made to	From 1 April, 2002
call	----------	(Rs.) ----------
	SAARC and other Neighbouring Countries	21.60
	Countries in Africa, Europe,	32.40

Gulf, Asia and Oceania

Countries in American Continent and Other Places	40.80

In Western Hemisphere

Note of Item (12.b)
is deleted and substituted as

The above tariffs are ceilings.

vi) Explanatory Notes: In the Explanatory notes the items (a) to (n) are deleted and substituted by the following:

EXPLANATORY NOTES:

(a) Commercial user A person and/or an establishment carrying on any trade, business or profession or any subscribers work in connection with or incidental or ancillary thereto.

(b) Non-Commercial user A person and or an establishment other than that classified under (a) above. subscribers

(c) Rural Subscribers Rural subscribers are those who reside in rural areas. For the purpose of this schedule, the definition of rural area shall be the same as used in conducting the Census of India 2001.

(d) Urban subscribers Urban subscribers are those who reside in urban areas. For the purpose of this schedule, the definition of urban area shall be the same as used in conducting the Census of India 2001

(e) Standard tariff package(s) A standard tariff package provides basic services at the tariffs specified in the schedule, and includes the specified number of free calls. Different rentals prescribed for the four categories of subscribers in (a) to (d) above imply that four different standard tariff packages are specified in this schedule.

(f) Alternative tariff packages	Tariff and free call allowance offered to subscribers by service providers, other than those offered in the standard tariff packages. In the "alternative tariff packages", items for which tariffs are specified in terms of a ceiling will continue to be subject to the specified ceiling. Items for which a specific amount of tariff is shown in this schedule e.g.

rentals and call charges may have any alternative tariff in the "alternative tariff package". Similarly, alternative free call allowance may be provided in an "alternative tariff package".

(g) Mandatory provision of standard packages	Subscribers must have the option of getting basic services (other than ISDN) at tariffs and free call allowance specified in this schedule. In addition, the service provider may offer alternative tariff packages to the subscribers. The subscriber shall be free to choose among various tariffs and free call offers available.
(h) Exchange system capacity	Exchange capacity is the sum of the capacities of all exchanges within the Short Distance Charging Area (SDCA).
(i) Short Distance Charging Area(SDCA)	Short Distance Charging Area (SDCA) is the area which, with few exceptions, coincide with revenue Tehsil / Taluka.

(j) Charging Centres	Charging centres are classified as "Long Distance Charging Centre" (LDCC) and "Short Distance Charging Centre" (SDCC).
(k) Long Distance Charging Centre (LDCC)	Long Distance Charging Centre is a specified Trunk Exchange in a long distance charging area as presently defined for the purpose of charging of inter-circle long distance calls.
(l) Short Distance Charging Centre (SDCC)	Short Distance Charging Centre is a particular exchange in short distance charging area defined for the purpose of charging intra-circle long distance calls as well as inter-circle long distance calls between adjacent Long Distance Charging Areas.

Section III

This Order contains at Annex A an Explanatory Memorandum which explains the reasons for this amendment to the Telecommunication Tariff Order, 1999.

By Order,

(Dr. Harsha Vardhana Singh)
Secretary-cum-Principal Advisor

Annex - A

EXPLANATORY MEMORANDUM

Objective

1) The objective of this Amendment is to implement the Authority's decision on the third and final tranche of tariff re-balancing for monthly rentals and long distance call charges that were notified in The
Telecommunication Tariff Order ("TTO") 1999. These tariffs shall be effective from 1st April 2002. The tariffs specified in this amendment would be valid till such time the Authority announces revision of tariffs based on overall tariff review which is presently underway, at a later date.

Tariffs for Subscriber Trunk Dialled (STD) calls or Domestic Long Distance Calls

2) Consequent upon the entry of the first new NLD operator in the long distance market there has been a sharp reduction in the STD tariffs in the country. The incumbent long distance operator, i.e. BSNL, has implemented tariffs for domestic long distance calls for different distance slabs which indicate a more than 50 percent decline in these tariffs. The new NLD operator has also implemented the same tariffs for inter-circle calls. These new tariffs for STD are considerably less than the STD tariffs which were envisaged for the third tranche in TTO, 1999. Therefore, the Authority's decision regarding the third tranche of STD tariffs for DLD is that these tariffs should be notified in this order as ceilings.

Tariffs for International Subscriber Dialled (ISD) calls

3) The Authority has noted that the ISD sector will be opened up to competition from April, 2002. The ISD tariffs are likely to decline as a consequence. These tariffs are also likely to decrease on account of competitive pressure on settlement rates and the use of VOIP services. The Authority has decided to notify the third tranche ISD tariffs as ceilings.

Monthly Rentals for Basic Services

4) In TTO 1999, the standard tariff package envisaged a decrease in STD/ISD call charges and an increase in rentals in order to re-balance tariffs and prepare the grounds for further opening up of the basic services market. The recent market driven decrease in STD call charges has more than achieved the decline in domestic long distance tariffs envisaged as part of the tariff re-balancing exercise of TTO, 1999. The Authority is of the opinion that the tariff rebalancing exercise should be such that it protects the interests of the ordinary/general subscribers, sustains demand and helps achieve higher teledensity. In a fresh exercise of tariff review which is presently underway, it is envisaged to make a detailed analysis of rentals for basic services keeping in mind the evolving market conditions and network expansion. Implementation of the present set of third tranche tariffs is, therefore, acceptance of the applicability of the earlier rebalancing exercise in the current context. The Authority has decided to implement the monthly rentals applicable as per the third tranche to commercial user subscribers. The monthly rentals for other subscribers will remain unchanged, i.e. the existing rental levels will continue for non-commercial subscribers. For operational simplicity, the Authority also decided that for the present the low user subscriber category and general user subscriber category should be combined into a single category of "non commercial user subscriber".

5. For the commercial user subscribers the Authority has decided to reduce the number of applicable free calls to 30 metered calls per month of the billing cycle for urban commercial subscribers and 45 metered calls per month of the billing cycle for rural commercial subscribers. The definition of commercial user subscriber is specified in the Schedule to this Amendment.

6. The service provider will identify the consumers who are to be categorised as commercial user subscribers for applicability of tariff rates specified for such subscribers. Each subscriber will be given a notice of atleast 14 days prior to making effective such tariff.

Other Issues

7. For the purpose of this amendment, urban/rural subscribers are those who reside in urban/rural areas as defined in Census 2001.

(Dr. Harsha Vardhana Singh)

Secretary-cum-Principal Advisor

Telecom Regulatory Authority of India Notification New Delhi, the 13th day of June, 2002.

No. 301 -6/2002-TRAI (Econ.)

In exercise of the powers conferred upon it under sub-section (2) of the section 11 of the Telecom Regulatory Authority of India Act, 1997 as amended by TRAI (Amendment) Act, 2000, the Telecom Regulatory Authority of India (TRAI) hereby makes the following order by an amendment to the Telecommunication Tariff Order, 1999 by notification in the Official Gazette, in respect of tariff plans for providing Telecommunication services within India and outside India.

THE TELECOMMUNICATION TARIFF (TWENTY FIRST AMENDMENT) ORDER, 2002 (5 of 2002)

Section I

1. (i) (ii)	Short title, extent and commencement: This Order shall be called " The Telecommunication Tariff (Twenty first Amendment) Order, 2002".

Section II

2.1	Under Clause 4 of Section III (Forbearance) of the Telecommunication Tariff Order, 1999, the proviso to the said clause is deleted and substituted to read as under;

"Provided that the service provider shall file the tariff plans with the Authority for information and record within SEVEN days from the date of launch of said tariff".

2.2	After sub-clause (iv) of Clause 7 under Section III ("Tariffs for Telecommunication Services") of the Telecommunication Tariff Order, 1999, following sub-clauses shall be inserted;	
	(v)	All service providers shall pay a fee while reporting any new tariff plan or

any changes / modifications in the existing tariff plan of any
telecommunication service for approval of the Authority as specified in the "TRAI (Levy of fees and other charges for Tariff Plans) Regulation 2002".

However, there shall be no levy of fee on tariff plans in respect of tariffs which have been forborne by the Authority.

(vi) (vii) (viii) (ix)	All approvals for tariff plans if not implemented shall remain valid for a maximum period of six months from the date of the approval by the Authority. If a plan is not implemented within the timeframe of six months as above it would lapse and would need to be reported afresh for approval. All service providers shall give an advance notice of not less than 30 days to the Authority and subscribers before terminating an existing tariff plan. At any given point of time not more than 25 plans shall be on offer by a service provider. This includes both post paid and pre paid tariff plans. All service providers shall comply with the condition of having not more

than 25 tariff plans on offer including post-paid and pre-paid within 90 days from the date of publication of this order in the official Gazette with proper and due notice to the Authority and subscribers.

notification	(x)	Page 2 of 4
		All service providers shall at the time of reporting fresh tariff plans provide
		the following information;
		* Number of tariff plans on offer to subscribers as on (the date of

reporting).

- Pre-paid_____ (wherever applicable)
- Post Paid_____ (wherever applicable)

Section III

The words "as ceiling" appearing under caption Tariff in Schedule V of the Telecommunication Tariff Order, 1999 pertaining to "ISDN Services" shall stand deleted. The following shall be inserted as explanatory notes in Schedule V of the TTO,99;

Explanatory Notes;

a) Standard Tariff Package

b) Alternative Tariff Package

The Standard Package provides ISDN services at the tariffs specified in the schedule.

Tariff package offered to subscribers in addition to that offered in the Standard Package, as an alternative.

Section IV

This Order contains at Annexure A an Explanatory Memorandum which explains the reasons for this amendment to the Telecommunication Tariff Order, 1999.

By Order,

(Dr. Roopa R. Joshi)
Advisor (Economic)

Annex - A

EXPLANATORY MEMORANDUM

1. Notes on Amendment in Clause 4 of Section III of TTO,99 pertaining to "Forbearance"

notification	1.	The Authority is of the view that henceforth "reporting requirement" in respect of	Page 3 of 4
		tariffs which have been forborne in the Telecommunication Tariff Order, 1999	
		(TTO,99) will be different from the usual "reporting requirements" prescribed in	

respect of tariffs which have not been forborne. These are basically value added services in respect of which due to adequate competition, the market forces will regulate the tariff. However, the Authority has decided that all tariffs which have been forborne under TTO, 99 should be reported to the Authority for information and record within SEVEN days from the date of introduction of the tariff plan.

2. Notes on insertion of additional sub-clauses in Clause 7 of Section III of TTO, 99 pertaining to "Reporting Requirement"

1.	The Telecommunication Tariff Order, 1999 (TTO,99) under Clause 7 of Section III stipulates the provisions in respect of Reporting Requirement. All service providers

shall comply with the Reporting Requirement in respect of all the Tariff Plans and any changes in the existing Tariff Plans before implementation.

2.	In the present framework of tariff reporting, service providers are at liberty to file any number of plans (whether intended to be implemented or not) for approval of the

Authority. There is also no time limit within which a service provider has to implement a tariff plan approved by TRAI.

3.	The Authority has come across instances where operators have misused the flexibility provided in the existing tariff framework. The Authority is of the view that

the practice of seeking approvals to a large number of plans some of which are not even implemented, causes avoidable confusion in the minds of subscribers, besides putting needless pressure on the limited human resources of the Authority. Thus the purpose of this amendment to TTO is to avoid undue pressure on regulatory resources and confusion to the subscribers.

4.	This Amendment shall be applicable to all telecommunication services which fall under the purview of reporting requirements of TTO, 1999.

3. Amendment in Schedule V of TTO, 99 pertaining to "Tariffs for ISDN Services"

1.	The Telecommunication Tariff Order, 1999 (TTO,99) under Schedule V stipulates the ceiling tariffs for ISDN Services.
2.	To enable the service providers to offer attractive additional packages to corporate or other high revenue paying subscribers so as to enhance customer base and expand the use of ISDN services, the Authority considers it desirable to allow more

flexibility in their tariff and has, therefore, decided to lift ceiling from the tariff for ISDN services.

3.	With ISDN services expanding and catering to competitive segments of the market, the Authority has also decided to allow operators greater flexibility to offer alternative tariff packages.

By Order,

(Dr. Roopa R. Joshi)

Advisor (Economic)

TELECOM REGULATORY AUTHORITY OF INDIA NOTIFICATION

NEW DELHI, THE 4th JULY 2002

No. 312-5/2002- TRAI(Eco)

In exercise of the powers conferred upon it under sub-section (2) of the section 11 of the Telecom Regulatory Authority of India Act, 1997 as amended by TRAI (Amendment) Act, 2000, the Telecom Regulatory Authority of India (TRAI) hereby makes the following order by an amendment to the Telecommunication Tariff Order, 1999 by notification in the Official Gazette, in respect of tariffs at which Telecommunication services within India and outside India shall be provided:

The Telecommunication Tariff (Twenty Second Amendment) Order 2002 (6 of 2002)

Section I

Title, Extent and Commencement

1. i) ii)	Short title, extent and commencement: This Order shall be called "Telecommunication Tariff (Twenty Second Amendment) Order 2002".

Section II

In Schedule I (Basic Services other than ISDN) of the Telecommunication Tariff Order, 1999 as amended by "The Telecommunication Tariff (Fourteenth Amendment) Order 2001", with effect from the date of implementation of tariffs, usage charge registration etc. for WLL (Mobile).

i) Sub-clause 4.d of Item 4 of Schedule I shall stand substituted by the following ;

(4) Deposits

(4. d) Handset for Limited Mobility telephony service using wireless in local loop technology if provided by service provider

Ceiling of Rs. 6,000; to be refundable in full on cessation of service to the subscriber

ii) Sub-clauses 5.d and 5.e of Item 5 of Schedule I shall stand substituted by the

following ;

(5) Monthly Rental for rural subscribers

(5.d) For Limited Mobility telephony service using wireless in local loop technology

(5.e) For Limited Mobility telephony service using wireless in local loop technology if handset provided by Service provider, without a deposit as stipulated in (4.d) above.

Rs. 200.00 per month

As in (5.d) above Plus Ceiling of Rs. 50.00 per month. This ceiling applies to all other amounts including, for example, depreciation, and insurance premium, but excluding deposits.

iii) Sub-clauses 6.d and 6.e of Item 6 of Schedule I shall stand substituted by the following;

(6) Monthly Rental for Urban subscribers

(6.d) For Limited Mobility telephony service using wireless in local loop technology

(6.e) For Limited Mobility telephony service using wireless in local loop technology if handset provided by Service provider, without a deposit as stipulated in (4.d) above.

Rs. 200.00 per month

As in (6.d) above Plus Ceiling of Rs. 50.00 per month. This ceiling applies to all other amounts including, for example, depreciation, and insurance premium, but excluding deposits.

iv) In the Explanatory Notes at the end of Schedule I, items "gg" and "o" stand deleted.

Section III

EXPLANATORY MEMORANDUM

This Order contains at Annex A, an Explanatory Memorandum to provide clarity and

transparency to the tariffs specified in this Order.

By Order,

(Dr. Harsha Vardhana Singh)

Secretary-cum-Principal Advisor

ANNEX "A"

EXPLANATORY MEMORANDUM

TRAI	1.	Page 3 of 9
		On 24th May, 2001 the TRAI notified tariffs for wireless in local loop with limited mobility
		(hereinafter "WLL (M)") vide the Fourteenth Amendment of its Telecommunication Tariff

Order 2001 (hereinafter "TTO 14th Amendment"). In that notification the Authority had stated that in view of the likely changes in the cost and market situation in the next few years it will review monthly rentals for WLL (M) each year for the next three years.

2.	The Authority initiated its review of the monthly rentals for WLL (M) this year by obtaining information on the latest cost figures from the basic service operators. Basic

Service operators were requested to send details of costs per line for WLL(M) Services based on a framework that was provided by TRAI. The format was similar to that adopted in the last year's exercise. In response, service providers reported information on their cost per DEL based on their deployment plan. The cost data were provided by all the established basic service operators, except two: these two stated that they did not intend to deploy WLL (M).

3.	The data submitted to the Authority were examined and discussed with the service providers in meetings where presentations were made by the operators to explain both

the basis of their cost derivation, the network configuration and compliance with license conditions. The data showed a wide variation in costs as well as in the deployment of the service (i.e. Roll Out). Furthermore, different sets of assumptions had been made by Operators regarding traffic per DEL, radio coverage (No. of BTS), coverage of Rural SDCAs etc. In view of this wide variation, data were sought from them in a revised format designed to give per DEL cost data relating to the different subscriber bases of 2500, 5000, 10000, 20000 and 50000. These configurations had been considered during the exercise last year also, so as to plan deployment of WLL (M) services consistent with its roll out prescribed in the Recommendations of the Group on Telecom and Information Technology Convergence ("GOT-IT"). In relevant part, this
Recommendation reads as follows:-

"The Group also noted that since this facility was being suggested for accelerating development of telecom services particularly in rural areas, the manner in which spectrum would be made available had to ensure that this object was achieved. The Group would therefore advise that Short Distance Charging Areas (SDCA) should be divided into three sub-categories: viz (1) Rural, (2) Semi-urban, and (3) Urban (a categorization familiar in census operations). For the purpose of coverage of Short Distance Charging Areas (SDCA), it was felt that each of these categories should be equally covered for each phase of the roll out prescribed - that is to say in the first phase, where 15% of the short distance charging areas are to be covered in a circle, each of the three categories should be covered by the operator in equal proportions , and achievement must be ensured; subject only to this that if there is better
performance than prescribed in the rural, and semi-urban sub categories this should not be considered a violation of the prescribed roll out."

4.	Accordingly the service providers were requested to provide data for five different configurations, viz. with subscriber bases of 2500, 5000, 10000, 20000 and 50000

subscribers. This information together with the required roll out specification i.e.

coverage of Rural, Semi-urban and Urban SDCAs in equal proportions was used to obtain estimates which would serve as norms. For this exercise, Rural SDCAs were considered as corresponding to subscriber base slabs of 2500 and 5000. In Semi-Urban SDCAs the corresponding subscriber base was taken to be 5000 and 10000 and in the case of Urban SDCA Networks, corresponding capacity was taken to be in the slabs of 10000, 20000 and 50000.

TRAI	5.	Page 4 of 9
		All operators were requested to give dimensioning figures complying with the licensing
		conditions particularly in respect of Clauses 2.2.(c)(i) & (iii) and clause 9.3. The main
		features of the framework in which the figures were called for were as follows:

(a) Traffic per subscriber was taken as 25 Milli Erlang for Rural SDCAs, 35 Milli Erlang for Semi Urban SDCAs and 50 Milli Erlang for Urban SDCAs. Traffic values were decided based on reference to Wireline traffic data available with TRAI for many Telecom Circles.

(b) Cost details were sought for values corresponding to 1RF/3 Sector and 2 RF/ 3 Sector configuration.

6.	Data based on the format evolved for arriving at the normated cost were submitted by four of the basic service operators. One service provider did not submit the data in the required format because its scope of the service covered only urban areas. Another service provider was not in a position to provide recent estimates in the prescribed

format.

7.	These data were examined further in meetings with the service providers, to understand clearly the underlying assumptions made by them. Discussions showed that network configuration would be executed mainly with 1RF and 2RF. However, in their feedback to TRAI, a few operators also reported the use of 3RF. The Authority is

of the view that all the Operators in the initial years would in general try for gradual augmentation of Base Stations for better radio coverage and then adopt 3RF or 4RF configurations or even 6 sector configurations. In any case, these likely later
developments could be addressed in the annual review of the WLL (M) rentals next year. For the present exercise, it would be realistic to take into account only 1RF and 2RF configurations for BTS in the normation exercise.

8. The main costs calculated for the normation exercise include BTS, BTS Tower & Antenna, Battery & Power Plant, BTS building, BSC, BSC Building, Battery and Power Plant, Intra-BSC OFC and other transmission costs, Local Exchange, SDCC Tandem port and OFC / transmission elements between BSC to LE and LE to SDCC tandem. However it was also observed that in most cases BSC, LE and SDCC tandem could be co-located i.e. could be in the same location and as a result OFC/ transmission cost on this count is NIL or negligible.

9. An important feature that emerged in the assessment of costs was that those who had ordered or planned to order for a larger network had obtained substantially lower costs. This was the case for both the incumbent as well as one of the private sector operators. In the case of the latter, the costs were too low also because these were based on High Traffic handling configurations. In the circumstances, it was considered necessary to moderate the cost components. For this purpose, the costs related to the incumbent were applied to this private service provider's BSC, Building (rental component for BSC), and Digital Switch, instead of the abnormally low values as a result of the costs

being based for Systems with very high traffic capacities. This service provider has reported the lowest costs, and the estimates given later show that even with this moderation, its cost- based monthly rental continues to be the lowest.

10. Based on the normated cost data, detailed calculations were worked out for configuration with

z 1RF/ 3 Sector 2500 lines for Rural SDCA
z 2RF/ 3 Sector 5000 lines for Rural SDCA
Simple Average was worked out for Rural SDCAs from the above two values

z 2RF/ 3 Sector 5000 lines for Semi-Urban SDCA
z 2RF/ 3 Sector 10000 lines for Semi-Urban SDCA
Simple Average was worked out for Semi-Urban SDCAs from the above two values

z 2RF/ 3 Sector 10000 lines for Urban SDCA
z 2RF/ 3 Sector 20000 lines for Urban SDCA
z 2RF/ 3 Sector 50000 lines for Urban SDCA
Simple Average was worked out for Urban SDCAs from the above three values

11.	As there are 288 Urban SDCAs, 1874 Semi-Urban SDCAs and 486 Rural SDCAs in the country and as per the license roll out requirements, coverage of all the three type of SDCAs is to be achieved in equal proportions, weighted averages for WLL(M) rentals

were worked out for the configurations mentioned above, taking the capital costs up to the Short Distance Charging Centre (SDCC) tandem ports. It may be noted that Local Network stops at SDCC and any cost beyond SDCA would be part of Long Distance service.

12.	It is noteworthy that whereas the cost estimates provided by one of the operators are based on actual orders, those from the others are based on negotiations and invoices, some times not very recent ones. The cost estimates provided by the operator with the lowest costs are, however, based on certified offers made by the equipment provider.

Further, the network structure of the operator whose cost estimates are based on actual orders fully meets the conditions that were emphasized by the Authority in its methodology for calculating the monthly rental for WLL (M) last year. Moreover, this service provider has a presence in most parts of the country, and the costs relevant to it can be considered as applicable, on average, across the country.

13. Last year, the Authority had addressed the issue of handset cost in two different ways.

One was to allow the service provider to take a deposit up to a specified amount.

Another was to allow the operator to charge an additional amount for monthly rental. This year too, the same methodology has been adopted. The cost of a handset for WLL (M), however, is much lower this year. These options would become relevant if the subscriber does not make his own arrangements for the handset.

The cost based estimates of monthly rentals for WLL (M)

14.	The Annex contains a Table showing the cost based monthly rentals for four operators whose data with some moderation form the basis of these calculations. The estimates

of cost-based monthly rental have been arrived at by applying an annual recurring expenditure (ARE) of 22 per cent on the capital cost per subscriber, and then adding the following:

- the revenue share license fee (8 per cent for Circle "C", 10 per cent for Circle "B", and 12 per cent for Circle "A" and metros); and,

- 2 per cent revenue share as charge for spectrum.

TRAI	15.	Page 6 of 9
		The estimates have been calculated taking due account of the required roll out in the
		Rural, Urban and Semi-Urban SDCAs. In the detailed calculations, averages for
		individual SDCAs as well as the weighted average across the SDCAs were worked out.

The Table in the Annex, however, provides only a summary of these estimates.

16.	The Annex Table indicates the lowest and highest estimates for monthly rentals, as well as the simple average. A noteworthy feature in this context is that the two service providers with relatively lower rental estimates have planned their presence in many more License areas than the others. Thus, if a simple average were to be calculated in

terms of License areas, that average estimate would be below the average shown in the Table in the Annex.

17.	The Authority recalled that last year, for the WLL (M) monthly rentals it had fixed a range because of the wide variation in costs, and the highly tentative nature of the available cost data and roll-out plans. For example, in paragraph 31 of the Explanatory Memorandum to the 14th Amendment to TTO 1999 it states as follows:

"In view of wide variance in the estimates of cost based rentals and the highly tentative nature of the available cost data and roll-out plans, the Authority is of the view that fixing one single representative rental or a "spot rental" is neither feasible nor desirable at this stage. It has, therefore, been decided to specify a range for cost based rentals,

or a ceiling and a floor. The fact that a range defined by the ceiling and floor rather than a single figure is being recommended also addresses the uncertainties of the present roll-out plans of the operators, difficulties of correctly dimensioning the network and costing it based on accurate estimates of the cost of network elements etc. for a service which is being introduced for the first time."

18. The Authority also recalled that the specification of a range was not its preferred choice. If there were greater certainty with respect to the cost models last year, it would have preferred to not specify a range. In paragraph 9 of the Explanatory Memorandum to TTO 14th Amendment, the Authority had stated that:

"Based on the computations shown in Table 1, the Authority would like to specify a floor rental of Rs.450/- and a ceiling of Rs. 550/- per month. Ideally, it would have liked to specify a spot rental, but a floor and ceiling is being specified both due to the highly tentative nature of estimates of various sizes of WLL(M) systems, and also the difficulty in correctly estimating demand in the three SDCA categories, so that appropriate cost models are used against each category. The Authority feels that without the constraint of covering all the three categories in equal proportion, the rental for WLL(M) would have worked out to about Rs. 400/- per month."

19.	The Authority has come to the conclusion in the present review exercise that there is now much greater certainty about the cost estimates. For instance, in the case of the

costs relating to the dominant incumbent operator, the estimates are based on actual orders. In the case of the operator with the lowest costs and on the present reckoning with the largest planned coverage among the private sector operators, the costs are based on the certified offer price from the equipment supplier. The consideration of other underlying parameters this year, including that of Roll Out plans, is on firmer basis because of availability of more certain data/information. The Authority, therefore, considers that it is no more necessary to have a range for the monthly rentals.

		Page 7 of 9
TRAI	20.	The Authority has considered whether to specify either a ceiling or floor for these
		rentals. It was noted that the costs per line for WLL (M) have decreased substantially in
		the last one year. The Table in the Annex shows that the cost based rentals for the two

service providers with the largest planned WLL (M) coverage in the country are below the two highest rental slabs for fixed line, viz; Rs.250/- and Rs.180/- per month.

21.	The Authority has generally been following the policy that subject to a tariff package not being predatory, market competition should not be restrained. Considering what has been stated in paragraph 19 above, the Authority is of the view that here too the same policy may now be followed and alternative tariffs may be allowed in general for WLL

(M), subject to the tariff package not being predatory. The uncertainty that had marked the WLL (M) rental exercise last year is now significantly lower, and the developments since last year show that there is a possibility for service providers to reduce costs further. This may give further impetus to efficiency increases and development of tariffs packages encouraging access and usage. In this background, curbing the use of alternative tariff packages (including combination of different rental and call charge regimes) would not be appropriate, as it could prove to be counter-productive to consumer interest and competition in the market.

22.	The Authority has considered whether, even with alternative tariff packages, a floor to the monthly rental need be retained. The Authority recalled that last year, it had fixed such a floor based on the cost based rental estimates of the Most Efficient Private Operator (MEPO); the rental estimate of MEPO was then higher than that of the

incumbent. Paragraph 34 of the Explanatory Memorandum to TTO 14th Amendment states that:

"There are two main reasons why the Authority has decided to benchmark the Most Efficient Private Operator (MEPO) for fixing the rental. One, the costs of the incumbents (BSNL/MTNL) are likely to be lower than those of the new entrants because of the fact that they have the benefit of economies of scale and market dominance over practically the entire country. Since they can place orders in bulk, they are likely to be offered discounts. Further, since they will be launching both CMTS and WLL (M) systems simultaneously, they can share a lot of infrastructure such as towers, buildings, power plant, optical fibre etc. Another reason for choosing the cost models of the private operator and particularly those of an economically efficient operator is to provide incentive to other private operators for achieving greater efficiency and cost reduction."

23. The present estimates show that MEPO's cost based monthly rental is actually below that of the predominant incumbent. Last year, MEPO's costs were used as floor also to encourage the private sector operators to improve their efficiency and reduce their costs towards MEPO. The basic thrust was to encourage efficiency and growth of the service while not giving the incumbent opportunity to use its market dominance and special advantages such as ability to use common infrastructure to prevent growth of competition. In the current changed scenario wherein the cost estimates of the emerging competitors are already below those of the dominant incumbent the latter's ability to put competitors at any serious disadvantage seems to have been fairly restrained. In this situation, the Authority has considered it desirable not to prescribe any floor and allow the efficient competitors in the market to compete effectively, especially in the context of a declining trend for costs. In the circumstance it would be eminently reasonable to specify standard tariffs, and while examining the reported tariffs intervene only, if required, to prevent the implementation of predatory tariffs.

		Page 8 of 9
TRAI	24.	Standard tariffs specified by the Authority are generally based on some average, which
		may be a simple average or a median. Among the estimates given in Table 1 of the
		Annex, since the presence of the two largest operators with lowest costs is planned to

be in many more circles than the others, the median would likely be the estimate corresponding to one of these two service providers. Also, the simple average would become closer to the cost estimate of the predominant incumbent with its operations extending to most parts of the country i.e. closer to a range of Rs. 170/- to Rs. 178/- per month.

25.	Furthermore, the Authority noted that the incumbent operator's cost estimates were based on actual orders, and the cost basis for its estimated monthly rentals passed the tests of acceptability much better than others as it fitted the framework adopted for

normation of costs for these items Moreover, the costs are likely to decline further in the next few years. The monthly rental estimates for the operator who based it on actual orders placed could, therefore, be used as a benchmark for specifying the standard tariff rental for WLL (M), especially in view of the fact that the most efficient private sector operator's estimated costs are lower. For standard tariff rental, the Authority has considered a slightly higher figure than that applicable to the estimates based on actual orders of the dominant incumbent which would balance both the objectives of greater efficiency and the incentive for inefficient service providers to reduce costs and continue providing the service as they endeavor to improve the efficiency. With this background, the Authority has specified a monthly rental of Rs. 200/- for WLL (M) as a standard tariff component. For WLL (M), the possibility of providing alternative tariffs will be the same as that for basic services in general.

26.	The Authority observed that Handset costs, on an average, works out as Rs. 6000/-. Accordingly, an operator can either ask for a Security Deposit of Rs. 6000/- or charge an additional monthly rental of Rs. 50/- for the handset, in case the same is being

provided by him to the customer.

ANNEX

Table 1. Monthly Rentals for WLL (M) Based on Moderated Costs: Network Up to SDCC Tandem

Service Provider	**Average**	**Monthly Rental Including License Fee and**			
	Monthly	**Spectrum charges**			
Rental					
Public Sector Operator	153	**10%**	**12%**	**14%**	8/23/2002
		170	174	178	
Private Sector Operator 1	290	322	330	337	
Private Sector Operator 2	250	277	284	290	
Private Sector Operator 3	136	152	155	159	
Lowest	**136**	**152**	**155**	**159**	
Highest	**290**	**322**	**330**	**337**	
http://www.trai.gov.in/wll%20rental%2004.07.htm					

Operator with extensive planned coverage (public sector)	**153**	**170**	**174**	**178**

By Order,

(Dr. Harsha Vardhana Singh)
Secretary-cum-Principal Advisor

Telecom Regulatory Authority of India Notification

New Delhi, the 6th September 2002.

No.303/8/2002-TRAI (Econ.)

In exercise of the powers conferred upon it under sub-section (2) of the section 11 of the Telecom Regulatory Authority of India Act, 1997 as amended by TRAI (Amendment) Act, 2000, the Telecom Regulatory Authority of India (TRAI) hereby makes the following order by an amendment to the Telecommunication Tariff Order, 1999 by notification in the Official Gazette, in respect of tariffs at which Telecommunication services within India and outside India shall be provided:

THE TELECOMMUNICATION TARIFF (TWENTY THIRD AMENDMENT) ORDER, 2002
(7 of 2002)

Section I

1. Short title, extent and commencement:

(i) This Order shall be called " The Telecommunication Tariff (Twenty Third Amendment) Order, 2002".

Section II

2.1 Under Section II (Definitions) of the Telecommunication Tariff Order 1999, after Sub-clause (n), of clause 2, Sub-clause (nn) shall be inserted namely;-

"(nn) “Reference Tariff Package of the Service Provider” means a package of tariffs as determined by each cellular service provider which shall specify the Monthly Rental and Airtime Charge per minute in the same format as provided earlier in the standard tariff specified under the Telecommunication Tariff Order.″

2.2 Under Section III in Clause 4 (Forbearance) of the Telecommunication Tariff Order 1999, after the existing proviso, the following proviso shall be added;-

Provided further that a cellular mobile service provider who provides any other facility based service such as Basic service, National Long Distance service or International Long Distance service in the same service area in which it is providing cellular mobile services, shall report to the Authority for its approval in respect of any new tariff and/or any changes therein at least 5 working days before its implementation. Unless the Authority intervenes within the mandatory notice period of five working days, the service provider may implement the proposed tariff.

2.3 Under Schedule II - Cellular Mobile Telecom Service (CMTS), the items and corresponding tariff shall be deleted and substituted as under:

ITEM	**TARIFF**
1. Rental and airtime charge	Forbearance provided that: Every service provider shall specify a monthly rental and airtime charge per minute with a pulse duration of 30 seconds, as a “Reference Tariff Package of the Service Provider”.
2. Refund of deposits.	All deposits (including, inter-alia, STD/ ISD
	deposits) must be refunded in full to the subscriber at the time of disconnection subject to the condition that outstanding subscriber bills, if any, may be adjusted in the final transaction.
3. Installation charge	One time installation charge may be levied by a service provider only when a customer initially gets connected to the network of the service provider. No installation charge shall be levied when a subscriber moves from one package to another offered by a service provider.
4. Roaming a) Regional & National roaming. i) Refundable Security deposit ii) Entry Fee (one time charge) iii) Monthly Access Charge for Regional and/or National Roaming. iv) Airtime charge. v) PSTN charge vi) Surcharge b) International Roaming. c) Other matters related to roaming.	Forbearance Nil Rs.100.00 as ceiling. Rs.3.00 per minute as ceiling. As applicable from time to time to the fixed network. i) 8% as ceiling on both airtime and PSTN charges till 31.12.2002. ii) 15% as ceiling on airtime component only w.e.f.1.1.2003 Forbearance. Forbearance.
5. Tariff for prepaid service	Forbearance; Provided that – a) At least one denomination of pre-paid cards offered by every Service Provider must be for an amount of Rs.300.00 or less with a corresponding validity period of at least one month. b) The charges for replacement of lost/ damaged SIM card shall be based on cost with a reasonable mark-up. c) If there is any amount that is unused at the end of the validity period, this amount should be carried over to the renewed card, if such renewal is done within a reasonable, specified period.
	d) In the case of each pre-paid card package, the customer should be prominently and clearly informed of the total amount that is available in the pre-paid card package for making calls, i.e. to pay towards usage.
6. Other matters relevant to tariff including billing cycle.	Forbearance.

Notes:

1) All initial Reference Tariff Package of the Service Providers shall be referred to the Authority by 19/9/2002. The approved Reference Tariff Package of the service provider shall be implemented from 1stOctober 2002.

2) The Reference Tariff Package shall always be available to the customer together with any other tariff offers.

3) The Service Provider shall give wide publicity to its Reference Tariff Package.

4) The Authority shall continue to monitor the tariffs in the market, and if required, shall reintroduce standard tariff package(s) for one or more licensed service areas as may be deemed necessary.

5) From time to time the TRAI will make public a comprehensive list of the Reference Tariff Packages of all CMSOs in the country through its web site and through consumer organisations registered with it to keep the public informed of all Reference Tariff Packages on offer.

Section III

This Order contains at Annex A an Explanatory Memorandum to provide clarity and transparency to the contents of this Order.

By Order,

(Dr. Harsha Vardhana Singh)
Secretary-cum-Principal Advisor

Annex A

Explanatory Memorandum

1. The market for cellular mobile telecom service (CMTS) has developed considerably since the last tariff review conducted by the Authority in 1998-99. Taking note of the developments in the last 3/4 years, the Authority felt the need to conduct another review of cellular mobile tariffs. This was also necessitated by the induction of third and in some service areas the fourth cellular operator, which has no doubt increased the level of competition.

2. The Authority began its process of consultation on cellular tariffs through a Consultation Paper in July 2002 which gave cost based estimates of tariff packages as well as average monthly rentals and airtime charge prevailing in the market. Additional cost data and rental and airtime charges based on the cost data was also provided by the Cellular Operators Association of India (COAI). The Authority has also conducted further analysis of this and other data, as well as inputs and comments received in writing in finalising this Notification.

3. During the public consultation process stake holders expressed diverse opinions on the type of tariff regulation for cellular industry at the present juncture. One view was that the cellular service market has become sufficiently competitive and market forces can regulate the tariff. In some cases, the suggestion was to specify a tariff ceiling or to have certain benchmark tariff which would be only indicative. While some of the stake holders wanted a uniform tariff package specified for the whole country, others justified

different tariff packages for different service areas, due to cost differentials in installing the network, in different areas. Some of the stake holders, particularly the cellular operators were of the view that since the prevailing tariffs in the market were very low and even below cost, the specification of a standard cost based tariff package may result in the tariff actually being increased. The Authority has considered all these view points while arriving at its decision as embodied in this order.

4. The main issue which was brought up for public consultation was whether there is need to regulate the cellular market in respect of tariff or market forces should be allowed to operate. To address the issue it would be necessary to assess the degree of competition in the market, the likely trend in the near future in this regard, the downward pressure increased competition is likely to put on the price and whether a cost based tariff will be lesser than the prevailing price level. For this purpose, an exercise was carried out to compute the cost based tariff.

5. The Authority compared the computed cost based tariffs consisting of monthly rental and airtime charge, with those prevailing in the market. The cost based tariffs based on geographical averaging of all service areas were found to be close to the market average tariffs. The Authority also considered the cost based tariff estimates submitted by COAI, and providing therein for changes in terms of certain cost items (e.g., depreciation) and subscriber base growth which in the view of the Authority are required, arrived at revised estimates from the data. These estimates are substantially lower than those projected by COAI, and provide a better reflection of the likely growth and tariff situation in the market in the near future.

6. The Authority also took account of the estimates of monthly Average Revenue Per User (ARPU) prevailing in the market, and noted the likely developments in this regard. In this context, the Authority considered two important characteristics of the growth of cellular market, namely the relatively higher growth of pre-paid subscribers in comparison to post-paid subscribers, and the fact that there has been considerable increase in the level of competition in a number of service areas. This trend is likely to be more pronounced in all service areas in the near future, with the entry of the incumbent (BSNL) as the third operator and a private operator as the fourth. The Authority also noted that CMTS will face some degree of competition also from the Wireless in Local Loop with Limited Mobility. These factors will imply further downward market pressure on tariffs/ARPU for CMTS. This will be due not only to the emerging competition but also because the new entrants in the market would base their tariffs on their relatively lower costs, and these tariffs are likely to focus on quickly acquiring a substantial subscriber base. The relatively low prevailing tariff levels, and the impact of these developments on these tariffs, imply that the market will be exerting considerable downward pressure on CMTS tariffs in the next year or so. Taking note of this emerging market scenario, the Authority is of the view that a stage has been reached, when market forces can effectively regulate cellular tariff and the Regulator has to step aside except for a broad supervision in the interest of the consumer. This Order reflects this conclusion of the Authority.

7. The Authority is aware that in certain License areas, the number of service providers may be only two. However, the fact that one of them would be Bharat Sanchar Nigam Limited a multiservice operator with presence and tariff packages relevant in

most of the license areas, suggests that there will be a basis to monitor tariffs in all service areas. For this purpose, as well as to ensure that the customers have some basis to compare the tariff packages from various service providers, the Authority has decided that each service provider should specify one tariff package in the format of the standard tariff package specified earlier by the Authority. This package will be for the post-paid service and will be termed the “Reference Tariff Package of the Service Provider”. It should give the monthly rental and airtime charge per minute, with a pulse duration for airtime charge of 30 seconds.

8. The requirement that the Reference Tariff Package of the Service Provider will be in the format of the standard tariff package will help customers who are used to the present format of monthly rental and airtime charge. This tariff package must be widely publicised by the service provider, and should always be offered to the customer who would be free to decide whether to subscribe to this package or to any alternative tariff package. The TRAI will also make public these tariff packages, in a comprehensive list which will give all such packages for different service providers. This list will be placed by the TRAI on its web site, and will be provided to the Consumer Organizations registered with it. The objective is not only to inform the customers but also to build greater awareness of the tariff differences that may exist in different markets. Such awareness on the part of the customers and the market will also exert pressure on the available tariffs.

9. In addition, the Authority will continue to monitor the tariffs both with respect to predatory tariffs as well as unduly high tariffs because operators with dominant market presence and operations in more than one service sector will always have the capacity to

do so. If the Authority considers that there is a need to specify a standard tariff package for all service areas or in specific service areas, it will do so. In addition to monitoring of the tariffs, the Authority will review its present policy after six months.

10. The Authority has not fully forborne with respect to CMTS tariffs. It continues with its decisions to limit the tariffs for national roaming, and the provision of a pre-paid card for Rs. 300/- or less with a validity period of at least one month. In this Tariff Order, therefore, the Authority has re-iterated its decisions with respect to:
- Tariff for Roaming service specified in the TTO (19th Amendment);
-
Guidelines for prepaid card specified in TTO (13th Amendment); - Provision for refund of deposits envisaged in TTO (3rd Amendment);
- Prohibition in TTO (4th Amendment) on the service providers from levying separate Installation Charge when a subscriber moves from one tariff package to another.

11. In addition, the Authority's directive dated 11th July, 2002 which specifies the various information that must be provided to the customers of pre-paid cards continues to be in effect, and the requisite information must be provided by the service providers to their subscribers.

12. Since the tariffs for CMTS are subject to forbearance in general, the reporting requirements for these tariffs are those relating to forborne tariffs. For those service providers, however, who provide certain other services in the same service area (e.g. Basic Service, National Long Distance, or International Long Distance), the Authority has decided that they should report their tariffs for CMTS at least five days prior to their implementation. These tariffs may be intervened by the Authority for regulatory reasons,

e.g. to ensure that there is no cross-subsidization between two or more services of the same service provider. However, if the Authority does not intervene within five working days of the tariff being reported to it, the tariff package may be implemented by the service provider. Also, any such tariff package should not be publicised prior to approval by the Authority, either in terms of an explicit approval or before lapse of five working days subsequent to the report being provided to the Authority. The charge of Rs. 2,000/- per tariff plan reported to the Authority for approval will continue to apply to these tariffs. The overall limit of 25 on the number of tariff packages on offer which will include both which are approved under the above category as well as those which are introduced by the operator and reported, continues to apply.

(Dr. Harsha Vardhana Singh)
Secretary-cum-Principal Advisor

Telecom Regulatory Authority of India
Notification

New Delhi , the 24th January, 2003

No. 306-2/2003-Econ

In exercise of the powers conferred upon it under sub-section (2) of section 11 of the Telecom Regulatory Authority of India Act, 1997 as amended by TRAI (Amendment) Act, 2000, the Telecom Regulatory Authority of India (TRAI) hereby makes the following order by an amendment to the Telecommunication Tariff Order, 1999 by notification in the Official Gazzette, in respect of tariffs at which Telecommunication Services within India and outside India shall be provided :

The Telecommunication Tariff (Twenty Fourth Amendment) Order 2003 (1 of 2003)

Section I
Title, Extent and Commencement

1. Short title, extent and commencement:

(i) This Order shall be called "The Telecommunication Tariff (Twenty Fourth Amendment) Order 2003".

Section II
Tariffs for Telecommunication Services

2 Tariffs

Tariffs as contained in Schedules I and II under Section III of the Telecommunication Tariff Order 1999 shall stand deleted and substituted as specified in the Schedules I and II hereto.

Section III

3. Explanatory Memorandum

This Order contains at Annex A, an explanatory memorandum to provide clarity and transparency to the tariffs specified in this Order.

BY ORDER

Dr. Harsha Vardhana Singh,
Secretary cum Principal Advisor,
Telecom Regulatory Authority of India

Schedule I
Basic Services (Other than ISDN)

ITEM	TARIFF
(1) Date of Implementation	1 April, 2003
(2) Registration Charges	Prevailing charges as on the date of this Order as ceilings
(3) Installation Charges **(3.a) Fixed line telephony service using other**	Prevailing charges as on the date of this Order as ceilings Forbearance

than wireless in local loop technology **(3.b) Fixed line telephony service using wireless in local loop technology (Fixed and Limited Mobility)**	
(4) Deposits **(4.a) Fixed line telephony service using other than wireless in local loop technology** **(4.b) Fixed line telephony service using wireless in local loop technology (Fixed)**	Not to exceed twelve month's rentals as specified from time to time Forbearance Provided that, The maximum period for deposit higher than at (4.a) above (i.e. higher than for fixed line telephony other than using wireless in local loop) is one year. At the end of one year of obtaining a wireless in local loop connection, unless the subscriber specifically demands the continuation of that connection on wireless in local loop, the additional deposit involved shall be refunded to the subscriber or interest paid on such additional deposit at the annual rate of interest for one year deposits prescribed by the State Bank of India.

(4.c) Limited Mobility telephony service using wireless in local loop technology **(4.d) Handset for Limited Mobility telephony service using wireless in local loop technology if provided by service provider**	Forbearance Forbearance
(5) Monthly Rentals For Rural Subscribers **(5.a) Fixed line telephony service including wireless in local loop technology (Fixed)**	**Capacity of local Senior Citizen Others Exchange System (Rs) (Rs.) (Number of Lines)** ---------- ---------- ---------- Up to 999 70 70 1,000 to 29,999 120 120 30,000 to 99,999 180 200 1 lakh and above 250 280 Note: The definition of Senior Citizen shall be the same as for the purpose of payment of Income Tax.
(5.b) For Limited Mobility telephony service using wireless in local loop technology **(5.c) For Limited Mobility telephony service using wireless in local loop technology if handset provided by service provider, without a deposit as stipulated in (4.d) above**	Rs.200 per month As in (5.b) above Plus Ceiling of Rs.50.00 per month. This ceiling applies to all other amounts including, for example, depreciation and insurance premium, but excluding deposits.

Notes:
(1) Rural subscribers are those who reside in a rural SDCA as specified in the new Basic Service Licenses.

(2) Capacity of the Local Exchange system is the sum of the capacities of all exchanges in a local area. Any augmentation of the local exchange capacity after the date of implementation of this Order shall automatically be taken into account for re-classification for purposes of tariffs.

(3) Short Distance Charging Area (SDCA) is one of the 2647 Local Areas whose details are provided in the Basic Service Licenses and also in the Numbering Plan wherein for each SDCA, a unique STD code is provided. Local call charges are applicable on Intra-SDCA traffic and for calls within the distance category "0 to 50 kms.".

(6) Monthly Rentals For Urban (Residential) Subscribers **(6.a) Fixed line telephony service including wireless in local loop technology (Fixed)** **(6.b) For Limited Mobility telephony service using wireless in local loop technology**	**Capacity of local Senior Citizen Others Exchange System (Rs) (Rs.) (Number of Lines)** **---------- ---------- ----------** Up to 29,999 120 120 30,000 to 99,999 180 200 1 lakh and above 250 280 Note: The definition of Senior Citizen shall be the same as for the purpose of payment of Income Tax. Rs. 200 per month As in (6.b) above Plus Ceiling of Rs.50.00 per month. This ceiling applies to all other amounts including, for example, depreciation and insurance premium, but excluding deposits. Notes: (1) Urban subscribers are those who reside in Semi-Urban or Urban SDCAs as specified in the new Basic Service Licenses. (2) Capacity of the Local Exchange system is the sum of the capacities of all exchanges in a local area.

(6.c) For Limited Mobility telephony service using wireless in local loop technology if handset provided by service provider, without a deposit as stipulated in (4.d) above	

(7) Monthly Rentals For Commercial Subscribers in Urban Areas **(7.a) Fixed line telephony service including wireless in local loop technology (Fixed)** **(7.b) For Limited Mobility telephony service using wireless in local loop technology**	**Capacity of local Exchange System (Rs) (Number of Lines)** ---------- ---------- 30,000 to 99,999 220 1 lakh and above 310 Rs. 200 per month Notes: (1) “Commercial user subscribers" shall mean and include a person and/or an establishment carrying on any trade, business or profession or any work in connection with or incidental or ancillary thereto. (2) Commercial monthly rentals are not specified separately for the lower exchange capacities.
(8) Tariff per metered call for rural subscribers **(8.a) Fixed line telephony service including wireless in local loop technology (Fixed)** **(8.b) For Limited Mobility telephony service using wireless in local loop technology**	**First 300 Metered calls per Month of the billing cycle** **Metered calls in excess of the first 300 metered calls (except for free calls) per month of the billing cycle** **(Rs.) (Rs.)** ---------- ---------- 0.80 1.20 Forbearance subject to no charge for incoming calls

(9) Free calls (or uncharged calls) for rural subscribers **(9.a) Fixed line telephony service including wireless in local loop technology (Fixed)** **(9.b) For Limited Mobility telephony service using wireless in local loop technology**	50 metered call units per month of a billing cycle No free calls shall be provided
(10) Tariff per metered call for urban subscribers **(10.a) Fixed line telephony service including wireless in local loop technology (Fixed)** **(10.b) For Limited Mobility telephony service using wireless in local loop technology**	**First 300 Metered calls per Month of the billing cycle** **Metered calls in excess of the first 300 metered calls (except for free calls) per month of the billing cycle** **(Rs.) (Rs.)** ---------- ---------- 1.00 1.20 Forbearance subject to no charge for incoming calls

(11) Free calls (or uncharged calls) for urban subscribers **(11.a) Fixed line telephony service including wireless in local loop technology (Fixed)** **(11.b) For Limited Mobility telephony service using wireless in local loop technology**	30 metered call units per month of a billing cycle. No free calls shall be provided

(12) Pulse Rate for local calls	120 seconds
(13) Domestic Long Distance Tariffs for peak hours **(13.a) For Intra-Circle calls**	**Radial distance between the long distance charging centres (Rs.) as applicable** ---------- ---------- Up to 50 kms. Same as local call charge Distance Categories Forbearance subject to a ceiling of Above 50 kms. Rs. 8.40 per minute

(13.b) For Inter-Circle calls	**Radial distance between the long distance charging centres (Rs.) as applicable** ---------- ---------- Up to 50 kms. Same as Local Call charge Distance Categories Forbearance subject to a ceiling of Above 50 kms. Rs. 8.40 per minute
	Notes: (1) Charging centres are classified as "Long Distance Charging Centre" (LDCC) and "Short Distance Charging Centre" (SDCC). (2) Charging Centre shall be the SDCCs in case of Long Distance Calls between adjacent LDCAs and within the same LDCA. (3) Charging Centre shall be the LDCCs in case of Long Distance Calls between non-adjacent LDCAs (4) Long Distance Charging Centre is a particular Trunk Automatic Exchange (TAX) in a long distance charging area as presently defined for the purpose of charging for Long Distance calls. Headquarters of a Secondary Switching Area are generally LDCCs. (5) Short Distance Charging Centre is a particular exchange in short distance charging area as presently defined for the purpose of charging trunk calls. Headquarters of Short Distance Charging Areas are generally SDCCs. (6) Country is divided into 322 Secondary Switching Area (SSA) as per the National Switching and Routing plans. It is a territory, whose boundary, generally but not necessarily, is co-terminus with those of one or more revenue Districts. (7) The Authority expects that tariffs for lower distance categories to be substantially below the ceiling. (8) The Interconnection usage charge should be paid by one operator to another as specified in the Interconnection Usage Charge (IUC) Regulation.
(14) Inter-national Subscriber Dialled calls	Forbearance

(15) Calls to Cellular Mobile **(15.i) In Metros**	Call charge of Rs. 1.20 per 90 seconds for calls from Fixed line to Cellular Mobile Tariff forbearance for calls from WLL (M)
(15.ii) In Circles	Call charge of Rs. 1.20 per 60 seconds for call from fixed line to cellular mobile Tariff forbearance for calls from WLL (M)

(16 PCOs/VPTs **(16.a) Coin Collection Boxes (CCBs)**	
(16.a.i) Tariff in rural areas	Re. 1.00 per metered call
(16.a.ii) Tariff in urban areas	Re. 1.00 per metered call
(16.b) Tariff for local call from PCOs/VPTs (other than from STD/ISD PCOs/VPTs)	Ceiling of Rs. 1.00 per metered call
(16.b.i) in rural areas	Ceiling of Rs.1.20 per metered call
(16.b.ii) in urban areas	Ceiling of Rs. 1.20 per metered call plus Ceiling of Rs. 2 for each STD/ISD call (in addition to applicable Long Distance tariff)
(16.c) Tariff for local and STD/ISD calls from STD/ISD PCOs/VPTs	Ceiling of Rs. 1.20 per metered call plus Ceiling of Rs. 2 for each STD/ISD call (in addition to applicable Long Distance tariff)
(16.c.i) in rural areas	
(16.c.ii) in urban areas	

(17) Dial-up Access charges for Internet during off-peak hours **(18) All Other Matters Relevant to Tariffs, including billing cycle, and special and supplementary services not elsewhere specified**	Reduced Dial-up charges for off-peak hours to be provided to ISPs using both access codes 172 XXX through E1/R2 lines and ISDN PRI Access code Forbearance
EXPLANATORY NOTES: **(a) Rural subscribers**	Subscribers residing in SDCAs specified as Rural in the new Basic Service License.
(b) Urban subscribers	Subscribers residing in SDCAs specified as Semi-Urban and Urban in the new Basic Service License.
(c) Standard tariff package(s)	A standard tariff package provides basic services at the tariffs specified in the schedule, and includes the specified number of free calls. Different rentals prescribed for the three categories of subscribers in (a) to (c) above imply that three different standard tariff packages are specified in this schedule.
(d) Alternative tariff packages	Alternative tariff and free call allowance could be offered to subscribers by service providers, in addition to those offered in the standard tariff packages. In the "alternative tariff packages", items for which tariffs are specified in terms of a ceiling will continue to be subject to the specified ceiling. Items for which a specific amount of tariff is shown in this schedule (e.g. rentals and call charges) may have any alternative tariff in the "alternative tariff package". Similarly, an alternative free call allowance could be provided in an "alternative tariff package" subject to a ceiling of 25 on total number of alternative tariff plans on offer.

(e) Mandatory provision of standard packages	Subscribers must have the option of getting basic services (other than ISDN) at tariffs and free call allowance specified in this schedule. In addition, the service provider may offer alternative tariff packages to the subscribers. The subscriber shall be free to choose among various tariff and free call offers available
(f) Capacity of Local Exchange system (SDCA)	The sum of the capacities of all exchanges in a local area. Any augmentation of the exchange capacity after the date of implementation of this Order shall automatically be taken into account for re-classification for the purposes of tariffs.
(g) Short Distance Charging Area (SDCA)	Short Distance Charging Area (SDCA) is one of the 2647 Local Areas whose details are provided in the Basic Service Licenses and also in the Numbering Plan wherein for each SDCA, a unique STD code is provided. Local call charges are applicable on Intra-SDCA traffic and for calls within the distance category “0 to 50 kms”.
(h) Charging Centres	Charging centres are classified as "Long Distance Charging Centre" (LDCC) and "Short Distance Charging Centre" (SDCC). For adjacent SDCAs, SDCC is the reference Charging Centre. For non-adjacent SDCAs, LDCC is the reference Charging Centre.
(i) Long Distance Charging Centre (LDCC)	Long Distance Charging Centre is a particular Trunk Exchange in a long distance charging area as presently defined for the purpose of charging for trunk calls. Headquarters of a Secondary Switching Area are generally LDCCs.
(j) Short Distance Charging Centre (SDCC)	Short Distance Charging Centre is a particular exchange in short distance charging area as presently defined for the purpose of charging trunk calls. Headquarters of Short Distance Charging Areas are generally SDCCs.
(k) Secondary Switching Area (SSA)	Secondary Switching Area (SSA) is a territory, whose boundaries, generally but not necessarily, are co-terminus with those of a revenue District and in which normally one Trunk Automatic Exchange is located.

Schedule II

Cellular Mobile Telecom Service (CMTS)

ITEM
(1) Date of Implementation
(2) Rental and airtime charge
(3) Refund of deposits.
(4) Installation charge

TARIFF

1 April, 2003	
Forbearance provided that: Every service provider shall specify a monthly rental and airtime charge per minute with a pulse duration of 30 seconds, as a "Reference Tariff Package of the Service Provider". No airtime charge for incoming calls in any of the tariff package i.e. Reference/Alternative.	
All deposits (including, inter-alia, STD/ ISD deposits) must be refunded in full to the subscriber at the time of disconnection subject to the condition that outstanding subscriber bills, if any, may be adjusted in the final transaction.	
One time installation charge may be levied by a service provider only when a customer initially gets connected to the network of the service provider. No installation charge shall be levied when a subscriber moves from one package to another offered by a service provider.	
(5) Roaming **5.a) Regional & National roaming.** **5.a.i) Refundable Security deposit** **5.a.ii)Entry Fee (one time charge)** **5.a.iii)Monthly Access Charge for Regional and/or National Roaming.** **5.a.iv)Airtime charge**	Forbearance Nil Rs.100.00 as ceiling. Rs.3.00 per minute as ceiling.
5.a.v)PSTN charge **5.a.vi)Surcharge** **5.b)International Roaming. 5.c)Other matters related to roaming.**	
As applicable from time to time to the fixed network. 15% as ceiling on airtime component only Forbearance. Forbearance.	
(6) Tariff for prepaid service	Forbearance; Provided that – a)At least one denomination of pre-paid cards offered by every Service Provider must be for an amount of Rs.300.00 or less with a corresponding validity period of at least one month. b)The charges for replacement of lost/ damaged SIM card shall be based on cost with a reasonable mark-up. c)If there is any amount that is unused at the end of the validity period, this amount should be carried over to the renewed card, if such renewal is done within a reasonable, specified period. d)In the case of each pre-paid card package, the customer should be prominently and clearly informed of the total amount that is available in the pre-paid card package for making calls, i.e. to pay towards usage.
(7) Other matters relevant to tariff including billing cycle.	Forbearance.

Notes:

1) The Reference Tariff Package shall always be available to the customer together with any other tariff offers.

2) The Service Provider shall give wide publicity to its Reference Tariff Package.

3) The Authority shall continue to monitor the tariffs in the market, and if required, shall reintroduce standard tariff package(s) for one or more licensed service areas as may be deemed necessary.

4) From time to time the TRAI will make public a comprehensive list of the Reference Tariff Packages of all CMSOs in the country through its web site and through consumer organisations registered with it to keep the public informed of all Reference Tariff Packages on offer.

ANNEX "A"

EXPLANATORY MEMORANDUM

1. The Twenty Fourth Amendment to the Telecommunication Tariff Order ("TTO"), 1999, the first Tariff Order during 2003, is an outcome of the deliberations carried out by the Authority through its Consultation Papers and its Open House Discussions on Tariffs for Basic Services, Tariff for Cellular Mobile Services, Issues relating to Interconnection between Access Providers and National Long Distance Operators and the Reference Interconnect Offer (RIO). It also synthesizes the various responses and inputs received through the Consultation Papers and suggestions from various quarters.

2. The objective of this Explanatory Memorandum is to provide a clear and transparent exposition of the Order ("TTO 2003") which provides retail tariffs for basic and cellular mobile services. The TTO 2003 builds upon the tariff regime that was earlier put in place through the TTO of 1999. TTO 1999 implemented a phased tariff re-balancing to prepare the market situation for the ensuing competition, so that the adjustment required by the incumbent to the sharp price decline due to competition would be mitigated when such a decrease takes place. The competition in the market, with the entry of additional service providers in both the national long distance and the international long distance segments, has led to a further, large decrease in the prices for these services. While this has led to a drop in the above cost tariffs, the below cost or near cost tariffs could not increase because they were specified at particular levels to take account of the social objectives.

3. The drastic reduction in long distance call charges implies that the source of cross- subsidy that was earlier available to cover the below cost tariffs, has been reduced to a major extent. This implies a need for two types of policy changes. One, to increase the below cost prices so that these cover at least some part of the uncovered costs, and the second that to the extent that costs of access are not covered by the tariffs, an access deficit charge ("ADC") should be given to the access provider who incurs access deficit. In this regard, it is worth noting that the fixed service provider incurs

an access deficit due to the rental being below cost, the provision of free calls, and call charge for certain calls being below cost. On the other hand the cellular mobile and Wireless in Local Loop with limited mobility (WLL-M) services are able to recover all their costs.

4. The Authority has taken account of these factors and has determined an interconnection usage charge (IUC) regime for basic and cellular mobile services service, which is given in a Regulation notified separately. That Regulation also addresses the amount of access charge payment to be made to basic service provider by cellular mobile for its calls within a License area (intra-Metro or intra-Circle), and vice versa.

5. The IUC regime is not independent of tariffs, because the amount of ADC to be covered from various calls depends inter alia on tariffs. Thus, in determining tariffs, the Authority had to consider the objective of affordability as well as not fixing too high an ADC which would become a handicap for the fixed line segment of the market in competing with cellular mobile and WLL-M.

6. Therefore, the tariffs have been determined in such a manner that the objective of NTP 1999 can be achieved while maintaining the sustainability of the fixed line segment of the market, which is and shall continue to be the dominant portion of the market for some time to come. If the ADC is not recovered, the sustainability of the fixed line service will become increasingly difficult.

7. At the same time, if the prices of local call and shorter distance calls are kept at (or close to) the prevailing levels, the shortfall to be covered through ADC will be more and will have to be recovered either through increasing monthly rental or by increasing the call charge for long distance calls. An increase in monthly rentals would have a relatively low impact on reducing the ADC (an average increase in monthly rental of Rs. 4.50 for all subscribers is equivalent to a general increase in call charge of 1 paise per minute), and in addition a large increase in monthly rentals would adversely affect the demand for phone connections. This would lead to inability in achieving the teledensity targets for our country. On the other hand, if rental is not increased at all, 19

the call charges for long distance calls would have to be increased to a larger extent by the fixed network, making it un-competitive with WLL-M and cellular mobile.

8. Thus, it is necessary to increase local and short distance call charges even as it is ensured that such increases are the very minimum and the recovery of the balance ADC takes place as far as possible from the long distance call charges in a sustainable manner.

9. To the extent that the Authority provides ADC to the service provider, the requirement for USO will be minimized. The USO will, however**,** still be required because while the ADC will cover the costs for SDCAs with average costs, there will be SDCAs with higher costs whose costs will individually not be covered by the ADC payments. It is nonetheless expected that with an increased size of the network, the overall cost and the USO requirements will fall over time.

Tariffs For Basic Service

10. The analysis of the tariffs for basic service notified in Schedule I takes account of the recent developments in the License regime and the competition that has manifested itself in the market for basic service (including WLL-M), national and international long distance services, and the cellular mobile service. These developments need to be combined with several other concerns, including for example:

- the NTP 1999 objective of affordability and an increase in teledensity; - the extent of competition in the three segments of the telecom market namely access provision, DLD and ILD;
- whether to continue with the existing tariff framework of tariff regulation through standard tariff package (STP) and alternate tariff package (ATP); and
- concerns regarding level playing field among various services.

11. Today, there is a stronger conflict between balancing the social and the commercial objectives of the basic service providers, than was the case at the time of the Telecommunication Tariff Order (TTO) 1999. In order to gain a better perspective on 20

the issue of affordability, the Authority made detailed studies and commissioned the National Council of Applied Economic Research (NCAER) to carry out studies and submit a report on this issue. Two reports titled 'Telephone Study, 2002' and 'Affordability of Telecommunication Services, 2002' were received from them.

12. The first was a survey of the consumers covered in the overall expenditure survey made by NCAER to determine the levels of monthly rental and call charge that were considered as affordable by the existing as well as the potential subscribers of basic services. The second study carried out an analysis of the data on affordability and income levels of various subscribers, and identified the willingness of various subscribers in diverse urban and rural areas in various States and the metropolitan cities. The results of the study indicated that the monthly rentals and call charges should remain low, with minimal changes being made to the tariff regime, in particular for the rural subscribers.

Monthly rentals

13. TRAI's examination of the issue of affordability suggests that it continues to be critical and the rentals as well as the call charges will need to be regulated to make these affordable to customers at different levels. The Authority has therefore decided that the monthly rentals for exchange capacity of upto 29,999 lines should not increase and even in the higher capacity exchanges increase should be minimal. Most of the rural subscribers are in the categories for which rental has not been increased. In this regard, the Authority has also taken into account the fact that the growth rate for subscribers in these rural areas is low, and an increase in monthly rentals could affect it adversely.

14. The Authority also considered the submissions from various stakeholders on the determination of monthly rentals. As in the case of the previous consultations on basic service tariffs, the views cover an entire spectrum of opinions, ranging from decrease in monthly rental together with an increase in free calls, to an increase in monthly rental and doing away with free calls. The Authority therefore has decided to increase the monthly rentals only in the two largest categories for the purpose of rentals.

15. The Authority had received various submissions from Senior Citizens forum as well as individuals on keeping the rentals lower for Senior Citizens. The Authority therefore has decided to keep the monthly rentals unchanged for Senior Citizens.

16. The Authority then considered whether it should provide separate and higher monthly rentals for commercial subscribers. It took account of the recent experience in the market where the possibility of charging higher rentals from commercial subscribers and of providing lower free calls was not exercised by any of the service providers. The

Authority however was of the considered opinion that higher rental for commercial subscribers is eminently justified as they must pay tariffs which are as close to the cost of the service as possible. It has, therefore, decided that commercial rentals would be valid for urban areas as per the levels specified in TTO 1999, for the two highest monthly rental categories. These higher levels have yet not been given effect by the operators.

17. This Order re-iterates for WLL-M, the cost-based monthly rental that has been specified by the Authority after its first review of these rentals, i.e. Rs. 200 per month.

18. In view of the objective of keeping monthly rentals low, there is a need to specify a standard tariff package. The Authority is therefore continuing with such a package as a regulatory mechanism for ensuring a minimum tariff combination being available to the customers.

Local Call Charge

19. The Authority received feedback from various stake holders with respect to their suggestions on local call charges. While some of the suggestions related to reducing the existing duration of local calls from 3 minutes, a few others mentioned that number of pulses at the beginning of calls should be higher and at a later stage should be lower. Yet another genre of suggestions was that the tariff for a local call should be in two steps, viz for call set up and for the duration. This however was not considered by the Authority as the feedback was that it could be difficult to implement in the billing systems employed by different operators.

20. In a large number of cases, the view was that the there was need to bring about cost orientation in local call charges and that the unit of timing should be suitably recalibrated for this purpose.

21. As shown in the Authority's analysis of the IUC, if all of the ADC is to be equally distributed on all the minutes of use, then the local call charge should be Re. 1.00 per minute to cover costs. This charge, however, would be too burdensome on the consumer and would not encourage the usage of telephones. A large portion of the total subscriber base today uses the telephone mainly for local calls, and increasing the local call charge to cover costs would adversely affect affordability for these subscribers. At the same time, with the long distance call charges falling precipitously, the source of cross subsidy to bear the ADC has now gone virtually dry. Thus, some increase in the local call charge is inescapable if the fixed line service has to be made sustainable.

22. The Authority has given considerable thought to the conflicting concerns mentioned above, and has reached the conclusion that it will not alter the existing call charges, but the change in call charge will be brought about by altering the pulse duration, free call limit, and the threshold level above which the call charge of Rs. 1.20 applies.

• The call charge for initial calls will remain the same in both the rural as well as in urban area, respectively at Rs 0.80 and Re. 1.00 for the first 300 pulses, and will be 1.20 thereafter.

• The pulse duration for local calls will be 120 seconds, as a predominant portion of the calls are of a duration less than two minutes.

• The Authority has provided IUC for calls to and from WLL(M) also.

Taking account of the competition in the WLL(M) segment, the Authority has forborne with respect to calls from WLL(M). Incoming calls would remain free.

Long Distance Call Charge

23. As mentioned above, competition in the long distance market has led to a sharp fall in prices. This provides a basis for considering forbearance for these tariffs. However,

there are two important issues to consider in this regard. One pertains to the tariffs of STD calls for short distances, and another relates to the sustainability of fixed line service if the long distance tariffs continue to fall. As shown below, the Authority has decided in favour of a partial forbearance for long distance tariffs, namely that the tariffs for certain shorter distance calls have been specified but the tariffs for longer distance calls have not been specified.

24. For long distance call charge, a strong view was presented in favour of tariff forbearance, while there was also a proposal that these tariffs should have a floor and a ceiling.

(a) Distance categories of "0 to 50 kms" Intra-License area and Inter-License area calls 25. At present, the tariffs for "0 to 50 kms." STD calls (both intra- and inter-circle) are the same as that for local calls. These calls therefore are seen by the consumers as if they were local calls, and the consumer reaction to tariffs for such calls would be similar to a change in the local call charge. Moreover, in rural areas, such tariffs have provided a basis for enhanced usage of such calls. It has also led to a greater community of interest being established over these distances. The Authority has, therefore, decided that for these distance categories, i.e. for "0 to 50 kms" Intra-License area and Inter-License area calls, the call charge should be the same as for local calls. This will maintain the ease of calling over relatively shorter distances provided in the present tariff regime, and will be beneficial in particular for the rural subscribers.

26. It should be noted that the Authority is not in favour of the application of local call tariffs for neighbouring SDCAs. Because of compelling economic reasons all such calls are to be clearly categorized and treated as either local calls or long distance calls going by their distance and charged accordingly. Some of these calls involve carriage over long distances, even hundreds of kilometers.

(b) Other Distance categories

27. In recent months, the TRAI has analyzed the costs of providing long distance calls in the context of its IUC exercise. Judging from these results, it is possible that competition in the long distance market may lead to even lower prices for these calls.

While this would in general be good for the consumer in the short run, such a price development would make it more difficult to recover the ADC from long distance tariffs for the fixed line phones. With the imposed below cost tariffs (i.e. prices that do not cover average ADC) for monthly rental and local calls the fixed line service will be unable to recover the ADC from the long distance tariffs. This would make the sustenance of this service even more difficult. In this background the incumbent operator has suggested that TRAI should fix a floor to the long distance tariffs to help the viability of the fixed line service. This suggestion is also to address the possibility of below cost pricing by any long distance service provider.

28. The Authority considers it undesirable to fix a floor on a price in a competitive market, because this prevents the benefits of competition to be passed on to the customer. The IUC charges will implicitly function as a floor to the tariffs. Further, in addition to specifying the tariffs for distance categories "0 to 50 kms." for intra-circle calls and inter-circle calls, the Authority has decided to offer forbearance for long distance calls, subject to a ceiling of Rs. 8.40 per minute.

29. Schedule I addresses intra-circle and inter-circle long distance calls separately. This makes it possible to ascertain the applicable tariffs for the national long distance calls (i.e. those that can be carried only by an NLDO) and other long distance calls which are intra-circle calls.

Inter-network calls made within the License area

30. These are calls made within a metro or within a circle from basic service to cellular mobile.

31. For calls within a circle from fixed line to cellular mobile, the Authority has fixed a charge of Rs. 1.20 per minute. These calls enable the subscriber to access the cellular mobile subscriber over a large area, and they normally involve carriage from the basic service subscriber beyond the SDCA. The cost of carriage therefore has also to be obtained from such a call charge, and Rs. 1.20 per minute has been fixed taking these factors into account. Details on IUC for the various calls are in the Regulation on IUC.

32. For calls from basic service to cellular mobile in metros that are classified as separate License areas for cellular mobile, i.e. Chennai, Delhi, Kolkata and Mumbai, the calls charge will be Rs. 1.20 per 90 seconds. Details on IUC for the various calls are in the Regulation on IUC.

International Calls

33. The tariffs for international calls have also decreased sharply, and are likely to decrease further. The Authority has decided to forbear with respect to the tariffs for these calls.

Free Calls

34. During its consultations, the service providers suggested that free calls should be given up or drastically curtailed, and the consumers were of the view that these calls should be increased. The Authority is of the opinion that similar to the policy of intervention in the case of local call charge, an allowance of free calls should also be maintained, but the extent of the free calls may be recaliberated.

35. The free call allowance is as follows:

• Rural subscriber: 50 metered call units per month of the billing cycle • Urban subscriber: 30 metered call units per month of the billing cycle

36. For WLL-M, there are no free calls in the standard tariff package.

Peak/Offpeak hours

37. With the drastic fall in long distance tariffs, the difference between peak and off-peak call charge may not remain substantial. In view of the dramatic price developments in the market and the fact that the ADC requires tariffs in line with those prevailing in the market, the Authority has decided to forbear with respect to peak/off-hours and left the decision on this matter to the service provider.

Other issues

38. The Authority have received representations from some ISPs regarding extending the same facility for ISPs using ISDN PRI Access code for dialup access for Internet Service, e.g. 373XXXX. The Authority is of the opinion that the facility of reduced dialup charges for Internet access during off peak period should be available to all the users of Internet services irrespective of the nature of junction lines i.e. E1/R2 or ISDN PRI utilized by ISPs.

Tariffs For Cellular Mobile Service

39. The tariff for cellular mobile are provided in Schedule II. In the case of tariffs for cellular mobile service, the Authority has been guided by the fact that the cellular sector has witnessed substantial growth and tariffs in the cellular sector have also been subject to declining trends due to the competition prevalent in the market.

40. The key consideration in outlining the policy regime for the cellular services was to see the continuance of the market mechanism playing its role in conformity with the dictates of competition. To this end , it was felt that apart from roaming which would still continue to be regulated, as per the provisions of the 23rd amendment to the TTO 1999, the Authority would reiterate continued forbearance for outgoing calls in the sector.

41. To this extent, it was felt that as cellular tariffs, i.e. rental and originating airtime are market driven, there is only the need to fix the mobile termination charge (MTC) on the basis of the costs involved in termination.

42. The Authority has decided that with the payment of MTC, the receiving party shall not pay for any incoming airtime for cellular mobile.

Telecom Regulatory Authority of India Notification

New Delhi, the 12th March 2003

No. 306-2/2003-Econ

In exercise of the powers conferred upon it under sub-section (2) of section 11 of the Telecom Regulatory Authority of India Act, 1997 as amended by TRAI (Amendment) Act, 2000, the Telecom Regulatory Authority of India (TRAI) hereby makes the following order by an amendment to the Telecommunication Tariff Order, 1999 by notification in the Official Gazette, in respect of tariffs at which Telecommunication Services within India and outside India shall be provided:

THE TELECOMMUNICATION TARIFF (TWENTY FIFTH AMENDMENT) ORDER 2003
(2 of 2003)

Section I
Title, Extent and Commencement

1. Short title, extent and commencement:

(i) This Order shall be called “The Telecommunication Tariff (Twenty Fifth Amendment) Order 2003”.

Section II

2. Amendment to Schedule I

In partial modification of schedule I to The Telecommunication Tariff (Twenty Fourth) Amendment Order, 2003, the following additions /substitutions/ modifications are made in the said order :-

Schedule I
Basic Services (Other than ISDN)

(The date of implementation for these tariffs shall be April 1, 2003)

Item	Tariff

Note (1) at the end of Item (5)	(1) Rural subscribers are those who reside in a rural SDCA as specified in the new Basic Service Licenses. **Shall be substituted to read as under:-** (1) Rural subscribers are those who reside in rural areas. For the purpose of this schedule, the definition of rural area shall be the same as used in conducting the Census of India.
Note (1) at the end of Item (6)	(1) Urban subscribers are those who reside in Semi-Urban or Urban SDCAs as specified in the new Basic Service Licenses. **Shall be substituted to read as under:-** (1) Urban subscribers are those who reside in urban areas. For the purpose of this schedule, the definition of urban area shall be the same as used in conducting the Census of India.
Note (a) & (b) of the Explanatory Notes	(a) Rural subscribers: Subscribers residing in SDCAs specified as Rural in the new Basic Service License. (b) Urban subscribers: Subscribers residing in SDCAs specified as Semi-Urban and Urban in the new Basic Service License. **Shall be substituted to read as under:-** (a) Rural Subscribers: Subscribers residing in rural areas. For the purpose of this schedule, the definition of rural area shall be same as used in conducting the Census of India. (b) Urban Subscribers:- Subscribers residing in urban areas. For the purpose of this schedule, the definition of urban area shall be same as used in conducting the Census of India.

Item (17) Dial-up Access charges for Internet during off-peak hours	Reduced Dial-up charges for off-peak hours to be provided to ISPs using both access codes 172 XXX through E1/R2 lines and ISDN PRI Access code **Shall be substituted to read as under:-** Reduced Dial-up charges for off-peak hours to be provided to the customers of ISPs using both access codes 172 XXX through E1 / R2 lines and through ISDN PRI Access. The off-peak hours shall be from 8 P.M. TO 8 A.M on all days.

Section III

3. Explanatory Memorandum

This Order contains at Annex A, an explanatory memorandum to provide clarity and transparency to the tariffs specified in this Order.

BY ORDER

[Dr. Harsha Vardhana Singh]
Secretary cum Principal Advisor,
Telecom Regulatory Authority of ndia

Annex "A"

EXPLANATORY MEMORANDUM

1. The Authority notified the Telecommunication Tariff (24th Amendment) Order, 2003 on January 24, 2003 which inter-alia contains Schedule I pertaining to Tariffs for Basic Services. This Schedule amended the definition of rural subscribers to make it consistent with the operational criterion for USO programme and the licence terms. Under the USO programme financial support for rural telephony is provided to rural SDCA's, which number less than 500 in total and

form less than one-sixth of the total number of SDCAs.

2. In view of this, the Authority wrote to the Department of Telecommunications ("DOT") and the Universal Service Fund ("USF") Administrator, mentioning the reason for the change and noting that due this change in the definition, rural subscribers residing in SDCAs not specified as rural would get excluded from the low rentals/call charges which would be available to them in terms of the earlier definition. It was therefore felt that there was a need to re - look at the parameters based on which SDCAs are being specified as rural and redesignate SDCAs as rural or otherwise on the basis thereof. The view was that by doing so it will be possible to ensure extension of special facilities to rural subscribers in line with the USO programme and its funding. However, the Authority also noted in its communication that if it is not possible to review and develop more comprehensive parameters on the basis of which most SDCAs with marked rural subscriber base could qualify as rural SDCAs, adoption of the new definition, although helpful in focussing on the implementation of the USO programme would not be desirable as it could result in exclusion of a fairly large number of SDCAs from the rural category, affecting a sizable portion of the user population.

3. The Authority has received replies from the USF Administrator and the DOT. The former is of the view that the SDCA would be an appropriate concept for the purpose of deciding support from the USF, but the examination of the implications of the definition of rural subscribers does not fall in its purview. In its reply DOT notes that at present subscribers residing in rural areas are classified as per the Census, and are being charged tariffs for basic service as prescribed by TRAI for rural subscribers; the initial Telecommunication Tariff Order ("TTO") 1999 specified rural and urban consumers in terms of the Census definition. It mentions that with the 2001 Census, many of the SDCAs earlier classified as rural would have already migrated to semi urban or urban categories. In DoT's view "as expressed by TRAI, there would not be much point in changing the definition of rural subscribers even if it helps focused implementation of USO programme."

4. The Authority has taken note of the fact that neither the USF Administrator nor the DoT appears to be in a position to review urgently and specify the parameters which will help define rural SDCAs beyond the present classification decided for roll out obligations to be fulfilled by the licensees in terms of their licenses. The scope of the definition of rural subscribers goes beyond this objective. In this background, the Authority is of the view that the definition of rural/urban subscribers should continue to be the same as used earlier in TTO 1999, i.e. it should be based on the Census of India.

5. Another issue that has been addressed by this Order is the timing of the off-peak hours during which concessional tariffs are provided for dial up internet. In the 24th Amendment to TTO, 1999 the Authority decided to forbear with respect to peak/off-peak hours in view of the recent changes made in the dial up charges, and the stipulation of the Authority that such tariffs should be applied in a non-discriminatory manner for dial up to any ISP. The recent Tariff Order and IUC Regulation address the objectives of sustainability of the basic services and the provision of IUC compatible with affordable tariffs. The Consultation Paper which formed the basis for these tariffs and IUC

included discussion on another important objective, namely cheaper dial up access to internet. This objective has not been addressed in the 24th Amendment to the TTO 1999, and needs to be specifically addressed. The TRAI has been discussing this matter for some time with the Basic Service Operators, and in recent weeks, having further consulted the service providers on this issue noted that various methods are being examined to address this matter in the near future. In this context the Authority has also taken note of the fact that the recent changes in the national long distance tariffs for more than 500 kms. (which account for a substantial share of the long distance calls) will lead to a more evenly distributed usage pattern throughout the entire day for these calls. This will imply lower pressure on the network due to these calls during the off-peak period. Fixing longer off peak hours for Dial-up Internet access is, therefore, one of the ways in which the impact of the recent tariff changes in terms of the 24th Amendment to TTO 1999 on access to internet can be contained without negating the validity of the objectives underlying the tariff changes for basic service. The present off peak hours offer little choice to the users in terms of time and are such that a large majority of users can not easily take advantage of the concessionary rate available during the period. Keeping these factors in view, while the Authority will continue to explore with the basic services providers ways to reduce substantially the charges for dial-up access to internet, as an immediate measure to mitigate the impact of rise in basic service tariff on the internet users specifically extend the duration of off-peak concessional usage available to the consumers. The Authority has, therefore, decided to extend the presently offered off peak hours between 10.30 PM and 6.30 AM by two & half hour on one side and one & half hour on the other side and specify that the off-peak period for this purpose will be from 8 p.m. to 8 a.m. during which the service providers will offer

concessionary rates for dial up access to the internet. Although at this stage the Authority is not specifying the extent of concession that is to be offered in the off peak hours leaving it flexible depending upon the individual operators and the market forces, it would keep a close watch on the functioning of this arrangement and should it at any time observe that the measure is not having the desire effect it would intervene and, if necessary, specify the extent of concession as well. The concerns of the basic service operators about recovery of their costs having being largely taken care of through the new IUC regime and the 24th Amendment to the Tariff Order, it is reasonable to expect that the operator can now, on their own offer affordable concessionary rates for dial up access to the internet, at least, in the off peak hours.

Telecom Regulatory Authority of India Notification

New Delhi, the 27th March, 2003

No. 306-2/2003-Econ

In exercise of the powers conferred upon it under sub-section (2) of section 11 of the Telecom Regulatory Authority of India Act, 1997 as amended by TRAI (Amendment) Act, 2000, the Telecom Regulatory Authority of India (TRAI) hereby makes the following order by an amendment to the Telecommunication Tariff Order, 1999 by notification in the Official Gazette, in respect of tariffs at which Telecommunication Services within India and outside India shall be provided:

THE TELECOMMUNICATION TARIFF (TWENTY SIXTH AMENDMENT) ORDER 2003
(3 of 2003)

Section I
Title, Extent and Commencement

1. Short title, extent and commencement:

(i) This Order shall be called “The Telecommunication Tariff (Twenty Sixth Amendment) Order 2003”.

Section II

2. In Schedule I & II of the Telecommunication Tariff (24th Amendment) Order, 2003, the date “1 April, 2003” wherever it appears in these schedules shall be deleted and substituted by the date 1st May, 2003.

Section III

3. Explanatory Memorandum

This Order contains at Annex A, an explanatory memorandum to provide clarity and transparency to the tariffs specified in this Order.

BY ORDER

[Dr. ROOPA R. JOSHI]
Advisor (Economic)

Annex “A”

EXPLANATORY MEMORANDUM

1.	The objective of this Explanatory Memorandum is to put in focus the background for this Amendment i.e. 26th Amendment to TTO, 1999. The Authority had notified the 24th Amendment to TTO on 24.1.2003 wherein

service providers were to implement the requisite Standard Tariff Package with effect from 1st April, 2003 while also bringing into effect the IUC regime notified under the IUC Regulation, 2003 notified on 24.1.2003 to be implemented from 01.04.2003.

2.	The various proposed alternative tariff plans have been received from service providers during the period 10th to 24th of March, 2003 and need

detailed consideration / revision. These have been communicated to the service providers concerned and they have been required to file tariff plans in consonance with the IUC regime to the Authority complying with the provisions of the 24th Amendment to the TTO. In addition to the above, the fact that consumers need to be informed on the choices available pursuant to the contours of the Standard Tariff Plan outlined in 24th Amendment to TTO and the consequent alternative tariff plans, the Authority felt that it would be in the interests of the consumers that end users are informed well in advance about the various plans by different service providers, for which all tariff plans should be filed with the Authority by 03.04.2003 to be implemented by 01.05.2003.

3. In view of the above, the Authority has decided that the revised date of implementation would now be 01.05.2003. All service providers are required to provide their tariff plans to the Authority in conformity with the 24th Amendment to TTO & IUC Regulation by 03.04.2003 for implementation on 01.05.2003.

Telecom Regulatory Authority of India Notification
New Delhi, the 25th April 2003.

No.303/ 6 /2003-TRAI (Econ.)

In exercise of the powers conferred upon it under sub-section (2) of the section 11 of the Telecom Regulatory Authority of India Act, 1997 as amended by TRAI (Amendment) Act, 2000, the Telecom Regulatory Authority of India (TRAI) hereby makes the following order by an amendment to the Telecommunication Tariff Order, 1999 by notification in the Official Gazette, in respect of tariffs at which Telecommunication services within India and outside India shall be provided:

THE TELECOMMUNICATION TARIFF (TWENTY SEVENTH AMENDMENT) ORDER, 2003
(4 of 2003)

Section I

1. Short title, extent and commencement:

(i) This Order shall be called " The Telecommunication Tariff (Twenty Seventh Amendment) Order, 2003".

Section II

2.	*(i)* Under Clause 4 of Section III (Forbearance) of the Telecommunication Tariff Order, 1999, the proviso to the said clause (which was inserted vide 21st Amendment to TTO) shall be deleted and substituted to read as under;

"Provided that the service provider shall comply with the reporting requirements as specified in the Telecommunication Tariff Order, 1999 and the Telecommunication Tariff (Seventeenth Amendment) Order, 2002 (1 of 2002) dated 22.1.2002 in respect of such tariff."

3.	(ii) Clause 2.2 of Section II of the Telecommunication Tariff (Twenty Third Amendment) Order, 2002 (7 of 2002) dated 6.9.2002 shall be deleted.

Section III

This Order contains at Annex A as an Explanatory Memorandum which

explains the reasons for this amendment to the Telecommunication Tariff

Order, 1999.

By Order,

(Dr. Roopa R. Joshi)

Advisor (Economic)

Annex - A
EXPLANATORY MEMORANDUM
1. The Telecommunication Tariff Order (17th Amendment), dated 22.01.2002 vide Section II stipulates the provisions in respect of Reporting Requirement for tariff for all telecom services including those under forbearance.

2. Vide TTO (21st Amendment) dated 13.06.2002, the Authority decided that service providers shall file their tariff plans in respect of tariffs which are under forbearance for information and record of the Authority within seven days from the date of implementation. Further, the Authority vide TTO (23rd Amendment) dated 6th September 2002 stipulated that any cellular mobile service provider who provides any other facility based service such as Basic Service, National Long Distance Service or International Long Distance Service in the same service area in which it is providing cellular mobile services, shall report to the Authority for its approval in respect of any new tariff and/or any changes therein at least 5 working days before implementation.

Meanwhile with the issue of the 24th Amendment Order dated 24th January2003 and the IUC Regulation dated 24th January 2003, the Authority observed that ensuring compliance of tariffs with IUC regulation,2003 is of cardinal importance. In addition, the compliance to regulatory principles of non-discrimination and predatory pricing is also of utmost importance. The Authority, therefore, decided that the provisions of the reporting requirement need to be amended from the existing system and changed so as to be equally applicable to all

service providers. In other words, with the notification of this amendment, all service providers shall have to report all tariffs including those under Forbearance as per the provisions of reporting

requirements	specified	in	the	TTO	(17THAmendment)	dated

22.01.2002.

Telecom Regulatory Authority of India Notification

New Delhi, the 5th November 2003

No. 301-51/2003-Econ

In exercise of the powers conferred upon it under sub-section (2) of section 11 of the Telecom Regulatory Authority of India Act, 1997 as amended by TRAI (Amendment) Act, 2000, the Telecom Regulatory Authority of India (TRAI) hereby makes the following order by an amendment to the Telecommunication Tariff Order, 1999 by notification in the Official Gazette, in respect of tariffs at which Telecommunication Services within India and outside India shall be provided:

THE TELECOMMUNICATION TARIFF (TWENTY EIGHTH AMENDMENT) ORDER 2003
(5 of 2003)

Section I
Title, Extent and Commencement

1. Short title, extent and commencement:

(i) This Order shall be called "The Telecommunication Tariff (Twenty Eighth Amendment) Order 2003".

Section II

Tariffs for Telecommunication Services

2. Tariffs

Tariffs as contained in Schedule I under Section II of the Telecommunication Tariff (24th Amendment) Order, 2003 shall stand deleted and substituted as specified in the Schedule hereto.

Section III

3. Explanatory Memorandum

This order contains at Annexe A, an explanatory memorandum to provide clarity and transparency to the tariffs specified in this Order.

BY ORDER

[Dr. Harsha Vardhana Singh]
Secretary cum Principal Advisor,
Telecom Regulatory Authority of
India

Schedule I

Basic Services (Other than ISDN)

Tariffs as contained in Schedules I of the Telecommunication Tariff (24th

Amendment)	Order,	2003	shall	stand	deleted	and	kept	under

"***FORBEARANCE"*** except for the following items:

Item	**Tariff**
(5) Monthly Rentals For Rural Subscribers **(5.a) Fixed line telephony service including wireless in local loop technology (Fixed)**	**Capacity of local Senior Citizen Others Exchange System (Rs) (Rs.) (Number of Lines)** ---------- ---------- ---------- Up to 999 70 70 1,000 to 29,999 120 120 30,000 to 99,999 180 200 1 lakh and above 250 280
	Notes: (1) The definition of Senior Citizen shall be the same as for the purpose of payment of Income Tax. (2) Rural subscribers are those who reside in rural areas. For the purpose of this schedule, the definition of rural area shall be same as used in conducting the Census of India. (3) Capacity of the Local Exchange system is the sum of the capacities of all exchanges in a local area. Any augmentation of the local exchange capacity after the date of implementation of this Order shall automatically be taken into account for re-classification for purposes of tariffs. (4) Short Distance Charging Area (SDCA) is one of the 2647 Local Areas whose details are provided in the Basic Service Licenses and also in the Numbering Plan wherein for each SDCA, a unique STD code is provided. Local call charges are applicable on Intra-SDCA traffic and for calls within the distance category "0 to 50 kms.".
(8) Tariff per metered call for rural subscribers **(8.a) Fixed line telephony service including wireless in local loop technology (Fixed)**	**First 300 Metered calls per Metered calls in excess of Month of the billing cycle the first 300 metered calls (except for free calls) per month of the billing cycle** **(Rs.) (Rs.)** ---------- ---------- 0.80 1.20
(9) Free calls (or uncharged calls) for rural subscribers **(9.a) Fixed line telephony service including wireless in local loop technology (Fixed)**	50 metered call units per month of a billing cycle

Annexure "A" Explanatory Memorandum

1. The twenty eighth Amendment to the Telecommunication Tariff Order (TTO), 1999, reflects various developments in the telecom sector including decline in tariff for telecom services witnessed since January, 2003, the increase in competition among access providers, and the results of the review of the Interconnect Usage Charge (IUC)

and the Access Deficit Charge (ADC) regime by the Authority.

2. The Authority carried out a consultation process as part of its review of inter Connection Usage Charges (IUC) Regulation based on its Consultation Paper of 15th May, 2003. The IUC regime is not independent of tariffs, because the amount of ADC to be covered from various calls depends inter-alia on tariffs. During the course of the IUC review, a number of issues relating to Access Deficit Charge among other things were deliberated with stakeholders. Taking into account the various comments and the objectives of NTP, 1999, the Authority has determined an Interconnection Usage Charge (IUC) regime for basic and cellular mobile services which is given in a Regulation notified separately. This Regulation has introduced mechanisms to ensure that it would incentivize the service providers to pass on the decline in tariffs on account of competition to the consumers.

3. In the case of basic services, TTO, 1999 had specified availability of Standard Tariff Package which inter-alia comprises rental, call charges, free calls, etc. along with all other tariff plans on offer by the service providers in the market. There has been intense competition for basic services, both from other basic service providers as well as from cellular mobile service providers, which has resulted in drastic fall, especially for long distance calls. The

available information shows that virtually all subscribers are on alternative tariff packages, and in effect the standard tariff package has become redundant. Thus, the Authority has decided that specification of Standard Tariff Package for urban basic service subscribers is no longer necessary. To this extent, Schedule I of TTO, 1999 specifying tariff for basic services (other than ISDN) would stand modified. The Authority is retaining the Standard Tariff Package for rural fixed line subscribers, for whom access tariffs and call charges are lower than in general, for social reasons. Therefore, keeping in view the community of interest and affordability objectives of NTP, 1999 the Authority felt the need to specify the tariff of basic services applicable for rural subscribers as per Schedule I of this Amendment, but in view of the overall competition and a specification of the ADC regime, has decided to forbear with respect to the other tariffs in Schedule I of TTO, 1999.

4. The tariff forbearance as provided in this Amendment to TTO would be subject to the Authority intervening in tariffs which it deems inappropriate for any regulatory reason. The stated regulatory principles have to be complied with by the service providers. The Authority would monitor closely the various practices of service providers that may have an adverse impact on competition in the market and the interest of the consumers, and if require may intervene as necessary.

[Dr. Harsha Vardhana Singh]
Secretary cum Principal Advisor,
Telecom Regulatory Authority
of India

Telecom Regulatory Authority of India
Notification

New Delhi, the 3rd December 2003

No. 301-56/2003-Econ

In exercise of the powers conferred upon it under sub-section (2) of section 11 of the Telecom Regulatory Authority of India Act, 1997 as amended by TRAI (Amendment) Act, 2000, the Telecom Regulatory Authority of India (TRAI) hereby makes the following order by an amendment to the Telecommunication Tariff Order, 1999 by notification in the Official Gazette, in respect of tariffs at which Telecommunication Services within India and outside India shall be provided:

THE TELECOMMUNICATION TARIFF (TWENTY - NINTH AMENDMENT) ORDER, 2003
(6 of 2003)

Section I

1. Short title, extent and commencement:

(i) This Order shall be called "The Telecommunication Tariff (Twenty Ninth Amendment) Order 2003".

Section II

2.1 In Schedule IV (Leased Circuits) of the Telecommunication Tariff Order, 1999,

after clause 3.e, the following clause shall be inserted namely:

"(3.f.) E1/R2 Links for ISPs	Tariff for E1/R2 links for ISPs shall contain the following components namely Port Charges and Tariffs for Leased Line and/ or Local Leads/ End Links (each component shall be specified separately in the bill): (i) Port charges as per the following table: No.of E1/R2 ports Port charges in Rs. 1-16 N* 55,000 17-32 8,80,000+(N-16)* 30,000 33-64 13,60,000+(N-32)* 20,000 65-128 20,00,000+(N-64)* 15,000 129-256 29,60,000+(N-128)*14,000 Notes: (1) N refers to the number of E1/R2 ports demanded by ISP and accepted by Basic Service Operator. (2) The above rates are ceilings and the service provider may have alternative lower port charges. (ii) Tariff for Leased Line, as per clause (3b) of Schedule IV of the Telecommunication Tariff Order, 1999, and/or Tariff for Local leads

	or end links as per clause 4(a) of this Order.

2.2 Clause 4.a of Schedule IV of the Telecommunication Tariff Order, 1999, shall be deleted and shall be substituted by the following, namely:

"4(a) Local leads or end links	Tariff for local lead (or end links) to be charged as (i) Charge for leasing these local leads shall be as per ceiling specified in annexure 1 and annexure 2 to Schedule IV of Telecommunication Tariff Order, 1999: (ii) If such leasing is technically not feasible then (1) On rent and guarantee basis, or alternatively (2) On contribution basis.

Section III

This order contains at Annexure A Explanatory Memorandum, which explains the reasons for this amendment to the Telecommunication Tariff Order, 1999.

BY ORDER,

[Dr. Harsha Vardhana Singh]
Secretary-cum-Principal Advisor

Annexure – A

EXPLANTORY MEMORANDUM

1. The tariff for Leased Circuit has been specified in Schedule IV of the Telecommunication Tariff Order (TTO), 1999. TTO, 1999 does not explicitly spell out the tariff for E1/R2 connectivity for ISPs. It has been brought to the notice of the Authority that some BSOs are charging Rs.90, 000 per annum in addition to the applicable Leased Circuit tariff by way of equating E1/R2 link with 30 DELs within the exchange Area.

2. The link between BSO's exchange and ISP's node can be provided through DELs, ISDN PRI or E1/R2, the last being the most prevalent option.

3. The current practice followed by the service providers by equating E1/R2 link with 30 DELs for charging E1/R2 links to ISPs is not cost based, as there are no physical DELs involved in the link. The tariffs relevant in case of E1/R2 links are being specified using the same principles that were used while specifying Leased Circuit Charges, i.e. these are broadly based on the costs of the components used. The charges for E1/R2 (which has a capacity of 2 Mbps) should cover port charges, tariffs for relevant leased lines and/or the end link charges. End link/ local lead for this purpose is to be taken as the part of the link between ISP's node and nearest exchange of BSOs. Normally, the BSOs should provide the link from the nearest Tandem exchange, unless it is technically non-feasible.

4. Ceilings for Leased line tariff for 2 Mbps have been specified in Schedule IV of TTO, 1999. The Authority is of the view that the same tariff ceiling should be applicable to E1/R2 link to cover the tariff for leased line portion.

5. As regards port charges, these have been specified in the Telecommunication Interconnection (Port Charges) Regulation, 2001 dated 28th December 2001. These port charges are relevant in case of E1/R2 links also as the same direct costs are involved in this situation. The charges for end links are the same as those for leased circuit as applicable in terms of capacity and distance. The overall charge will be a combination of these different components as applicable.

6. In specifying the above-mentioned tariffs the Authority has also borne in mind that BSOs earn additional revenues through use of Internet by way of dial-up charges.

[Dr. Harsha Vardhana Singh]
Secretary-cum-Principal Advisor

Telecom Regulatory Authority of India Notification

New Delhi, the 16th day of January, 2004.

No. 301 –4/2004 (Econ.)

In exercise of the powers conferred upon it under sub-section (2) of the section 11 of the Telecom Regulatory Authority of India Act, 1997 as amended by TRAI (Amendment) Act, 2000, the Telecom Regulatory Authority of India (TRAI) hereby makes the following order by an amendment to the Telecommunication Tariff Order, 1999 by notification in the Official Gazette, in respect of tariffs at which Telecommunication services within India and outside India shall be provided.

THE TELECOMMUNICATION TARIFF (THIRTIETH AMENDMENT) ORDER, 2004

(2 of 2004)

Section I

1. Short title, extent and commencement:

(i) This Order shall be called " The Telecommunication Tariff (Thirtieth Amendment) Order, 2004".

Section II

2.1 Under Section II (Definitions) of the Telecommunication Tariff Order, 1999 hereinafter referred to as TTO (as amended by 17th Amendment Order dated 22.01.2002), sub-clause (l) of clause 2 shall stand substituted by the following:

" (l) "Reporting Requirement" means the obligation of a service provider to report to the Authority any new tariff for telecommunication services under this Order and/or any changes therein within SEVEN days from the date of implementation of the said tariff for information and record of the Authority after conducting a self-check to ensure that the tariff plan(s) is/are consistent with the regulatory principles in all respects which inter-alia include IUC Compliance, Non-discrimination & Non-predation."

2.2	Under Section III, Clause 4 (Forbearance) of the TTO (as amended by 21st Amendment to TTO dated 13.06.2002) shall be substituted to read

as under:

Where the Authority has, for the time being, forborne from fixing tariff for any telecommunication service or part thereof, a service provider shall be at liberty to fix any tariff for such telecommunication services;

Provided that service provider shall comply with the reporting requirements in respect of such tariff.

2.3 Under Section III, in Clause 7 (Reporting Requirement) of the TTO sub-clauses (iii) & (iv) (inserted vide 17th Amendment to TTO dated 22.01.2002) shall stand deleted

Section III

3. In Schedule-II (Cellular Mobile Telecom Service) of TTO under the existing clause 6 (vide 24th Amendment to TTO dated 24.01.2003) in respect of "Tariff for pre-paid service", after proviso (d) a new proviso (e) shall be inserted namely:

e) All services which do not affect "talk time value" including incoming voice calls / SMS shall continue to be available to the Pre-paid subscribers during the entire validity period even after the talk time value is exhausted.

Section IV

This Order contains at Annexure A an Explanatory Memorandum, which explains the reasons for this amendment to the Telecommunication Tariff Order, 1999.

By Order,

[Dr. Harsha Vardhana Singh]
Principal Advisor cum Secretary
Telecom Regulatory Authority of India

Annex – A **EXPLANATORY MEMORANDUM**

A. Amendment in provisions relating to reporting requirement of tariff plans to the Authority.

1. The Telecommunication Tariff (27th Amendment) Order, dated 25.04.2003 stipulates that all telecom service providers shall adhere to the provisions of the reporting requirements as per TTO, 1999 as amended by 17th Amendment stipulating that all service providers shall file their tariff plans at least FIVE working days prior to its launch in the market.

2. In view of the review of the IUC Regulation by the Authority a Self-Check regime was specified under which service providers were asked to implement the tariff plans after conducting a Self-check of their tariffs with the regulatory principles including tariff being IUC Compliant.

3. The Authority has now notified revised IUC Regulation, 2003 dated 29.10.2003 stipulating cost-based Interconnect usage charges. Furthermore, the price developments of Voice-telephony show that there is intense competition. With a high degree of competition, prior approval of tariffs may not be required as competition replaces regulation by the regulator. The Authority is of the view that current declining tariff environment is an ideal time to switch over from an Ex-ante tariff regulation to Ex-post tariff regulation meaning thereby, complete freedom would be given to operators in the matter of offering tariff plans in the market within the framework of the existing TTO. The Authority has already laid down broad regulatory principles to determine as to whether a particular manner of pricing service is anti-competitive / discriminatory etc. Further the Authority has forborne with the main tariff items in Cellular and Basic services (except rural subscribers tariff & roaming tariffs). The IUC regime specified by the Authority reflects the underlying costs providing the service. Also the IUC charges as specified will implicitly function as a floor to the retail tariffs and thereby scope for predatory pricing or cross-subsidization is limited.

4. The Authority is also of the view that the practice of seeking approvals to a large number of plans some of which are not even implemented creates needless pressure on the limited resources of the Authority. Thus the purpose of this amendment to TTO is to avoid undue pressure on regulatory resources as well.

5. The Authority has, therefore, decided to allow the flexibility to all telecom service providers to report their tariff plans to the Authority within 7 days from the date of implementation after conducting a Self-check to ensure consistency of the tariffs with the relevant regulatory principles which inter-alia includes Tariffs being IUC Compliant, Non-discriminatory and Non-predatory and hence this amendment.

6. However, the Authority would intervene in matters where the stated tariff regulatory principles are violated by the service providers.

7. This Amendment shall be applicable to all telecommunication services which fall under the purview of reporting requirements of TTO, 1999.

B. Note in respect of provisions of facilities of Incoming calls / SMS etc. to Pre-paid subscribers.

1. The Authority has received number of complaints from subscribers regarding bar of Incoming calls / SMS facility even within the validity period once the talk time becomes "nil.

2. Authority viewed it seriously and after examining the issue found that while paying the "Processing Fee" the pre-paid subscribers purchase a certain value of "talk time" and has the right to remain connected for a specified period i.e. validity period and therefore, subscriber should remain connected to avail all services which do not have a bearing on the talk value during the entire validity period contracted even after the entire talk value exhausted.

3. The Authority has, therefore, decided all services which do not affect "talk time value" including incoming voice calls / SMS shall continue to be available to the Pre-paid subscribers for the entire validity period even after the talk time value is exhausted.

[Dr. Harsha Vardhana Singh]
Principal Advisor cum Secretary
Telecom Regulatory Authority of India

Telecom Regulatory Authority of India Notification

New Delhi, the 7th day of July, 2004.

No. 301-2/2004-Eco.

In exercise of the powers conferred upon it under sub-section (2) of the section 11 of the Telecom Regulatory Authority of India Act, 1997 as amended by TRAI (Amendment) Act, 2000, the Telecom Regulatory Authority of India (TRAI) hereby makes the following order by an amendment to the Telecommunication Tariff Order, 1999 by notification in the Official Gazette, in respect of tariffs at which Telecommunication services within India and outside India shall be provided.

THE TELECOMMUNICATION TARIFF (THIRTY FIRST AMENDMENT) ORDER, 2004

(4 of 2004)

Section I

1. Short title, extent and commencement:

(i) This Order shall be called " The Telecommunication Tariff (Thirty first Amendment) Order, 2004".

Section II

2. Under Section III (Tariffs for Telecommunication Services) of the Telecommunication Tariff Order, 1999 " in Clause 6 (Flexibility and Packages), following sub-clauses shall be added after sub-clause(iv):

(v) A tariff plan once offered by an Access Provider shall be available to a subscriber for a minimum period of SIX MONTHS from the date of enrolment of the subscriber to that tariff plan.

(vi)	The subscriber in the said tariff plan shall be free to choose any other tariff plan, even during the said SIX MONTHS period. All requests for change of plan shall be accepted and implemented immediately or from the start of next billing cycle.
(vii)	For any tariff plan, the Access Provider shall be free to reduce tariffs at any time provided that no tariff item in that plan shall be increased within

said SIX MONTHS period.

Section III

This Order contains an Explanatory Memorandum as at Annexure, which explains the reasons for this amendment to the Telecommunication Tariff Order, 1999.

By Order,

[Rajendra Singh]
Secretary
Telecom Regulatory Authority of India

EXPLANATORY MEMORANDUM

TRAI issued a Consultation Paper “Limiting the number of tariff plans by the Access Providers” on 8th March 2004. The major reason for initiating this consultation process was that the service providers have been offering a large number of tariff plans and there were reports that this was confusing consumers and affecting their ability to make informed choice. The existence of such large number of plans also gave rise to consumer concerns of great importance like transparency in charging and migration to other plans etc. The consultation paper suggested placing a cap on the number of plans that can be offered at any point of time by the access providers as one way of addressing the concerns. The paper posed the following issues for consideration before the stakeholders:

a)	What should be the permitted number of plans?
b)	What should be service segments for application of the proposed

caps?

c)	Should a minimum validity period be specified for tariff plans offered in the market?
d)	Are business/corporate plans to be treated as separate segment? How to treat value added services/tariff toppings?
e)	
f)	Should promotional plans offers be made as a standard discount offer?

The main issue for consideration was whether to limit the number of tariff plans that access providers can offer and the other issues posed for consultation were of supplementary nature.

Response from the stakeholders
The stakeholders expressed their views in the matter through written submissions and also in the two open house sessions held in Delhi and Mumbai on 12.5.04 and 14.05.04 respectively.

There has been a clear cut division of opinion between the operators and consumer organizations in the matter. The operators with the exception of MTNL opposed limiting the number of plans while the consumers’ representatives agreed to the suggestion to cap the number of tariff plans.

3. The views against regulating the number of tariff plans were based on the following:

i) Limiting the number of tariff plans will not only limit the ability of the service providers in effectively competing in the marketplace, but also go against the interests of consumers.

ii)	Introduction of any kind of cap on tariff plans is not necessary at this moment, as it will amount to further interference with the dictates of the market place. As TRAI’s own analyses have proved, a hand off approach on tariff matters has resulted in rapid growth in the sector combined with the lowest tariffs for consumers. All operators require certain flexibility with reference to number of tariff plans. The numbers of tariff plans are to be equal to the number of customer segments, based on either calling pattern,		
iii)	incoming calls, closed user group calls, in the area.	Ideally,	till
	such time the customers’ interest is not affected and the availability of information to customers about the various plans is transparent, easily available and comparable to make an informed decision, the		

number of plans be best left to the option of the operators.

iv) In the competitive telephony market of today, practically all of the marketing battles are being fought on the tariff plank. Since the market is still growing rapidly and almost all the service providers are focused on new subscriber additions, flexibility in tariff setting is their principal instrument to attract subscribers

4. The points raised in favour of regulating the number of tariff plans are noted below:

i) Large number of plans confuses the customers.

ii) If the benefits of the telecom sector have to really percolate to ordinary subscribers, new tariffs and promotional schemes must be implemented in an organized manner. A subscriber will benefit more if there are just a handful of schemes that he could understand, instead of large number of indecipherable plans.

The stakeholders favouring the cap on the plans have generally agreed that 5 plans per segment is a reasonable number.

5. The consumers' representative supported limiting the number of tariff plans as one possible way to bring in more transparency in the service as a whole. Their concerns were more about the lack of transparency in offering and implementing the tariffs and also in the billing rather than the multiplicity of the plans in the market. They are also troubled by the sudden and frequent withdrawal of the tariff plans and the subsequent migration process. The view generally held was that if these issues could be addressed, the problems associated with existence of large number of plans in the market would be minimised to a large extent. Suggestions received in this regard as follows:

a. TRAI should mandate publication of tariff plans in a manner that allow comparison.

b. There shall not be any hidden charges or charges in the fine print.

c. A plan once introduced by a service provider shall have reasonable validity period. However, the customer should be free to switch over plans and there should not be any binding period for him

d. For withdrawal of a tariff plan, advance notice with reasonable time to each individual subscriber enrolled in the plan shall be mandated.

e. In the event of closure of a plan, migration to any other plan shall be with the consent of the customers.

f. TRAI should start a consumer portal giving details of tariffs offered by all service providers.

<table>
<tr><td rowspan="5">6.</td><td colspan="2">The feedback from the consultation process can be summed up as:-</td></tr>
<tr><td>i)</td><td>The operators are not in favour of limiting the number of</td></tr>
<tr><td colspan="2">tariff plans.</td></tr>
<tr><td>ii)</td><td>The consumers' are mainly concerned with the lack of</td></tr>
<tr><td colspan="2">transparency in the manner in which the plans are offered and implemented. They have supported limiting the number</td></tr>
</table>

of tariff plans as a means to enhance the transparency.

iii) If transparency in publishing and implementing the tariffs and in billing the customers can be ensured the problems generated by the multiplicity of the plans can be contained to a large extent.

7. In view of the responses received from the stakeholders and in view of the dynamism in the market on account of intense competition, the Authority has decided not to further regulate the number of tariffs offered by the access providers. Therefore, in this matter of number of tariff plans the existing provisions of the 21st Amendment to TTO dated 13.6.02 shall continue. As per this Amendment, at any given point of time not more than 25 plans shall be on offer by a service provider. This includes both post paid and pre paid tariff plans.

8. At the same time the Authority also felt that there is a need to enhance the level of transparency in provision of service especially in the manner in which the tariffs are offered and implemented. The Authority has, therefore, decided to incorporate certain suggestions received during the consultation process in the TTO thereby making its compliance mandatory for the access providers. The new provisions would curb the practice of the operators offering new regular tariffs/tariff plans and withdrawing or revising it suddenly, upsetting the basic considerations on which the subscriber has exercised his choice for the tariff. This causes inconvenience to the subscribers already enrolled and also forces them to migrate to another plan. The new provisions will ensure that the service would be available to the subscriber for the chosen price level at least for a period of six months. There shall, however, be no restriction on the operators in reducing any items of tariff during this period of SIX MONTHS. The existing Guidelines for promotional packages will not be affected by this Order. The provisions of this tariff order would mitigate the problems faced by the customers on account of the frequent revision/withdrawal of the tariffs/tariff plans by the service providers and also make the migration of the subscribers from one plan to another more transparent and consumer friendly.

9. The directive issued by the Authority on 24.5.04 has addressed the suggestion in respect of a more transparent method in publishing the tariffs. The directive prescribes a simplified format in which the service providers should advertise their tariff plans. The website of the service providers shall now also contain the details of calculations/methodology etc as to how the financial implications of different slabs of usage that are advertised have been arrived at. This is expected to be of great use to the customers in evaluating the tariff plans.

[Rajendra Singh]
Secretary
Telecom Regulatory Authority of India

Telecom Regulatory Authority of India
Notification

New Delhi, the , 7th October 2004.

No. 301-37/2004-Eco.

In exercise of the powers conferred upon it under sub-section (2) of the section 11 of the Telecom Regulatory Authority of India Act, 1997, the Telecom Regulatory Authority of India (TRAI) hereby further amends the Telecommunication Tariff Order, 1999 as under, namely:

1. Short title, extent and commencement:

(i) This Order shall be called " The Telecommunication Tariff (Thirty Second Amendment) Order, 2004" (7 of 2004).

2.	In	Schedule	I	[Basic	Services	(Other	than	ISDN)]	of	the

Telecommunication Tariff (284h Amendment) Order, 2003, the following shall be added after Item (9.a):

10. Tariff for itemized bills in respect of long distance calls	Nil
11. Other matters as contained in Schedule I of Telecommunication Tariff (24th Amendment) Order, 2003 relevant to tariff including billing cycle	Forbearance

3.	In Schedule II [Cellular Mobile Telecom Service (CMTS)] of the

Telecommunication Tariff (Twenty Fourth Amendment) Order, 2003, the following shall be inserted as item (7) and the existing item (7) in the Schedule II shall be renumbered as item (8) as under:

(7) Tariff for itemized bills in respect of long distance calls	Nil
(8) Other matters relevant to tariff including billing cycle	Forbearance

This Order contains an Explanatory Memorandum as at Annexure, which

explains the reasons for this amendment to the Telecommunication Tariff

Order, 1999.

By Order,

[M. Kannan]
Advisor (Economic)
Telecom Regulatory Authority of India

Annexure

Explanatory Memorandum

TRAI has been receiving consumer complaints that the service providers are charging extra for providing the itemised bills in respect of long distance calls.

2. The Authority has considered the matter keeping in view the provisions in the licence agreements for basic, cellular, unified access service, National Long Distance (NLD) and International Long Distance (ILD) services relating to billing and customer service.

3. The license agreements for Basic Service, NLD and ILD services provide for giving itemized bills relating to long distance calls to customers without demanding any extra charge.

Under the provisions of CMTS and the Unified Access Service license agreements, it shall be the responsibility of the Licensee to issue or cause to be issued bills to its subscribers for use of the service. As per the licensing conditions, the billing system of the licensee shall be able to generate the billing information, in adequate details, to ensure satisfaction to the customer about the genuineness of the bill. The licence agreements for these services also mandate that the directions of TRAI, from time to time, in this regard shall apply.

4. The Authority has further taken note of the fact that in the absence of Carrier Access Code/Carrier Pre- Selection, the access providers are making the choice of NLDO/ILDO and also that the tariffs for the services are also determined by them.

5. Subscribers have the right to know and verify the charges for long distance calls levied by the service providers. The prepaid customers have the facility to ascertain this on a call-by-call basis without any extra charge.

However the billed customers i.e. the postpaid customers of several access providers are presently charged extra for obtaining this information. The Authority after careful consideration of the provisions relating to billing in the license agreements for basic, Cellular, Unified Access, NLD and ILD licenses and also the consumer interest in general, has decided to mandate that the bills raised by service providers should contain sufficient information required by the customer; and also that in case any customer requests for itemized bills relating to long distance calls it shall be provided free of charge.

6. This amendment order to TTO incorporates the decision of the Authority that if any postpaid customer requests for itemized bill relating to long distance calls, it should be provided free of charge by the access providers.

Telecom Regulatory Authority of India Notification
New Delhi, the day of 8th December , 2004.

No. 301-31/2004-Eco.

In exercise of the powers conferred upon it under sub-section (2) of the section 11 and Section 11(1)(b)(i) of the Telecom Regulatory Authority of India Act, 1997 the Telecom Regulatory Authority of India (TRAI) hereby further amends the Telecommunication Tariff Order, 1999 as under, namely:

1. Short title, extent and commencement:
(i) This Order shall be called " The Telecommunication Tariff (Thirty Third Amendment) Order, 2004"(9 of 2004).

2. In Section II (Definitions) of the Telecommunication Tariff Order1999, the following shall be inserted as sub-clause (s) under clause 2 and the existing sub-clause (s) shall be renumbered as sub-clause (t) as under:

s) Vertical price squeeze means differential tariff assuming the nature of anti-competitive conduct that may occur when an operator with significant market power controls certain key inputs required by competitors in downstream markets and where such operators or its affiliates use those key inputs to compete in the downstream market.

t) Words and expressions used in this Order and not defined but defined in the Act shall have the same meanings respectively assigned to them in the Act.

3. The following shall be added to Clause 10 (non-discrimination) in Section IV of the: Telecommunication Tariff Order 1999

Provided that differential tariffs in the nature of Vertical Price Squeeze shall be a case of discriminatory tariff.

4. This Order contains an Explanatory Memorandum as at Annexure, which

explains the reasons for this amendment to the Telecommunication Tariff Order,

1999.

By Order,

[M. KANNAN]

Advisor (Economic)

Annexure

EXPLANATORY MEMORANDUM

As per the existing definition of 'Non-discrimination' the service providers were not permitted to offer differential tariff within the same class of subscribers. The Authority had in the past disallowed tariff plans which provided lower differential airtime charge for calls terminating in own network.

2. In the context of certain tariff schemes proposed for Closed User Groups (CUG)/Virtual Private Network (VPN) by some telecom service providers, the Authority initiated a consultation process on the need to review the currently held interpretation of the principle of non-discrimination in retail tariff applicable for telecommunication services. The response of the stakeholders was overwhelmingly against the currently held interpretation of non-discriminatory tariff which inter-alia prohibits differential tariffs for calls terminated within the same network.

3. Evidence on trends in retail tariff published by the Authority suggests that there is intense competition in the mobile service segment. Further, with the unified access regime already in place and with unified licensing regime on the anvil and the Authority having forborne the retail tariff in general, the concerns relating to inadequate competition have substantially abated. In this background and in the context of response of the stakeholders to the consultation paper referred to above, the Authority has decided to modify the interpretation of the principle of non-discrimination in retail tariff as enunciated in the guidelines of TRAI dated 20th May, 2003, which inter-alia clarified that differential tariffs for calls terminated within the same network would amount to discrimination. The decision of the Authority to forbear in the matter of non-discrimination with

respect to tariffs was conveyed to all service providers vide letter dated 24th May 2004. The service providers can therefore offer differential tariffs for off-net and on-net calls. But cases where such differential tariffs are anti-competitive or predatory aimed at lessening competition shall invite the regulatory attention. These tariffs could take the form of discriminating in favour of a particular operator(s) with adverse effect on competition in the relevant market.

4. Instances of any differential tariff structure assuming the nature of anti-competitive conduct, continues to be an issue of regulatory concern. Vertical price squeeze is one such recognized anti-competitive conduct that may be engaged by an operator with significant market power providing service in both upstream and downstream markets in any particular service area. Here the operator controls certain services that are key inputs for competitors in downstream markets and where those same key inputs are used by the operator or its affiliates to compete in the same downstream market. To take an example, in telecommunication markets, vertical price squeeze can occur in the provision of dedicated local circuits. The operator with significant market power can increase the price to competitors for the upstream input, i.e. dedicated local circuit while leaving the downstream prices the same i.e. price for its dedicated Internet access services. The effect would be to reduce or eliminate the profits or margins of competitors. In other words, an operator with significant market power can often squeeze the margins of competitors by raising wholesale prices (upstream market) paid by competitors while at the same time lowering retail prices (downstream markets) on competitive services. Such 'squeezes' on the margins of competitors imposed by the pricing strategy of the operator with significant market power could materially affect competition. Several international jurisdictions have acted against such anti-competitive conduct with a view to eliminate barriers for entry and sustain fair competition. Therefore, in cases of vertical price squeeze where the retail price is lower than the

(wholesale) price offered to operators, the Authority would continue to intervene since such vertical squeeze unfairly limits competition.

5. The position emerging with the issue of this amendment order with reference to the principle of non-discrimination and classification of subscribers for the purpose of tariff fixation is consolidated below for strict compliance by the telecom service providers:

i) The definition of the principle of non-discrimination remains unchanged as appearing in Clause 2 (k) of TTO 1999.

ii) No service provider shall, in any manner, discriminate between subscribers of the same class and such classification of subscribers shall not be arbitrary. This position as stated in Clause 10 of TTO remains unchanged.

iii) It shall be permissible for operators to provide differential call charges for off net and on net calls.

iv) Whenever differential tariffs are offered it shall be the responsibility of the operators to define in a transparent and unambiguous manner the eligibility criteria for availing such differential tariff. The Authority would consider such criteria to assess their consistency with the provisions of TTO relating to non-arbitrary classification of subscribers.

v) Any differential tariff assuming the nature of vertical price squeeze as explained in para 4 of the explanatory memorandum will not be permitted. The Authority would like to make it clear that differential discount structure in the provision of leased circuits by an operator with Significant Market Power in any service area in the nature of vertical price squeeze shall not be permitted. Such differential discounts, if already exists, shall immediately be restructured and made uniform for various classes of users.

vi) Service Providers shall conduct a self-check of existing tariff in view of the above Guidelines and if any tariff schemes in operation are inconsistent with these guidelines, the same shall be immediately withdrawn under intimation to the Authority.

[M. KANNAN]
Advisor (Economic)

Telecom Regulatory Authority of India
Notification
New Delhi, the 11th March 2005

No.310-3(1)/2003-Eco. In exercise of the powers conferred upon it under Sub-section (2) of the section 11 and Section 11(1)(b)(i) of the Telecom Regulatory Authority of India Act, 1997, the Telecom Regulatory Authority of India (TRAI) hereby further amends the Telecommunication Tariff Order, 1999 as under, namely:-

1. Short title, extent and commencement:

(i) This Order shall be called " The Telecommunication Tariff (Thirty Fourth Amendment) Order, 2005" (1 of 2005).

2. The existing title of Schedule IV of the Telecommunication Tariff Order 1999, shall stand deleted and substituted to read as under:

Schedule IV

Domestic Leased Circuits

3. In the Telecommunication Tariff Order 1999, after Schedule IX, the following new Schedule shall be inserted, namely:-

Schedule X

International Private Leased Circuit (IPLC)-(Half Circuit)

ITEM	TARIFF
(1) Date of implementation	1.4.2005
(2) Coverage	(a) All tariffs specified as ceilings (b) The prescribed ceiling tariff will be applicable for all destinations, capacities and types of cable systems used for carrying either voice or data. (c) Service providers may offer discount on the ceiling tariff. Discounts, if offered, shall be transparent, non-discriminatory based on laid down criteria and should be reported to TRAI. (d) It is mandatory for International Private Leased Circuit Service Providers to offer Half Circuits for all routes/destinations for which circuits are offered by them.
(3) Tariff for IPLC	Capacity/Speed Ceiling Tariff per annum (Rupees in Lakhs) E1 13 DS-3 104 STM-1 299
(4) Tariff for capacity/ speed below E1	Forbearance
(5) Tariff for IPLC through satellite media	Forbearance
(6) All other matters relevant to IPLC	Forbearance

General

In case of any doubt with regard to the interpretation of any provision of this Order, the decision of the Authority shall be final.

This Order contains at Annexure-A, an Explanatory Memorandum, which explains the reasons for this amendment to the Telecommunication Tariff Order, 1999.

By Order,

(Dr. Harsha Vardhana Singh)
Secretary cum Principal Advisor

Annexure-A

Explanatory Memorandum

The International Private Leased Circuit- Half-Circuit (hereinafter referred to as IPLC) is a dedicated point-to-point connection providing a non-switched, fixed and assured bandwidth between two points, one being in India and the other in a foreign country. Broadly speaking, the IPLC is divided into far end and near end, which is termed as half-circuit. The tariff for the far end is dependent upon many factors including mutual negotiations between the foreign carriers with their Indian counterparts.

2. Hitherto the tariff for IPLC was forborne in Telecommunication Tariff Order (TTO), 1999. Software exporters, BPO units, banks and other financial services companies, and Internet Service Providers (ISPs) and ILDOs are key users of IPLCs. IPLC is considered to be one of the basic requirements for Information Technology (IT) and IT-Enabled Services (ITES) industries like Business Process Outsourcing (BPO). India has emerged as one of the leading providers of ITES in the world and is fast acquiring a formidable reputation in this sector. In addition, ISPs use IPLC for their upstream connectivity abroad. The cost of inputs for these important initiatives needs to be based on competitive prices, if the market is not competitive. Further, promotion of broadband is now a major objective of the Government as shown for example by the Broadband

Policy 2004 of the Government, which also provides a basis for fundamentally transforming the socio-economic opportunities in rural India. This requires consumer price for the service to be affordable.

3. The Authority received representations from user groups such as NASSCOM, Internet Service Providers Association of India (ISPAI), Call Centre Association of India and other Business Process Outsourcing (BPO) units requesting to regulate the tariff for IPLC on the ground that the tariffs in India for IPLC were much higher than in several other countries, including countries with

which Indian enterprises engaged in IT and ITES sector have to compete in the global market.

4. In this regard, the Authority held meetings with the user groups, service providers, etc. Major investors, both existing and potential, were of the view that the high bandwidth price in India is one of the deterrent factors to expand the investment base in the IT and IT related sectors, and India was thus losing investment to alternative destinations. During the period from 25.7.03 to 4.2.04, the Authority held a number of meetings with VSNL and other ILDOs on the issues relating to tariffs for IPLC alone. This is in addition to a number of other meetings held with VSNL and Reliance on related issues of access to cable landing station facilities. In these meetings,the service providers (IPLC) assured the Authority that the lease rentals for IPLC (half circuit) would come down substantially within a period of about six months.

5.	Authority	also	analyzed	the	constraints	on	the	growth	of

broadband/Internet services in the country and saw that the price of broadband in India was much higher than in richer countries, which had performed well in expanding their broadband. The Authority recalled that price reduction had played a major role in extraordinary expansion of the mobile sector in India during the last two years. The Authority also arrived at the conclusion inter-alia that the cost on account of bandwidth forms a substantial proportion of the cost of provisioning broadband and Internet services in the country in general. In the Broadband India Recommendations on Accelerating Growth of Internet and Broadband Penetration, it has been stated (See para 4.1.2 in Chapter 4) that the cost of bandwidth both domestic and international account for more than 45% of total monthly costs and even more, if lower prices and higher quality of service for consumers is desired. Thus, a competitively priced IPLC service is fundamental to achieve a higher rate of broadband penetration in the country.

6. In view of the foregoing, the Authority decided to examine the tariffs for IPLC and also the extent of competition in the market. As part of its review of IPLC prices, the Authority examined the prevailing prices in the market and noted that the IPLC lease rentals had not come down to the extent expected and were substantially higher compared with other country prices (see Table No.1 to 3 and 5 to 7 in Appendix I of Annexure-A).

7. Taking these aspects into account, the Authority had issued a Consultation Paper on Fixation of Ceiling Tariff for IPLC (Half Circuit) on 30th April 2004. The cost based prices given in the Consultation Paper (CP) were based on costs submitted by VSNL and were seen as a starting point for deeper examination of cost based tariff ceiling for IPLC. Various stakeholders, including service providers, user industries, consumer organizations and association of service providers had responded to this consultation paper with written comments. Open House Discussions on this were also held on 20.07.04 and 22.07.04 in Delhi and Bangalore respectively.

8. Concurrently with its consultations on IPLC tariffs, the Authority was also carrying forward its process of obtaining Separated Accounts from the operators so that appropriately allocated costs for specific services could be made available to TRAI by the service providers. The Authority received separated Accounts from VSNL on 31st December 2004. This data also became part of the Authority's consideration of IPLC tariffs.

Section II

Summary of Main Comments

9. The various comments of the stakeholders on the consultation paper are summarized below:-

a) Should IPLC (half circuit) be henceforth regulated?

• The user groups and consumer organizations were of the view that the tariff for IPLC should be regulated till adequate competition is established in the market.

• Telecom service providers in general have expressed their concern that despite the opening up of the ILD sector in 2002, effective competition in the IPLC business segment has not yet emerged and therefore they are of the view that the Authority should not only regulate tariffs for IPLC but also take further steps to encourage competition in this segment.

• TRAI's intervention in regulating the tariff of IPLC is considered necessary at this point of time by many stakeholders on the ground that availability of IPLC at cost based prices would stimulate the growth and lead to greater penetration of the Internet and broadband services.

• One of the telecom service providers has stated in their submissions to consultation paper that fixation of tariff for IPLC by TRAI is essential so as to make IPLC prices in India more affordable and to make in line with market prices within the Asia-Pacific region.

• One view was that the stimulation and encouragement of Internet use and availability of affordable broadband services is dependent upon among other things, the access to lower priced international bandwidth because IPLCs are the main international carriage platform for these services.

• There was also a view that the high prices for IPLC's in India are constraining the potential growth of Indian international data revenues and by inference the underlying demand for capacity as well. Thus high IPLC prices tend to stifle demand for consumer services, which would otherwise employ large amounts of bandwidth capacity.

• Unless the IPLC prices are brought down, the customers for BPO services would turn to the growing number of other countries that seek to provide BPO services at lower prices. This could have negative consequences for the BPO industry in India.

• TRAI should set tariff ceilings to ensure that VSNL's rate moves towards cost orientation. The tariff should be reviewed periodically but should remain in place until there is a basis to conclude that effective market forces will sufficiently constrain IPLC rates.

• One of the ILDOs commented that the market forces should be allowed a free reign such that price is a function of market demand and supply. But the regulator should ensure that the operators who hold significant capacities (bottleneck facilities) do not resort to restricting bandwidth supply thereby artificially inflating prices. Accordingly, the regulator should ensure easy access to bottleneck facilities such as landing stations owned by the significant operators.

• The incumbent was of the view that market forces should be allowed to decide the price and thus there should be no price regulation of IPLC.

Further, VSNL was of the view that any effort to regulate the market will hamper investments and hence the growth. They also believe that it might introduce rigidity in offering packages to the customers.

• The incumbent is of the view that IPLC prices in India are likely to fall by 30% over the next 12-18 months with increase in supply.

• VSNL has submitted that IPLC price constitute a very small proportion of the cost structure of IT, ITES and Broad Band services.

(b) Whether the reduction proposed by the Authority is adequate, less than adequate or too high.

• One of the ILDOs submitted that, the proposed tariff ceiling for E1 circuit of Rs.12 lakhs per annum seems very aggressive and more realistic level should be 15% to 20% reduction on the current tariff of VSNL. Similarly the

multiple of 8 times of E1 ceiling price proposed for DS3 capacity should be revised to 11 times of E1 based on international practice
• One other ILDO was of the view that the reduction in tariffs proposed by the Authority is impressive. However the tariffs for the half circuits should be made more attractive than in those countries competing with India in BPO/ITES sector. This is absolutely necessary to create an attractive business atmosphere.

• One of the standalone players in telecom services submitted that while the cost+ method could be adopted to work out the prices for different Circuits, this should be benchmarked against the international prices so as to ensure that VSNL, the monopoly service provider, does not unduly realize the benefits of its inefficiencies.

• ISPAI was of the view that the reduction proposed by the Authority in the consultation paper is too little, too late. The reduction is highly inadequate considering the rapid reductions in the ISD tariffs by the very same ILDOs who have deliberately not passed on similar benefits to the users of IPLC. • COAI in their written comments stated that the reduction proposed by the Authority in the consultation paper is too little, too late. The reduction is highly inadequate considering the rapid reductions in the ISD tariffs by the very same ILDOs who have deliberately not passed on similar benefits to the users of IPLC.

• One of the ISPs commented that that the greatest weight should be given to market rates charged elsewhere in the Asia-Pacific region for similar IPLC capacities when making the initial determination of VSNL's IPLC tariff.

(c) On the methodology and related issues including price-multiples • One of the ILDOs was of the view that the cost based approach taken by the Authority for fixing of the tariffs seems appropriate. However there are overestimates in some places.

• The ISPAI submitted that, most international cables land in many countries and hence, the investment decisions are not based on the potential or current

market in a single country like India. This aspect becomes crucial in computing the costs.

• COAI has commented that loading the entire costs of the ILD on IPLC alone is unjustified.

• One of the foreign carriers has stated that TRAI should adopt the proposed rate reductions in an initial phase, but should conduct a full LRIC study for the methodology in a subsequent stage.

• One of the Telecom service providers has submitted that the methodology seems to be reasonable. However it should be recognized that installed capacity is much more. The capacity utilized is very nominal. If installed capacity was made available, cost per E1 would be substantially lower. It is to be noted that demand has been there and the market absorbs Capacity as soon as it is made available.

• VSNL has observed that the Paper assumes that the total available cable capacity will be sold on the day one and will remain committed to be sold for the next 15 years and there would not be any vacuum or churn. This is far from factual position. The assumption that there will be no downward price revision-taking place in the next 15 years is not a reality in practical scenario.

Assumption that the Opex of 10% is sufficient to recover the entire operational cost of the entity is not a correct assumption. This methodology does not differentiate between the physical life of assets and economic life of assets.

• VSNL in its submission has commented on certain assumptions of the methodology contained in the consultation paper. These include that the proportion of satellite costs in the total cost assumed by the Authority is higher, there is under estimation of capital cost, and lower provision of supervision and administration charges
• VSNL has also observed that while the Authority has approved the ratio of 1:21: 63 for NLD pricing, it has proposed 1:8:23 for IPLC pricing. However, in both the services, the technology being used is similar and associated costs for multiplexing/demultiplexing are also in the similar proportion.

• One other ILDO has pointed out that they are in agreement with methodology that an E1 can be used as benchmark for higher multiples of the bandwidth.

However, the cost and O&M charges for an E1 and its higher capacities are not in linear relationship. Hence it is not appropriate to consider bandwidth multiple as cost multiple. Thus there is no reason why the international standard for cost multiple be any different from that in India. They therefore recommend that prevailing international ratio should be accepted.

• NAASCOM was of the view that the methodology used is setting the ratio in the right direction and is a good start. However, as the usage of both DS3 and STM1 will increase, same benchmark and current multiples will not be valid and need to be periodically reviewed. Then the TRAI needs to have a look at factors like utilization factor, quality and reliability of services and congestion levels.

• One of the Investment analyst firms has commented that they agree with the pricing-multiples specified by the TRAI in the CP since these have a rational basis and are also in line with corresponding multiples in other countries.

• A telecom service provider has said that given the rapidly changing dynamics of the telecom sector, whatever tariffs the TRAI fixes may be reviewed after 12 months.

• The notified ceilings should be reviewed regularly, at least twice a year and ceilings modified, if so necessitated. However, once the 'Retail Minus' pricing is introduced, over one year, there may be no more a need to review, except intervening in exceptional circumstances.

• On the issue of whether the same tariff be made applicable irrespective of end use i.e. voice or data, the overwhelming opinion of the stakeholders was that from an economic and cost causality perspective, there is little or no difference in the cost of providing IPLCs for either data or Voice. There is, therefore, no cost-based rationale for the associated IPLC. Indian businesses and consumers would both benefit from the availability of the wider spread and higher quality standards normally associated with PSTN based international voice services at lower prices.

• An industry Association has submitted that ILDO's are bound by the conditions of the license to offer bottleneck facilities to all users and other ILDO's. The cable capacity is a bottleneck at this time as India has limited landing stations. ILDO's especially those having "incumbent" facilities should be made to offer a discounted rate to other ILDO's so as to reflect the higher order capacity need and also to encourage sharing of this bottleneck facility. • The incumbent has stated that they invested in the infrastructure in the past when the country needed it and when the costs were on a higher side. They need to recover composite cost of its network while it offers IPLC services to its competitors. The tariff for the competitors (ILDOs) who resell the services, need to be different as compared to the tariff for corporate customers, who do not resell the services.

(d) Other comments

• Long run incremental cost (LRIC) on a forward looking basis of all cost elements including capacity increase in the long term, should not be used as they require deep

understanding of network economics, and modeling assumptions are subjective.

• LRICwould more accurately reflect underlying service economics and will not protect inefficient incumbents.

• Lower prices are observed on routes where bandwidths demand and hence supply is abundant.

• The capacities existing in various markets have resulted in the creation of 'hubs' (e.g. Hong Kong, US, UK) and 'spokes' (e.g. Thailand, Indonesia, Brazil). The prices between hub to hub will be lower than hub to spoke or spoke to spoke.

• Prices also different according to routes.

• The methodology in the Consultation Paper is incorrect because it takes both capital recovery of 28% and asset life of 18 years
• Costs differ for owned and consortium cables, both for prevailing costs and for incremental costs.

• There is little flexibility for changing prices for consortium cables.

• Comparison with international prices is not correct because these prices reflect bankruptcy and write down of assets.

Section III

Comparison of Indian IPLC tariffs with Benchmarks

i) **Comparison with List Prices**

10. The tariffs prevalent in India for IPLCs were compared with international benchmarks, and with the cost based estimates arrived at using cost data available in the separated accounts of VSNL.

11. Through intensive interaction with domestic and international experts, the Authority examinedvarious aspects of International lease prices for bandwidth including international benchmarking exercises, trends in the cost of cable construction for sub-marine network, market structures in various countries where prices are competitive, the regulatory environment governing the IPLC sector etc.

12. The international market for Bandwidth has witnessed a deflationary spiral for more than five years owing to various factors. In the international market for bandwidth, 2 Mbps i.e. E1 circuits served as the principal unit of capacity purchase for much of 1990s. Increasingly, DS-3s (Digital Signal 3) or STM-1s (Synchronous Transfer Module-1) are becoming the minimum purchase option. For purposes of comparing price trends across regions, STM-1 lease prices are now the most useful common denominator. In what follows, a comparison is made of the trends in the lease price of STM-1 across regions.

13. It has been found that In the Trans-Atlantic region, the median STM-1 price had plummeted 70% in 2000, 65% in 2001, 26% each in 2002 and 2003 and 25% in 2004. In the Trans-Pacific region, the median price of an STM-1 in a representative route fell 56% in 2003 and 40% in 2002. In the Europe-Asia region, the median STM-1 circuit prices fell by approximately 42% in 2003, which is comparable to the decline witnessed in the previous year. Median STM-1 lease prices in Asia fell by 50-60% in 2003 (source: PRIMETRICA, INC.2004, Vol.I: submarine networks). As against this backdrop, lease price for STM-1

originating from India, has declined only by about 10% in terms of Compounded Annual Growth Rate (CAGR) (from India to USA) during the period 2002 to 2005. The corresponding percentage decline in the lease price of DS-3 and E1 capacities originating from India were 8% and 10% (from India to USA) respectively.

14. A comparison of the above with the Indian prices shows that the extent of decline in the lease price of international capacity of services in India is substantially less than the extent of decline witnessed in other parts of the world.

15. A review was also made of the trends in the underlying cost of providing the IPLC service and it was found that the cost of cable construction and other associated activities for submarine network have declined significantly mainly on account of technological advances and increased competition among equipment suppliers. For instance, upgrading cables has been found to be a cost effective way to stay competitive in the market. Technological advances, such as new modulation techniques, etc. allow older cables to boost their capacities beyond their initial design capacities. Thus, upgradations are a key aspect of cable system because they allow the operator to very cheaply add capacity instead of constructing a new cable. This is evident from the fact that the cost of construction of submarine cable in 2003 was a little over US$ 1 billion as compared to US$ 12 billion in 2001 (source: PRIMETRICA, INC.2004, Vol.I submarine networks). This is reflected not only in the lease prices of bandwidth but also in the IRU prices (Indefeasible Right of Use) in the international market.

ii) **Comparison with Actual Prices, i.e. List Prices Corrected for Discounts**

16. The Authority considered it necessary to compare the market prices (IPLC lease rental) in other countries with that of IPLC half circuit tariffs in India. This type of information is typically very difficult to source and usually only list price is

available, which is often significantly higher than the actual market price. For this purpose, TRAI conducted thorough research and information on market prices from international experts was obtained. Tables 5, 6 and 7 in Appendix 1 of Annexure-A give a comparison of IPLC lease rentals reported (by international experts)to have prevailed during December 2004 in select Asian countries with that of the tariffs prevalent for IPLC in India for the farthest destination i.e. the USA. The international benchmark analysis suggests that prices for Indian IPLCs are substantially higher than in comparative markets especially for higher bandwidth circuits. It is therefore evident that international bandwidth is not competitively priced in India when compared with many countries in Asia, some of which are India's competitors in global Business Processing Operations business. These prices are an integral part of the costs of broadband and thus should be specially considered in any strategy to remove constraints and boost broadband in India, in particular rural India. Price regulation becomes important in the above context, based on costs and reasonable profits.

17. The evidence indicated above shows that the actual Indian IPLC prices are high in comparison to international benchmarks, which suggests lack of effective competition in the market for IPLCs in India. This has been confirmed in a recent study conducted by an independent consulting agency (Gartner, Inc 2004, 'Market Focus: International Bandwidth Pricing Trends, Asia-Pacific, 2004'). The conclusion of the Gartner study in regard to international bandwidth markets in Asia-Pacific is reproduced as under:-
'*The most-competitive markets for international bandwidth are Hong Kong, Singapore, Japan, Taiwan and South Korea. The least-competitive markets are Indonesia, India and Malaysia.'*

18. In this regard it also is relevant to quote the following statement of the Authority in paragraph 5 of the consultation paper on 'Fixation of Ceiling Tariff for International Private Leased Circuit (Half Circuit)' dated 30.4.2004.

"Effective competition has not emerged in the IPLC business segment. Bharti is the only other provider of IPLC but its operations are limited to non-restorable category. In addition, their submarine cable is a linear cable, which is not able to offer requisite levels of guaranteed availability/reliability without back up from an alternative cable. IT industry's requirement of reliability is of the order of 4 9's which today can largely be provided by only VSNL with facilities of access to multiple cables. Videsh Sanchar Nigam Ltd. (VSNL) is the incumbent operator in the IPLC business and is likely to maintain its dominance in this market for sometime."

19. Lack of competition in the IPLC market, or price for IPLC being much above cost, also implies a non-level playing field for the operators which use IPLC as an input but do not own it, if these operators have to compete in their service market with owners of IPLC which charge prices much above costs.

Section IV

Factors Constraining Competition

Limited Number of Players

20. In India, the international long distance (ILD) segment was opened to competition in 2002. Videsh Sanchar Nigam Ltd. (VSNL) is the incumbent operator with landing station facilities at Mumbai, Cochin and Chennai. The other ILDOs are Bharti Infotel, Reliance Infocomm and Data Access. Bharti Infotel owns a landing station facility at Chennai. Bharti Infotel has reported that their operations in the IPLC are limited to non-restorable category. As of now, Reliance Infocomm has not yet established their own cable landing facilities. M/s. Data Access does not own cable-landing facilities. VSNL is likely to maintain its dominance in the IPLC market for some more time. Thus, the prevalent market structure in IPLC in India is such that there are only three active players and of them only two have landing facilities. It is gathered that in many countries the number of players is large and most of the operators are Non-Facility based operators. At present, resale of capacity is not permitted in India because the focus has been on building additional capacity. The table below shows the number of bandwidth providers in each location (including resellers):

Location	Number of bandwidth providers
London	33
USA-NY	32
Germany	32
France	24
South Korea	14
India	3

Source: ERNST & YOUNG/NRA websites

Access to Facilities

21. Access to submarine cable landing stations is considered an essential input for many telecom services. Any unnecessary access restrictions tend to limit operator's competitive scope to provide international telecom services. Thus

the submarine cable landing stations are critical telecom structure and efforts should be made to ensure that they do not become bottlenecks to telecom service provision. Access barriers constrain the competitiveness of telecom operators and are detrimental to healthy growth of the telecom market. The Authority has received a number of complaints that competition is being restricted due to constraints on access to facilities.

22. VSNL's continued control of cable landing stations and associated facilities constitute bottlenecks, which allow the incumbent to stall or delayentry (or efficient operations) by other operators. Access problems are faced not only by the underlying cable operators but also by operators who have acquired capacity in a cable system and wish to access the capacity at the landing station. Discussions with industry sources suggest that establishing a cable landing station facility in India not only requires a huge amount of investment but is also a time consuming process involving various clearances including security clearance, etc. Thus, the control of access to the cable landing stations make it possible for the supplier of the access facility to impose constraints which are in the nature of non-price factors affecting the competition.

23. The Authoritynoted that there is a need to enhance competition in cable landing facilities and thatregulatory intervention would be required for this. The present consultation process initiated was however limited to fixation of ceiling tariff for IPLC and the remaining issues relevant for promoting competition in the market would be addressed later through a separate consultation paper.

Section V

Review of International Practices governing IPLC regulation

24. The Authority reviewed international practices in the regulation of IPLC segment. The Authority has consulted international experts on this issue who had examined in detail, regulations of various telecom jurisdictions relevant for IPLC (for details see Table No.8 in Appendix 1 of Annexure-A).

25. The following main conclusions emerge from the consultations of the Authority with the International experts:

* Several markets that are considered competitive today had at one point of time or other been subjected to regulation

* Even now regulation, including regulation of tariff exists in certain countries, particularly for the dominant operator. In a number of countries where there is no official cap on price for IPLC, the National Regulatory Authority reviews/approves the tariffs. (The Authority noted thatthis was shown also by data submitted by the incumbent even though it had argued for the tariff not to be regulated).

* It is common practice for the tariffs to be regulated until competition in the market has developed to a level where the regulator can safely withdraw and allow forces of competition to impose effective market discipline on prices. This appears to be the approach adopted by most overseas regulatory authorities prior to competition getting established in those markets.

26. The Authority considered the existing market conditions in India for IPLC including prices, its market structure, the conditions prevalent elsewhere in the region and the practices governing regulation of IPLC in other jurisdictions. Further, the Authority noted that the IPLC service providers are also ISP service providers and thus they compete with other Internet service providers who use international bandwidth resources to compete with IPLC service providers. Similarly, these IPLC providers (facility based ILDOs) are also providing

international long distance telephony and to that extent non-facility based ILDOs have to depend upon facilities of IPLC providers. For this reason also it is relevant to regulate the IPLC sector by mandating a cost based price as tariff. This measure would thus promote a level playing field in the industry.

27. In view of the above and in view of the recent and likely developments in the Indian market for IPLC, the Authority concluded that the immediate need would be to mandate ceilings for IPLC prices primarily based on costs. The Authority fully recognizes that most regulators fix prices after taking into consideration Forward Looking

Long Run Incremental Costs and if we fix the prices on this basis after considering the severe drops in such prices, the market structure would be unable to take the shock. The Authority would, therefore, consider such costs at the time of fixation next year.

Section VI

Costing exercise contained in the consultation paper- A brief overview 28. As part of the consultation process, the Authority sought and obtained costs of providing IPLC services. The cost based estimates of IPLC contained in the consultation paper were arrived at on the basis of data on costs given by the incumbent. This is because of the fact that M/s Bharti, the only other provider of IPLC in the early part of 2004, provided services that were of non-restorable category and hence not comparable. The methodology adopted in the consultation paper to arrive at a cost based IPLC tariff was Fully Allocated Cost (Top Down approach) using historical cost. The data provided by VSNL was difficult to verify except to check for consistency and validity of assumptions. Using this data and methodology, the average E1 price (Rs.12 lakhs per annum) had been worked out and that price was used to arrive at prices for higher capacity using a price multiple in the ratio of 1:8:23. However, the Authority in the consultation paper had noted the limitations of the data provided by the incumbent and it is relevant to reproduce the statement of the Authority in this regard.

"*During the tariff review, VSNL provided data relating to parameters like gross block, net block, and directly attributable operating expenditure to IPLC segments. VSNL provided a relative apportionment of assets used in cable based leased circuits, which was not easy to verify. The presumption in such situations is that the costs provided by the operator are likely to be over-estimates. VSNL used assumptions to further inflate the cost base. VSNL had claimed a depreciation rate, of 33% under WDV method for cable system. For the purpose of fulfillment of statutory obligations etc., however, VSNL was found to be using straight-line method of depreciation and average life of cable systems between 10 and 25 years in their Balance sheet. They had also claimed a pre tax return of 23.66% on total investment, which includes unutilized sum of Rs.625 crores raised through GDR issue. Further, the revised data submitted by VSNL, after prolonged discussions with them, vide their letter dated 10th October 2003 were also over estimates. These data too were inconsistent and not verifiable for*

a number of parameters like cable O&M restoration cost, and general-administration manpower and other overheads, etc. The number of E1 circuits declared from time to time also varied. More importantly, VSNL could not explain the basis for the gross block that was apportioned for purposes of IPLC segment of the business and also the higher amount of O&M under the operational expenses head. We have, however, used the data provided by VSNL with changes in certain underlying assumptions to obtain reasonable cost based estimates." (paragraph 16 of the Consultation Paper)

29. With separated accounts coming into force, the data provided by VSNL as part of Accounting Separation Regulation was made use of to arrive at cost estimates.

30. It was therefore possible to use the Audited cost for IPLC available in the Separated Accounts that became available to TRAI on 31st December 2004, which allocates costs specifically to IPLC. In addition, the Authority has more recent information on capacity, sales, and additional costs/investments made by the incumbent, which has also been used in the estimation of cost based tariffs.

Section VII

Costing exercises – Post-consultation paper

(a) Use of FAC based on Historical Costs

31. The approach of Top-Down, FAC method (with Historical cost) has been used to arrive at the relevant cost estimates by using the Audited cost data of Separated Accounts. For reasons of economic efficiency, it is generally recommended that the Forward Looking Long Run Incremental Cost (FLLRIC) be used to arrive at tariffs based either on Bottom-up approach or Top-down approach. In fact, internationally most Regulators use incremental costs for determining cost based charges. Even the incumbent in its submission to the Authority has stated that "*Long Run Incremental Cost does not protect inefficient incumbents*", and that "*Historical Average Cost might not reflect costs going forward in the face of technology changes and declining capex*" (i.e. it will be higher than the relevant cost).

32. However, when FLLRIC based tariffs are calculated, the amounts are much lower than those based on current or historical FAC. Whilethe Authority emphasizes a reduction in prices towards costs, it also emphasizessustaining this process so that a transition to FLLRIC based prices may take place overtime either through competition in the market, or through greater reliance on FLLRIC if the competition does not develop in the market over time. Relying mainly or fully on FLLRIC would give a much greater shock to the market, and is also likely to make transition to competition much more difficult. Therefore FLLRIC is not being given the importance it deserves at this stage. This implies that the cost base that has been used to arrive at the ceiling price has a buffer in it. The Authority emphasizes that from next year it would gradually move towards using to a larger extent the FLLRIC for fixing tariffs.

Cost Estimates for IPLC

33. The following four different types of cost estimates are possible :

(i) Based on data pertaining to incumbent's submarine cable operations for the period up to March 2004 (using data available in separated Accounts and the financial statements of the balance sheet for 2003- 04).

(ii) Based on data obtainedpertaining to the incumbent's new investments in establishing a modern submarine cable system i.e. Chennai- Singapore.

(iii) Based on data obtained from service providers on IRU payments made for leasing cable on long term basis submitted by one of the new entrants, and combination of IRU payments for leasing cable on long term basis and other investments made by another new entrant in landing station facilities.

(iv) Based on data on the cost of acquisitions of submarine cable systems by the ILDOs.

34. Data on cost of acquisition (i.e. item (iv) above) was sought but has not yet been provided as yet. Therefore, the information relating to the cost of acquisitions of submarine cable systems was collected through various sources.

35. The information on acquisitions of cable systems during the last two to three years does give an idea of the order of the cost decline for the capacity that is being augmented in the IPLC sector by these ILDOs. For example, the information submitted by the incumbent itself shows an asset impairment of $2 billion during 2002 for FLAG, and write-off of $665 million for Tyco (i.e. Rs. 8,800 crores and about Rs. 3,000 crores if an exchange rate of Rs. 44 to one dollar is used)

36. It is noteworthy that the cost based tariffs determined by the Authority are not based on the extremely low levels of investments/cost of acquisitions of submarine cable systems by the ILDOs in India because this would imply a fraction of the prevailing investment per E1. Using these costs would result in a

drastic reduction in the cost based price of IPLC and would go against the Authority's attempt to fix cost based ceiling tariffs without causing major shock to the market during the transition period.

37. Onenew entrant has provided data on the IRU lease rentals paid by them for leasing cable on a long term basis. Another new entrant has provided data on investments made in cable landing facility and IRU lease rentals paid by it. Based on these data, cost estimates were derived for E1 capacity. These estimates, also give a very low price as compared to the cost estimates based on historical cost in respect of investments in older cable systems of the incumbent. As stated earlier, the Authority decided to

manage the transition smoothly without a major shock to the market particularly to the incumbent and thus, the cost estimates of new entrants were not considered appropriate at this stagefor fixing the ceiling tariff.

38. The Authority noted that VSNL has built a new cable system between Chennai and Singapore and a landing station at Chennai in the year 2004. This cable system is ready for operations. The cost estimates of providing IPLC services through this new cable system set up by VSNL were derived based on the cost data provided by them. A range of capacity utilization was considered for arriving at cost estimates in terms of E1 capacity taking relatively low capacity utilization that is shown by the incumbent in its submissions to theAuthority on this matter,and it was found by the Authority that these too show a cost based tariff much lower than that derived from VSNL's separated accounts for its older cable systems. For the reasons already mentioned above, the Authority is not relying at all on these relatively lower costs also, even in terms of a weighted average cost for VSNL, and thus a substantial buffer is provided in the cost based tariff.

39. The Authority noted that the most detailed information is from the separated accounts of the incumbent, and the cost based tariff estimate has

been derived after detailed examination and analysis of the data. As mentioned above, estimates based on the other data have also been made and they provide a useful background for our analysis and cost based tariffs derived from the separated accounts of the incumbent. The estimates based on alternative cost information are lower, and as a regulatory policy it would have been valid for the Authority to use such information for determining its tariff ceiling. The Authority has not used these alternative lower cost estimates at all in order to avoid major shocks to the system and to maintain a reasonable buffer in the specified ceiling.

Capacity Utilisation

40. The Authority has information on the actual capacity available with VSNL as of July, 2004. The Authority examined the capital expenditure/investment made by VSNL in the period April to July 2004, and concluded that the capital expenditure for the separated accounts for 2003-2004 could be allocated to this capacity available in July 2004, i.e. the CAPEX for end-March 2004 could be considered as giving rise to the available capacity in July 2004.

41. The next step is to examine the extent of this available capacity to which the costs should be allocated for determining the average cost per E1. The Authority has data on VSNL's sales in terms of various capacities i.e. E-1, DS-3 and STM-1 for March 2004 and September 2004. In September, 2004 the capacity sold by VSNL was less than 60% of the capacity available in July 2004. The Capital expenditure and Operating expenditure are allocated on per E 1 basis to this capacity level.

42. Taking account of the growth scenario submitted by VSNL itself, this would appear to be an underestimation of the capacity utilization relevant for the implementation period. VSNL's saleable capacity will also increase manifold during the implementation period and its cost will be much lower than those calculated for capacity available for July 2004. Thus, a substantial reduction in average cost would arise if the Authority relies on the relatively lower cost

estimated for the new additions to capacity. The new lit capacity added by the incumbent is more than 96% of its total lit capacity and thus to that extent the cost based tariffs based on historical cost of the older cable systems would be a significantly higher estimate than the cost that would arise for VSNL during the implementation period. Nonetheless, the Authority has provided a buffer to ensure smooth transition to competition, by not relying on the incremental cost approach for reasons of managing the transition without causing a major shock to the market. Instead, the Authority has thus used average costs based on the data submitted by VSNL for 2003-04 and other data on sales / capacity etc. during 2004, while the implementation period is 2005-2006.

Capital Expenditure (CAPEX)

43. The CAPEX includes Return on Capital Employed (ROCE) and depreciation/ amortization claimed on the capitalized assets. The methodology for calculation of these expenses is discussed below:

(a) Capital Employed - The capital employed is defined in the DOT's order number 7-4/2001-Tariff notified in the Gazette dated 8.11.2003 on the manner of maintenance of books prescribed by Telecom Regulatory Authority of India, Service Providers (Maintenance of Books of Accounts and other Documents) Rules, 2002 as the sum of net fixed assets, working capital and capital work in progress. In the accounting separation reports, the capital employed by the service provider is allocated to different products offered by it. VSNL has allocated its capital employed to the IPLC in the separated accounts. The Authority has made certain adjustments to these amounts, as follows.

(i) **Funds not related to IPLC business**: The amount of capital employed for IPLC in VSNL's separated account includes portion of its investments in the TATA Teleservices Ltd and money raised from its GDR issue, which is presently lying in the bank. These items have been excluded for costing as they are not relevant for IPLC service for which costing is done. VSNL had submitted to the

Authority that this amount should not be reduced because investment in TTSL is made to foster growth of VSNL's business and hence should be treated as part of operating capital. Further, VSNL claimed that the deposits representing monies raised during GDR issue are financial resources available for use and has a cost attached to it and considered as part of the Capital employed. The Authority does not agree with this view. These funds are not linked to the operation of IPLC *per se*, and the costs related to them should not be imposed on the customers of IPLC and thus this has been excluded. The capital employed is therefore adjusted for these two items.

(ii) Removing capital expenditure for satellite: The Authority is specifying tariff ceiling only for cable and not for satellite IPLCs. Thus, the costs allocated to satellite need to be removed. The separated accounts submitted by the incumbent for 2003-04 for the IPLC segment include the cost for cable circuits as well as satellite circuits. The satellite assets employed for IPLC segment are separately available in report on "Pricing of IPLC" (prepared by Boston Consulting Group on the behalf of VSNL), submitted to the Authority by VSNL. In this report, it is stated that the satellite assets relevant for IPLC are about 4%. The capital employed is adjusted only to this extent although the proportion of gross block accounted by assets for satellite in the composite costs are higher as per another estimate derived by the Authority.

(b)	**ROCE**:	The Authority had used a ROCE of 14.42% in its

Consultation Paper (Paper no 10/2004). VSNL has submitted to the Authority that if more recent cost estimates are taken for deriving the ROCE, then the appropriate pre-tax ROCE would be 18.79 %, based on a equity-debt ratio of 99:1 and return on debt and equity, respectively, of 8% and 18.92 %. For its estimate of 14.42%, the Authority had in the consultation paper taken the equity-debt ratio of 96:4.

44. The Authority examined the submission of VSNL in this regard and noted that the equity-debt structure was substantially different from normal and reasonable capital structure. The use of the ratio in the Consultation Paper was to obtain further comments in this regard. Moreover, the ROCE in the Consultation Paper was in the range of reasonable industry ROCE, and not a lopsided one, which has arisen in the submission of VSNL. It is reasonable for the Regulator to make adjustments in data (including for capital structure) which is abnormal and also indicates inefficiencies of the operator. The Authority has examined the average of the ROCE for other operators in the industry and that figure amounts to less than 14%. In the above-mentioned submission of VSNL too, if we change the equity-debt ratio to 60:40, which is a reasonable ratio for efficient capital structure, the ROCE become similar to the one used by the Authority in the Consultation Paper. In fact, the Authority has in some other previous exercises, used an equity-debt ratio of 1:1 and if this ratio is used then the ROCE would be even lower at 13.46%. Moreover, VSNL has used 14.42% as the WACC (Weighted Average

Cost of Capital) in the accounting separation statement, which are audited accounts submitted to the Authority on 31st December, 2004 under a Regulation (notified in the Gazette). For these reasons, the Authority has continued to use the ROCE of 14.42%.

(c) **Depreciation:** The expenditure under the depreciation head for the IPLC segment given in the accounting separation statement is adjusted by 4% to account for depreciation for assets for satellite based IPLC segment.

45. VSNL has submitted to the Authority that the value of depreciation taken for costing capital should be higher because while the depreciation amount has been taken on the basis of a lifetime of 18 years, for all practical purposes, the economic life of the cable is 5 to 8 years. VSNL supported this by stating that "*the recent write-down in asset values including SMW3 and SAFE where VSNL invested only in the last 7-8 years. Current estimates of the economic lives of assets have further lowered down from 8 years. SMW-2 which was*

commissioned in the year 1995 is slated to retire by next year upon commissioning/stability of SMW-4."

46. The Authority noted that it is using the actual depreciation amounts for IPLC that are given by VSNL in the audited separated accounts submitted under a Regulation to the Authority, on 31st December, 2004. Moreover, the Authority noted that VSNL's claim that now the life of a cable for the purpose of depreciation was taken as less than 10 years is not correct. In its Annual Report for 2003-2004, VSNL has stated with respect to Tata Indicom India Singapore Cable (TIIS Cable) that: "*With an estimated life of 25 years, the new cable aims to significantly enhance India's connectivity into the Asia-Pacific region and the U.S. via the Pacific*" (emphasis added; page 12 of the Annual Report). If we use this estimate of lifetime, then the amount of depreciation should be even lower. However, the Authority has not done this and has relied on the audited accounts submitted to it with separated accounts. The Authority also noted that the cable in its physical form normally does not cease to function at least until its full life assumed in the calculation of TRAI. Further, the capacity of cables can be enhanced phenomenally at a very low cost owing to the availability of new techniques.

47. Based on the various data submitted by VSNL, the Authority also noted that the prices have been very high in the past (e.g. in 2000, the IPLC price was Rs. 163.7 lakhs), which have already provided large returns on the investment.

Operational Expenditure (OPEX)

48. The operational expenditure under various heads as given in the separated accounts for 2003-04, has been taken into account for determining the OPEX. Items of expenditure under this heading, which were not considered relevant by the Authority for the purpose of providing IPLC through submarine cable, have been excluded for deriving OPEX estimates. These include rent for the landlines and operational expenditure for the satellite based IPLC.

49. Regarding the rent of landline charges shown in separated accounts, VSNL has clarified that this item of expenditure consist of 'lease changes for domestic bandwidth acquired from other service providers for providing domestic connectivity for IPLC services**'.** The tariffs for these are charged separately from IPLC. With respect to the operational expenditure for satellite, the Authority noted that there was a discrepancy in the costs submitted by VSNL, which showed an over-estimation of the relevant costs. In its annual financial statement (i.e. the composite accounts of the company in its Annual Report), VSNL has classified satellite related operational expense of Rs. 172.17 crores under the Head "rent for satellite channels", for the financial year 2003-04. In its separated accounts, VSNL has not got any cost category as "rent for satellite channels". In separated accounts it has provided another Head, namely "international bandwidth charges", under which it has given costs for satellite rental together with some other costs. This latter Head is not in the annual composite account, and there is a need to reconcile the data, which has been done by the Authority because even subsequent information submitted by VSNL shows that it is underestimating to a large extent the relevant operational costs that should be assigned to satellite. Based on its reconciliation exercise, and taking account of the usage pattern as well as the importance of other cost components within "international bandwidth charges", the Authority has calculated the cost based tariff for IPLC by making adjustments to the operational costs so that the amount of Rs. 172.17 crores of rent for satellite channels is fully and reasonably accounted for in the separate activities that are given by VSNL in its separated accounts. In this regard, it is noteworthy that in the separated accounts, if two-thirds of the amount shown as "international bandwidth charge" for services other than IPLC are taken to be accounted by expenses due to rent for satellites, the entire amount of the "international bandwidth charge" shown in the separated account for IPLC will have to be allocated as rent for satellite channels.

50. Based on the CAPEX and OPEX estimates arrived at after addressing in detail all the relevant issues explained above, the Authority has determined the Tariff for IPLC Half-Circuit in terms of E-1. The average cost per E1, based on reasonable assumptions using the above-mentioned methodology, is in the range of Rs.7.40 lakhs to Rs.9.00 lakhs per E1. In deciding the price of E1 (based on cost estimate), the Authority also kept in view the ratios that are to be proposed for higher capacities as price multiples. Decreasing the price multiples in relation to the E1 cost, for higher capacities in comparison to their technical coefficients (or technical multiples of capacity) implies that there is a cost amount that is not recovered unless the tariff ceiling for E1 is increased. The Authority has done this, taking account of the multiples for higher capacity discussed in the next Section.

51. Taking the above factors into account and considering also that this ceiling tariff would be applicable to all distances and all types of cable systems irrespective of the destination/route, the Authority has decided to fix ceiling tariff for IPLC at Rs.13 lakhs per E1 per annum. Detailed calculations are not being given here as the Authority has used commercially confidential data of the incumbent. It would have been valid for the Authority to have used the much lower cost estimates taking account of the new capacity of the new entrants and even the incumbent. However, the Authority has not done so to ensure smooth transition to lower costs and has kept a substantial buffer in the cost based tariffs. Thus, the ceiling tariff fixed now is for the farthest destination and the operators are at liberty to offer tariffs below the ceiling tariff for various destinations/routes.

Section VIII

Pricing of DS-3 and STM-1

52. Bandwidth, like most other goods become cheaper on a per unit basis when it is purchased in large volumes. Additionally, the costs for required equipment, marketing and sales also decreases with higher capacities. Analysis of global multiples (PRIMETRICA, INC.2004, Vol.I: submarine networks) shows that the multiples of the price of E1 to DS-3 is frequently in the range of 4-7 times the price of E1 circuit, while the multiple from E1 to STM-1 is in the range of 8-17 times the E1 prices (see Table below).

Source	Ratio (**E1:**DS-3: STM-1)
Telegeography-High	**1:**7:17
Telegeography-Low	**1**:4:8

Additionally, it needs to be borne in mind that, the price ratio has to be seen in conjunction with the price for the lowest capacity i.e. E1.The prevalent tariffs offered by the ILDOs in India give the ratio between E1, DS-3 and STM-1 that are very high compared to international price ratios for these capacities. The market data on sales in terms of different capacities suggests that higher capacities will dominate the demand scenario for IPLC in the near future. Therefore, having arrived at the cost estimates of E1

capacity, the next step is to decide the price of DS-3 and STM-1 so that on an average, the service provider recovers the total cost incurred in the provision of services of all capacities put together. The technical co-efficient of equivalent capacity in terms of E1 for these capacities are 1: 21: 63. The co-efficient to be adopted for pricing these capacities are to be derived. The objective as stated earlier is to derive prices, which would be reasonable and adequately cover the cost.

53. Based on cost data supplied by the incumbent and other cost data discussed in the earlier sections of this Memorandum, it is evident that the average cost of bandwidth has been declining overtime both for investment and operational cost. This trend is likely to continue in the future as well owing to

technological advances, which implies that the marginal cost of acquiring additional capacity is substantially below the average cost estimate and will decrease further in the future. Based on the data with the Authority, including the recent submissions of VSNL and other ILD operators, the prevailing IPLC lease rentals in various countries, keeping in view the incentives for investments in the infrastructure for IPLC, and after ensuring cost recovery on a weighted basis from various capacities the price multiples for DS-3 and STM-1 capacities are fixed at 8 and 23 respectively. The mandated ceiling tariff results in a reduction of 35%, 71% and 70% in respect of E-1, DS-3 and STM-1 respectively from the existing listed tariffs of the incumbent (See Table No.4 in Appendix 1 of Annexure A). These are also compared with the international prices (market prices as of December 2004) and ratios of these prices for higher capacities vis-à-vis E1 price. These are given below:

International comparison of IPLC price (Asian Region) E1 prices and price multiples

	(1)	**(2)**	**(3)**	**(4)**
Country	**E 1 price US$'000**	**DS-3 price US$ Millions**	**STM-1 price US$ Millions**	**Ratio of Columns (1):(2):(3)**
Japan	23	0.10	0.2	1:4:8
South Korea	23	0.10	0.2	1:5:10
Hong Kong	24	0.12	0.3	1:5:11
Singapore**	33	0.17	0.3	1:5:11
India (existing)*	39	0.66	1.9	1:18:50
India (ceiling fixed) @ Rs.	**29.55**	**0.24**	**0.68**	**1:8:23**

Source of International data: ERNST & YOUNG/Telegeography Note :-US $=Rs.44

* Discounted price

** Singapore's E1 price is high inter-alia on account of low multiple for DS-3 and STM-1

54. VSNL has in its submission to the Authority stated that while the Authority has approved the ratio of 1:21: 63 for NLD pricing, it has proposed 1:8:23 for IPLC pricing. However, in both the services, the technology being used is similar and associated costs for multiplexing/demultiplexing are also in the similar

proportion. In this regard, the Authority noted that a separate consultation paper is underway for revising the ceiling tariff applicable for domestic leased circuit and in that order, the Authority would appropriately address this issue.

Section IX

Further examination of Issues raised during consultation process

55. A number of issues raised during the consultation process have been addressed in the foregoing notes. VSNL in particularhas raised the same issues once again during its presentation to the Authority and vide its letter dated 23rd February 2005. These are again addressed in the following paragraphs:

"IPLC prices in India are in line with comparable benchmarks"

56. This argument has been strongly refuted with evidence in the relevant sections in this explanatory memorandum. The reduction in the IPLC tariffs in India during the last three years amounted to about 10% (Compounded Annual Growth Rate) as against about 45% (CAGR) decline in other major markets. More importantly, the comparison of Indian IPLC tariffs and IPLC lease rentals prevalent in other countries made by the incumbent in their presentations to the Authority was based on listed prices. The prices relevant for comparison in such situation are the average actual prices prevalent in the market and not the listed prices. In view of this, the Authority obtained the market prices from the international experts, which indicate, that the price decline in India for IPLC has not been commensurate with the declines witnessed elsewhere nor are the prices in line with costs. The argument of the incumbent that rapid reduction in international bandwidth prices is due to the chapter 11 Bankruptcy Protection is not entirely true. Further, even the incumbent has acquired capacity at very low price in this situation, which we have not considered. Instead, the derivation of the cost estimates based on FAC – Top Down Approach using separated accounts for 2003-2004 and capacity available in July 2004, submitted by VSNL to the Authority shows that the prices set by VSNL are much above the cost. Separately too, evidence has been collected to show that internationally the cost of laying submarine cable systems has come down drastically (Discussed in Section III). Moreover, since costs are declining and the implementation period of the tariff ceiling is in 2005-2006, the tariff ceiling based on costs and capacity

of the previous period will have an additional margin in addition to that already provided in the methodology.

"International Bandwidth is small part of IT costs"

57. One of the submissions made by VSNL in their presentation to the Authority was that international bandwidth is a small part of cost structure for IT and IT enabled services and the cost of providing broadband services and, therefore, they argued that tariff reduction in IPLC will not have any major impact on the cost of providing the services for which international bandwidth forms an input. The Authority noted this point and reiterated that bandwidth is a critical input for IT and ITE services and for providing broadband services in the country in general and rural areas in particular. Further, the Authority recalled that the cost on account of bandwidth forms a substantial proportion of the cost of provisioning broadband and Internet services in the country in general (more than 45% of total monthly cost). Moreover, these prices also have an effect on the level playing field for those using but not owning IPLC as inputs for providing services, in a market where they compete with the owners of IPLC also for their

market. Taking account of all these factors, it is for the regulator to decide whether a particular service is to be regulated and also decide the cap on prices for such services. The Authority's decision is based on such an analysis, as has been shown in this Explanatory Memorandum.

"Prices are different for links between hubs and those between hubs (spokes) and spokes"

58. The incumbent has further submitted to the Authority that certain lower prices for IPLC shown to be prevalent in certain Asian countries are in fact prices between hubs and prices of IPLC between such hubs ought to be lower due to high traffic density. In this regard, the Authority noted that the tariffs fixed for IPLC have been determined based on actual costs and in that cost also sufficient margin and buffer have been provided.

"Regulation of market will hamper investments"

59. VSNL was of the view that any effort to regulate the market will hamper investments and hence the growth. They also believe that it might introduce rigidity in offering packages to the customers. The Authority is of the view that setting a ceiling price as set by the Authority will not affect future investments, as there is considerable under utilized existing capacity and sufficient margin has already been provided in the cost estimates owing to the adoption of historical cost and providing a buffer in those cost estimates as discussed elsewhere in this note. Further, these capacities of the incumbent have earned huge surplus owing to high prices prevailed during the last several years. Since the price proposed for IPLC will be in the form of Ceiling, the operators will be at liberty to offer any tariff package to the consumers.

"Single IPLC rate may restrict the product choice for customers"

60. VSNL has stated that, Single IPLC rate may restrict the product choice for customers and thus would bring rigidity in the market. In this regard, the Authority notes that TRAI is not specifying any specific tariff for IPLC half circuit but is giving a ceiling for the tariff. Fixation of ceiling tariff provides full liberty to the service providers to offer different tariffs to different destinations/routes etc. provided such tariffs are not above the ceiling tariff. Since the tariff ceilings have left a considerable margin compared to costs, especially if we consider the costs during the implementation period of the regime, this provides major flexibility for the service provider to give appropriate tariff packages covering overall costs. Moreover, as noted earlier, VSNL has already recovered large amounts of its relatively costlier circuits which were installed earlier.

"Internationally, price regulations for IPLC is very rare"

61. The Authority made a detailed review of the International practices governing regulation of the IPLC market in a number of countries the results of the review are tabulated and a detailed exposition of the regulatory practices governing IPLC sector in many countries are given in Table No. 8 in Appendix 1

of Annexure A. As per that review, a number of markets, which are now considered to be competitive, have at one time or other been subjected to regulation of various kinds including tariff regulation. Even now, in some of the competitive markets for IPLC, the dominant operator in those markets is subjected to tariff regulation in the sense that they are required to file the tariffs with the regulator which are then subjected to detailed scrutiny and prior approval has to be obtained from the regulator, who gives such approval after being satisfied with the prices proposed by these operators. Even the submissions of the incumbent to the Authority clearly indicate that IPLC sector is regulated in countries like Vietnam, Singapore, Taiwan and in European Union. In the case of Vietnam, it is in the form of price band/ceiling and prior approval of the regulator. In the case of Taiwan, for dominant operators the type of regulation in IPLC is through price band/ceiling. In Singapore, the dominant IPLC providers have to obtain the prior approval of the regulator for the tariffs. In some markets where explicit regulation is not seen now, the conditions prevalent in those markets are completely different from the ones facing the Indian IPLC market. Each country has to decide whether or not to regulate a particular market, and in the case of India there is a good case for regulation of IPLC.

"VSNL alone does not control the consortium decisions of commercial cable"

62. VSNL in their submission to the Authority has stated that the ownership / control of most of the cables landing in India was in the hands of the consortium which decides any upgradation/expansion of capacity in cables; a single consortium member has a very limited say in the matter. VSNL has said that the capacity expansion on the consortium cable is expensive and on-going restoration and O&M contracts are negotiated by the consortium, leaving little flexibility to the individual members.

63. The Authority has noted that the above assertions of VSNL clearly indicate that VSNL has not denied that they have freedom to set prices or comply with the

tariff orders of the Authority as and when issued. In fact VSNL has submitted to the Authority that they will reduce the prices as desired by the Authority but would not like as sharp a fall in these prices as the Authority had proposed in the Consultation Paper. Even during the meetings with VSNL, a specific question was put to them in this regard and they did agree that they have flexibility to effect changes in the price of IPLC (Half Circuit) with them.

64. The Authority is of the view that the process of tariff ceiling regulation has been significantly extended to accommodate various and repeated submissions by IPLC providers, and this too is an example of reluctance on part of the IPLC suppliers to change prices of IPLC in a market which lacks competition and requires regulatory action.

'VSNL's Weighted Average Revenue realization is less than E1 tariff' 65. VSNL has claimed that with the tariffs proposed in the consultation paper, the weighted average revenue realization for all capacities is less than the price of E1. The Authority's methodology to fix tariff ceilings in this Regulation takes account of this point. The Authority notes that the detailed calculations that have been made now with the audited data of costs reported by VSNL as part of Accounting Separation give an idea of the surplus in the tariffs of VSNL over the cost of providing the services. VSNL's submissions have aimed at trying to show costs as high as possible and on obtaining a large margin above cost in the specified tariffs. An examination of the Weighted average revenue realization, the average cost of the incumbent, and further analysis on the basis of the market data on the product-mix ratio of the three capacities, has been conducted to ensure that the tariffs ceilings fixed not only cover the overall costs but also provides for sufficient buffer over those costs. It may also be noted that the ceiling tariffs are still above the tariffs prevalent in certain countries, more so for higher capacities. The Authority is firmly of the view that tariffs of IPLC, a key input for a variety of economic and social activities, cannot be completely left to

the commercial judgment of operators particularly when the Authority does not consider the market competitive.

'Higher license fee pushes up the IPLC tariff'

66. VSNL has stated that one of the reasons of the higher cost of IPLC is the higher license fee (15% of Adjusted Gross Revenue) as applicable in India and in most countries the license fee is much less than this. In this regard, the Authority notes that the argument of VSNL is not valid, as the cost based tariff has been derived by taking into account revenue share license fee at 15%. In fact the Authority has recommended in the Unified Licensing Regime that the revenue share license fee be 6%, and if the license fee is reduced there would be a further increase in the margin for the IPLC service providers. In the event of reduction of license fee for the ILDOs, the Authority would reduce the ceiling tariff correspondingly.

'Request for sharing of tariff working arrived by the Authority, seeking time to provide actual tariffs, and allowing personal interaction with external consultant if engaged by the Authority'

67. The Authority noted this point of the incumbent and recalls the number of such meeting the incumbent had with TRAI before and after the issue of consultation paper. Therefore the Authority is of the view that,enough opportunity was given to the incumbent by the Authority before and after the issue of consultation paper in the matter of sharing information, data, viewpoints and other perception about market developments, etc. From July 2003 to February 2004, a number of meetings had taken place between

VSNL and TRAI for discussions relating to pricing of IPLC. After the issue of the consultation paper also, at the request of VSNL, TRAI extended the opportunity to their consultants i.e. BCG, for a series of discussions (during 8.10.04 and 27.10.04) culminating in a presentation to the Authority on 16.2.05. The incumbent knows well that the Authority fixes its tariff ceiling in terms of changing the actual price and not the listed prices, because the effect of a price change can otherwise be

substantially mitigated by changing (or removing) the prevalent discounts. Still the incumbent and its experts even till the end submitted price comparisons in terms of list prices.

68. The Authority has had several interactions with VSNL regarding the tariff working also, which is why they have submitted a number of suggestions for changing or making amendments in the methodology. The issues raised by them from time to time have been taken into account in the formulation of proposals for fixation of IPLC tariff. This explanatory memorandum gives details of the background and circumstances leading to the issue of the tariff order, relevant data used for the purpose, and other relevant information/methodlogy for tariff fixation. It is not incumbent upon the regulator to arrange for a discussion with the external consultants engaged for such a purpose. Till now, the Authority has not followed such procedures where interaction is provided with external consultants used by the Authority. In the view of the Authority, it is also not an appropriate regulatory practice to accede to such requests. The Authority views these requests as another attempt to delay the consultation process, which actually began in April 2004.

Price for capacity below E1

69. It is proposed not to specify separate ceiling price for IPLC capacities below E1 as smaller capacities form a low proportion of total demand for international bandwidth now which would become an insignificant proportion in future. This is also evident from the incumbent's data on sales of various capacities during the last year. Therefore, the tariffs for such capacities are forborne.

Price for Different Use

70. Another issue raised in the Consultation Paper relates to the applicability of this ceiling tariff for various usages i.e. voice or data. From an economic and cost causality perspective, there is little difference in the cost of providing IPLCs

for either data or voice. There is therefore, no cost based rationale for the associated IPLC tariff ceiling to vary. The majority of the stakeholders were of the view that the proposed ceiling tariff should be the same whether it is used for voice or for data services. In view of the above, the Authority has mandated that the ceiling tariff for IPLC half circuit shall be the same irrespective of its end use i.e. whether for voice or for data. The Cellular Operators Association of India have in their submissions stated that loading the entire cost of the international long distance on IPLC alone is unjustified. In this regard, the Authority clarifies that in arriving at the cost based estimates for IPLC, the separated accounts available for 2003-04 duly audited for IPLC segment have been relied upon. In the separated accounts similar cost details are separately available for international long distance business and therefore the statement of COAI is not correct. In the event of VSNL using IPLC for ILD calls, the price that VSNL should charge for such usages should be the same as that of the charges applicable to others.

Tariff forbearance for satellite IPLC

71. As mentioned in the methodology, the costs related to satellite IPLC have not been considered. Thus, tariff for satellite IPLC are forborne.

Standard Tariff for Half-circuit IPLC to be mandatory

72. There are two components involved in the provision of IPLC service i.e half circuit of the Indian end and the other Half-circuit of the farther end. TRAI's regulation/tariff orders for IPLC can cover only the near end portion of the IPLC that is offered by a licensed ILDO of India. ILDOs in India do provide full circuit services of IPLC by having commercial arrangements with the foreign carriers; but the Tariff order of TRAI applies only for the near-end Half-circuits linked to India. It is possible to circumvent the tariff order that mandates only the half-circuit tariff by offering only full circuit services and tariff for that service to the customers.

73. Therefore, the Authority mandates a Standard Tariff Package in which Half-circuit will be offered at the ceiling tariff for each of the capacities and destinations for which full circuit services are offered by the ILDOs. This would enable the Authority to monitor the compliance of the tariff order by the service providers. However, the ILDOs are at liberty to offer any other Alternative Tariff Packages to match competitive activity in the market.

Conclusions

74. The Authority recalls the growth experience in mobile telephony consequent upon tariff declines witnessed in India. Similarly, reduction in lease price for IPLC would also stimulate strong growth. This argument is further strengthened with the evidence brought out by independent studies that have stated that, India is forecast to achieve very rapid growth in fixed data services averaging at least 20% annually between 2004-2008, i.e. higher than China. The experience with growth in India has been that with low prices, there has been explosive growth of subscriber base in voice telephony and it would be reasonable to expect that the same story would be repeated in the growth of Broadband /Internet and other data services that are crucially dependent upon international bandwidth. Therefore the intervention of the Authority by stipulating a cost based tariff for IPLC becomes important but the growth in demand induced by the lower prices being mandated by the Authority will itself act as demand stimulant leading to higher utilization of capacity of the operators that would have secondary effects in pushing down the price levels. A number of other reasons have also been given in this Explanatory Memorandum to show the basis of the Authority's intervention with respect to IPLC tariffs.

Based on the above, the IPLC tariff ceilings are specified as follows:

Capacity	**Price (Rupees in lakhs)**
E1	13
DS-3	104
STM-1	299

75. The Authority will review the situation with regard to developments in the IPLC segment within a year. Separately, the Authority would come out with necessary consultation papers on issues relating to cost based access pricing for cable landing stations and issues arising out of cable landing station facilities as a bottleneck facility and other related issues for promoting competitive conditions in the IPLC segment.

Appendix 1 of Annexure-A

Table No.1 – Trends in IPLC (Half Circuit) Lease rentals in India – VSNL (Exchange rates as prevalent during the relevant period have been applied)

Year	Annual Lease Rentals					
	E1 (2 Mbps)		DS-3 (45 Mbps)		STM-1 (155 Mbps)	
	Rupees in lakhs	US $	Rupees in lakhs	US $	Rupees in lakhs	US $
2002*	26	54,629	471	990,126	1365	2,867,647
2003#	30.8	67,102	471	1,026,797	1365	2,973,856
1.1.04#	23.7	52,202	445	980,176	1235	2,720,264
1.4.04#	21.3	48,519	401	913,439	1112	2,533,029
2005#	20.2	45,909	361	820,454	1000	2,272,727

Note: Discounts offered have not been taken into account, as they are dependent upon various criteria.

* Tariff for IPLC services irrespective of the destination.

Tariff applicable for Restorable Category and for the farthest destination from India

Table No. 2 – Existing IPLC(Half Circuit) Tariff – Bharti Infotel

Capacity	**Annual lease rental**	
	Rupees in lakhs	**US $**
E1	9.81	22295
DS-3	175.50	398864
STM-1	418.50	951136

Note: 1. IPLC services of Bharti Infotel are for Non-Restorable category only (as reported).

2. The above tariff is for farthest destination from India.

3. Discounts offered have not been taken into account, as they are dependent upon various criteria.

4. Exchange rate applied: US$=Rs.44.

Table No. 3 – Existing IPLC(Half Circuit) Tariff – Reliance Infocomm

Capacity	**Annual lease rental**	
	Rupees in lakhs	**US $**
E1	(Full circuit tariff – Rs.69.9 lakhs)	(Full circuit tariff – 159,000)
DS-3	427	971,500
STM-1	1238	2,815,000

Note: 1.	Above Tariff is applicable to all destinations.

2. Discounts offered have not been taken into account.

The discount structure for VSNL, Bharti and Reliance Infocom are as follows:-

(i) VSNL

Discounts offered are conditional upon commitment to buy larger capacities/ circuits and commitment to buy for a longer duration viz: in terms of number of years . In India, the discounts on account of Volume (circuits) and Volume(bandwidth) put together go up to 15% of the listed price in the case of E1. Commitment for a longer duration of 3 years would give another 10%. In the case of DS-3 and STM-1 the maximum rates of discounts are 20% and 15% respectively excluding the discounts related to longer duration commitment (10% for 3 years.)

(ii) Bharti

Discounts are offered on a case-by-case basis. Eligibility criteria for the discount schemes depend upon long-term business commitment and competitive prices. Discount rates have not been specified and left open ended.

(iii) Reliance

The maximum rates of discounts reported is 40% and are dependent upon the following criteria:

* Total revenue from the customer

* Repeat order and contract period
* Capacity utilization by specific location
* Compliance with desired terms and conditions * Global customer of a carrier partner
* Multiple global route diversity

Table No. 4
Comparison of existing listed price of IPLC (Half-Circuit) in India and ceiling tariff fixed for IPLC

Capacity	**Annual Lease Rental**		**Extent of Reduction**
	Existing Listed Price	**Ceiling tariff fixed**	
	Rs. in Lakhs	**Rs. in Lakhs**	
E1	20.2	**13**	35%
DS-3	361	**104**	71%
STM-1	1000	**299**	70%

Note: 1. Tariff applicable for the farthest destination from India.

2. Discounts offered have not been taken into account, as they are dependent upon various criteria.

3. The existing listed tariff of **VSNL assumed to be the Listed price in the above table**

Table No.5 - International comparison of IPLC (Half-Circuit) E1 price

Countries	Existing price (US$ Thousands)
Japan-USA	23
South Korea-USA	23
Hong Kong-USA	24
Singapore-USA	33
India-USA*	39

Table No.6 - International comparison of IPLC (Half-Circuit) DS-3 price

Countries	Existing price (US$ Thousands)
Japan-USA	99
South Korea-USA	102
Hong Kong-USA	124
Singapore-USA	174
India-USA*	656

Table No.7 - International comparison of IPLC (Half-Circuit) STM-1 price

Countries	Existing price (US$ Thousands)
Japan-USA	191
South Korea-USA	229
Hong Kong-USA	269
Singapore-USA**	346
India-USA *	1931

*	Pertains to IPLC tariffs of VSNL applicable for the farthest destination and

Maximum discounts on volume have been taken into account.

** E-1 tariffs of Singapore are higher on account of their low tariffs of DS-3 and STM-1.

Note: In other countries also, price multiples for DS-3 and STM-1 are much lower than in India.

Source: For International Data *ERNST&YOUNG/* Telegeography

Table No.8. Internationally the regulatory and competitive environment for IPLC products is as follows:

Country	**Regulation**
Australia	National and International leased lines were under a CPI-X% price cap control between 1992 and 2001. This was subsequently removed when the market for international leased lines was determined to be competitive.
China	All leased line rates set by the government. No further specific information was available.
Hong Kong	The carrier license regime for providing fixed telecom network services (FTNS) came into effect in April 2001, and imposed price ceilings on dominant operators. REACH was the only dominant operator. On March 2002, OFTA declared that REACH was no longer dominant and removed the price ceiling.
Ireland	ComReg is currently conducting a consultation exercise on the market for IPLCs. ComReg currently believes that the domestic market for IPLCs is competitive and proposes to withdraw all obligations on Eircom, which currently include cost orientation, and non-discriminatory access to competitors.
Japan	Japan defines operators as Type I or Type II. Type I operators were subject to price ceilings, and any tariff changes needed to be approved by the regulator before implementation. All regulations were abolished in April 2004 as the regulator determined that the market for DPLCs and IPLCs was now competitive.
Singapore	In Singapore, dominant licensees have to file tariffs with the regulator for approval. Singtel is considered a dominant provider of IPLCs and therefore has to file any tariff amendments with the IDA, the IDA will assess as to whether these tariffs are inline with those observed in other jurisdictions, check whether they are discriminatory, and whether they are cost based. Furthermore, in 2001 the IDA ruled that alternative operators could co-locate their equipment at SingTel's landing station. In April 2002 this was amended to require SingTel to provide connection to alternative operators. The IDA's approach is to impose interconnection rights, then allowing the market to set the retail tariff.
South Korea	In the International leased line market there are 14 license holders - the market for IPLCs is considered competitive.
UK	Market considered competitive - no regulation.
USA	Market considered competitive - no regulation.

Source: *ERNST & YOUNG*

Telecom Regulatory Authority of India Notification
New Delhi, the 31st March 2005

No.310-3(1)/2003-Eco. In exercise of the powers conferred upon it under sub-section (2) of section 11 read with section 11(1)(b)(i) of the Telecom Regulatory Authority of India Act, 1997 the Telecom Regulatory Authority of India (TRAI) hereby further amends the Telecommunication Tariff Order, 1999 as under, namely: -

1. **Short title, extent and commencement:**

(i) This Order shall be called " The Telecommunication Tariff (Thirty Fifth Amendment) Order, 2005" (2 of 2005).

2. In clause 3 of the Telecommunication Tariff Order, 1999 the number 'X' shall substitute the number 'IX' appearing after the word and number 'Schedule I to' .

3. This Order contains at Annexure an Explanatory Memorandum, which explains the reasons for this amendment to the Telecommunication Tariff Order, 1999.

By Order,

(M. Kannan)
Advisor(Economic)

Annexure

EXPLANATORY MEMORANDUM

The Telecommunication Tariff Order (TTO) 1999 contains nine Schedules(I to IX). The title of Schedule IV of Telecommunication Tariff Order notified on March 9, 1999 was "Leased Circuits". The Authority by issuing the thirty fourth Amendment to TTO 1999 on 11.3.2005 has renamed the existing Schedule IV as "Domestic Leased Circuits" and added Schedule X, i.e. INTERNATIONAL PRIVATE LEASED CIRCUIT (IPLC)-(Half Circuit). The present amendment intends to make consequential change in clause 3 under section III of TTO.

Domestic Leased Circuits

Telecom Regulatory Authority of India

Notification
New Delhi, the 21st April, 2005

No.312-7/2003-Eco. In exercise of the powers conferred upon it under sub-section (2) of section 11 read with section 11(1)(b)(i) of the Telecom Regulatory Authority of India Act, 1997, the Telecom Regulatory Authority of India (TRAI) hereby further amends the Telecommunication Tariff Order, 1999 as under, namely:

1.Short title, extent and commencement:
(i) This Order shall be called "The Telecommunication Tariff (Thirty Sixth Amendment) Order, 2005" (3 of 2005).

2.The existing Schedule IV (Domestic Leased Circuits and Annexure 1 and Annexure 2 attached there to) of the Telecommunication Tariff Order 1999 shall stand deleted and substituted by the following Schedule and Annexures, namely:

Schedule IV
Domestic Leased Circuits

ITEM	**TARIFF**
(1)Date of implementation	01.05.2005
(2)Coverage	(a)All tariffs specified as ceilings (b)It is mandatory for domestic leased circuits to be provided through utilization of spare capacity when such capacity is available and when not available, on Rent and Guarantee Terms / Special Construction / Contribution basis. All service providers shall report to the Authority the commercial and economic basis of their terms and conditions with respect to Rent and Guarantee / Special Construction / Contribution basis etc. schemes, under the provisions of TTO relating to reporting requirement.

	(c)Service providers may offer discounts on the ceiling tariffs. Discounts, if offered, shall be transparent and non-discriminatory based on laid down criteria and subject to reporting requirement.
(3)Ready reckoner tariff for domestic leased circuits (a)64 Kbps, 128 Kbps and 256 Kbps (b)2 Mbps (E1) (c)45 Mbps (DS-3) (d)155 Mbps (STM-1) (e)For Speed / Capacities above 256 kbps and below 2 Mbps (f)Chargeable distance (g)Tariff for intermediate distances	As specified in Annexure 1 to this Schedule As specified in Annexure 2 to this Schedule As specified in Annexure 3 to this Schedule As specified in Annexure 4 to this Schedule Forbearance The radial distance may be converted into chargeable distance by multiplying the radial distance by a factor not exceeding 1.25. For distances lying in between the distances specified in Annexures 1 to 4 of Schedule IV, the tariffs shall be charged on pro-rata basis.
(4)Local leads or end links	Tariff for local lead (or end links) to be charged as: (i) Charge for leasing these local leads shall be as per the ceilings specified in Annexure 1 to 4 of this Order, or (ii) If such leasing is technically not possible then on Rent and Guarantee Basis / Special Construction / Contribution basis.
(5)E1/R2 Links for ISPs	Tariffs for E1/R2 links for ISPs shall contain the following components, namely, Port Charges and Tariffs for Leased Line and / or Local Leads / End Links (each component shall be specified separately in the bill): (i) Port charges as per the following table: **No. of E1/R2 portsPort charges in Rs.** 1 – 16 N* 55,000 17 – 32 8,80,000+(N-16)* 30,000 33 – 64 13,60,000+(N-32)*20,000 65 – 128 20,00,000+(N-64)*15,000 129 – 256 29,60,000+(N-128)*14,000

	Notes: (a)N refers to the number of E1/R2 ports demanded by ISP and accepted by the Service Providers. (b)The above rates are ceilings and the service provider may have alternative lower port charges. (ii) Tariffs for Leased Line, as per clause (3) and/or Tariffs for Local leads or end links as per clause (4) of Schedule IV of this Order.
(6)Other matters relevant to	Forbearance

Domestic Leased Circuits not specified in this Schedule	

Domestic Leased Circuits

Annexure 1 to Schedule IV

READY-RECKONER CEILING TARIFF (in Rs./Annum) FOR 64 Kbps,

128 Kbps and 256 Kbps DOMESTIC LEASED CIRCUITS

Distance	**Tariff for**	**Tariff for**	**Tariff for**
(km)	**64 Kbps Circuits**	**128 Kbps Circuits**	**256 Kbps Circuits**
5	10,207	18,372	31,640
10	10,533	18,959	32,651
15	10,859	19,546	33,662
20	11,185	20,133	34,673
25	11,511	20,720	35,684
30	11,837	21,307	36,695
35	12,163	21,894	37,706
40	12,489	22,481	38,717
45	12,815	23,068	39,728
50	13,214	23,785	40,964
55	13,540	24,372	41,975
60	13,866	24,959	42,986
65	14,192	25,546	43,997
70	14,519	26,133	45,008
75	14,845	26,720	46,019
80	15,171	27,307	47,029
85	15,497	27,894	48,040
90	15,823	28,481	49,051
95	16,149	29,069	50,062
100	16,548	29,786	51,298
105	16,874	30,373	52,309
110	17,200	30,960	53,320
115	17,526	31,547	54,331
120	17,852	32,134	55,342
125	18,178	32,721	56,353
130	18,504	33,308	57,364
135	18,831	33,895	58,375
140	19,157	34,482	59,386

145	19,483	35,069	60,397
150	19,881	35,787	61,632
155	20,208	36,374	62,643
160	20,534	36,961	63,654
165	20,860	37,548	64,665
170	21,186	38,135	65,676
175	21,512	38,722	66,687

Domestic Leased Circuits

Distance	**Tariff for**	**Tariff for**	**Tariff for**
(km)	**64 Kbps circuits**	**128 Kbps Circuits**	**256 Kbps Circuits**
180	21,838	39,309	67,698
185	22,164	39,896	68,709
190	22,490	40,483	69,720
195	22,817	41,070	70,731
200	23,215	41,787	71,967
205	23,541	42,374	72,978
210	23,867	42,961	73,989
215	24,193	43,548	75,000
220	24,520	44,135	76,011
225	24,846	44,722	77,022
230	25,172	45,309	78,033
235	25,498	45,896	79,044
240	25,824	46,483	80,055
245	26,150	47,070	81,066
250	26,549	47,788	82,301
255	26,875	48,375	83,312
260	27,201	48,962	84,323
265	27,527	49,549	85,334
270	27,853	50,136	86,345
275	28,179	50,723	87,356
280	28,505	51,310	88,367
285	28,832	51,897	89,378
290	29,158	52,484	90,389
295	29,484	53,071	91,400

300	29,882	53,788	92,636
305	30,209	54,375	93,647
310	30,535	54,962	94,657
315	30,861	55,549	95,668
320	31,187	56,136	96,679
325	31,513	56,723	97,690
330	31,839	57,310	98,701
335	32,165	57,898	99,712
340	32,491	58,485	100,723
345	32,818	59,072	101,734
350	33,216	59,789	102,970

Domestic Leased Circuits

Distance	**Tariff for**	**Tariff for**	**Tariff for**
(km)	**64 Kbps circuits**	**128 Kbps circuits**	**256 Kbps circuits**
355	33,542	60,376	103,981
360	33,868	60,963	104,992
365	34,194	61,550	106,003
370	34,521	62,137	107,014
375	34,847	62,724	108,025
380	35,173	63,311	109,036
385	35,499	63,898	110,047
390	35,825	64,485	111,058
395	36,151	65,072	112,069
400	36,550	65,790	113,304
405	36,876	66,377	114,315
410	37,202	66,964	115,326
415	37,528	67,551	116,337
420	37,854	68,138	117,348
425	38,180	68,725	118,359
430	38,507	69,312	119,370
435	38,833	69,899	120,381
440	39,159	70,486	121,392
445	39,485	71,073	122,403
450	39,883	71,790	123,639

455	40,210	72,377	124,650
460	40,536	72,964	125,661
465	40,862	73,551	126,672
470	41,188	74,138	127,683
475	41,514	74,725	128,694
480	41,840	75,312	129,705
485	42,166	75,899	130,716
490	42,492	76,486	131,726
495	42,819	77,073	132,737
500	43,217	77,791	133,973
>500	44,000	79,200	136,400

Domestic Leased Circuits

Annexure 2 to Schedule IV

READY-RECKONER CEILING TARIFF (in Rs./Annum) FOR

2 Mbps (E-1) DOMESTIC LEASED CIRCUITS

Distance	**Tariff for**	**Distance**	**Tariff for**
(km)	**2 Mbps Circuit**	**(km)**	**2 Mbps Circuit**
5	17,016	180	309,282
10	25,180	185	317,446
15	33,344	190	325,610
20	41,509	195	333,774
25	49,673	200	344,112
30	57,837	205	352,276
35	66,001	210	360,440
40	74,165	215	368,605
45	82,329	220	376,769
50	92,667	225	384,933
55	100,831	230	393,097
60	108,995	235	401,261
65	117,159	240	409,425
70	125,324	245	417,590
75	133,488	250	427,927
80	141,652	255	436,091
85	149,816	260	444,256
90	157,980	265	452,420

95	166,144	270	460,584
100	176,482	275	468,748
105	184,646	280	476,912
110	192,810	285	485,076
115	200,975	290	493,240
120	209,139	295	501,405
125	217,303	300	511,742
130	225,467	305	519,906
135	233,631	310	528,071
140	241,795	315	536,235
145	249,959	320	544,399
150	260,297	325	552,563
155	268,461	330	560,727
160	276,625	335	568,891
165	284,790	340	577,055
170	292,954	345	585,220
175	301,118	350	595,557

Domestic Leased Circuits

Distance (km)	**Tariff for 2 Mbps Circuit**
355 360 365 370 375	603,721 611,886 620,050 628,214 636,378
380 385 390 395 400	644,542 652,706 660,870 669,035 679,372
405 410 415 420 425	687,536 695,701 703,865 712,029 720,193
430 435 440 445 450	728,357 736,521 744,686 752,850 763,187
455 460 465 470 475	771,352 779,516 787,680 795,844 804,008

480 485 490 495 500	812,172 820,336 828,501 836,665 847,002
>500	850,000

Domestic Leased Circuits

Annexure 3 to Schedule IV

READY-RECKONER CEILING TARIFF (in Rs./Annum) FOR

45 Mbps (DS-3) DOMESTIC LEASED CIRCUITS

Distance	**Tariff for**	**Distance**	**Tariff for**
(km)	**45 Mbps Circuit**	**(km)**	**45 Mbps Circuit**
<50	666,798	220	2,755,219
50	709,301	225	2,812,657
55	766,738	230	2,870,094
60	824,176	235	2,927,531
65	881,613	240	2,984,969
70	939,050	245	3,042,406
75	996,488	250	3,130,859
80	1,053,925	255	3,188,297
85	1,111,362	260	3,245,734
90	1,168,800	265	3,303,171
95	1,226,237	270	3,360,609
100	1,314,690	275	3,418,046
105	1,372,128	280	3,475,484
110	1,429,565	285	3,532,921
115	1,487,003	290	3,590,358
120	1,544,440	295	3,647,796
125	1,601,877	300	3,736,249
130	1,659,315	305	3,793,686
135	1,716,752	310	3,851,124
140	1,774,189	315	3,908,561
145	1,831,627	320	3,965,998
150	1,920,080	325	4,023,436
155	1,977,517	330	4,080,873
160	2,034,955	335	4,138,311
165	2,092,392	340	4,195,748

170	2,149,830	345	4,253,185
175	2,207,267	350	4,341,639
180	2,264,704	355	4,399,076
185	2,322,142	360	4,456,513
190	2,379,579	365	4,513,951
195	2,437,016	370	4,571,388
200	2,525,470	375	4,628,825
205	2,582,907	380	4,686,263
210	2,640,344	385	4,743,700
215	2,697,782	390	4,801,138

Domestic Leased Circuits

Distance (km)	**Tariff for** **45 Mbps Circuit**
395 400 405 410 415	4,858,575 4,947,028 5,004,466 5,061,903 5,119,340
420 425 430 435 440	5,176,778 5,234,215 5,291,652 5,349,090 5,406,527
445 450 455 460 465	5,463,965 5,552,418 5,609,855 5,667,293 5,724,730
470 475 480 485 490	5,782,167 5,839,605 5,897,042 5,954,479 6,011,917
495 500 >500	6,069,354 6,157,807 6,159,000

Domestic Leased Circuits

Annexure 4 to Schedule IV

READY-RECKONER CEILING TARIFF (in Rs./Annum) FOR

155 Mbps (STM-1) DOMESTIC LEASED CIRCUITS

Distance	**Tariff for**	**Distance**	**Tariff for**
(km)	**155 Mbps Circuit**	**(km)**	**155 Mbps Circuit**
<50	1,787,528	220	7,388,719
50	1,901,152	225	7,542,811

55	2,055,245	230	7,696,904
60	2,209,337	235	7,850,996
65	2,363,430	240	8,005,089
70	2,517,523	245	8,159,182
75	2,671,615	250	8,396,080
80	2,825,708	255	8,550,173
85	2,979,801	260	8,704,265
90	3,133,893	265	8,858,358
95	3,287,986	270	9,012,451
100	3,524,884	275	9,166,543
105	3,678,977	280	9,320,636
110	3,833,069	285	9,474,728
115	3,987,162	290	9,628,821
120	4,141,255	295	9,782,914
125	4,295,347	300	10,019,812
130	4,449,440	305	10,173,905
135	4,603,533	310	10,327,997
140	4,757,625	315	10,482,090
145	4,911,718	320	10,636,182
150	5,148,616	325	10,790,275
155	5,302,709	330	10,944,368
160	5,456,801	335	11,098,460
165	5,610,894	340	11,252,553
170	5,764,987	345	11,406,646
175	5,919,079	350	11,643,544
180	6,073,172	355	11,797,637
185	6,227,265	360	11,951,729
190	6,381,357	365	12,105,822
195	6,535,450	370	12,259,914
200	6,772,348	375	12,414,007
205	6,926,441	380	12,568,100
210	7,080,533	385	12,722,192
215	7,234,626	390	12,876,285

Distance (km)	Tariff for 155 Mbps Circuit
395 400 405 410 415	13,030,378 13,267,276 13,421,368 13,575,461 13,729,554
420 425 430 435 440	13,883,646 14,037,739 14,191,832 14,345,924 14,500,017
445 450 455 460 465	14,654,110 14,891,008 15,045,100 15,199,193 15,353,286
470 475 480 485 490	15,507,378 15,661,471 15,815,564 15,969,656 16,123,749
495 500 >500	16,277,842 16,514,740 16,520,000

This Order contains at Annexure A an Explanatory Memorandum, which explains the

reasons for this amendment to the Telecommunication Tariff Order, 1999.

By Order,

(M. Kannan)
Advisor(Economic)

Annexure - A

Explanatory Memorandum

Section 1. Introduction and Background

1.1 While formulating the Telecommunication Tariff Order (TTO), 1999, the Authority specified cost based tariff for Domestic Leased Circuits (DLC) as the regime applicable in this segment. These tariffs were in the nature of price caps and the service providers were free to offer discounts to their customers. Since it is widely recognized that leased circuits are an input in facilitating competition, the objective of the tariff regime was to ensure that benefits of competition become available to not only the telecom sector, but also to other sectors of the economy. Tariff caps were fixed for leased lines with 64 Kbps and 2 Mbps capacity and for capacities below 64 Kbps the tariffs were forborne.

1.2 Significant developments have taken place since TTO 1999 was notified, including entry of private National Long Distance Operators (NLDOs) and Infrastructure Providers (under IP-I &IP-II categories), thereby increasing the number of players in the market for provision of DLCs. Although the number of players has increased, 'competition' is restricted to the areas where the new entrants have built their networks. Even in areas where there are multiple service providers, tariff analysis reveals that new entrants simply follow the pricing of the incumbent operator. In this context it is relevant to quote the findings of a study conducted by OFTA (Study of Local Leased Circuit Market in Hong Kong, Office of Telecommunications Authority, 16, September, 2004.):
"Competition in LLC markets is generally slower to pick up compared to other segments because it is affected by the pace at which new entrants build up their networks."

1.3 Price stability even in the presence of new entrants in the market gave support to the hypothesis that competition was not effective in the provision of DLCs. Further, rapid technological advances have sharply reduced the unit cost of long-haul bandwidth. There is a significant decline in the cost of transmission equipment including Optical Fibre cable coupled with a sharp increase in capacity that can be carried over these same cables. Reflecting these realities, worldwide, the transmission circuit prices have fallen by about 90% since 1999 (Primetrica, Inc. 2004, Terrestrial Networks). While tariff for leased

circuits in India have generally come down during the last five years, the reduction is not commensurate with the reduction witnessed in the cost of providing the services. The reduction in tariff for leased circuits is limited to E-1 capacities, in trunk routes, and varies by service provider. The reported discount offered is about 60% less than the prevailing ceiling tariff specified by TRAI in 1999. In addition, the extent of reduction even in these routes and capacities is not commensurate with the decline in the leased circuit prices witnessed elsewhere in the world.

1.4 The Authority in its document, “Broadband India: Recommendations of Accelerating Growth of Internet and Broadband Penetration” (April, 2004) identified high prices of DLCs as one of the major impediments to the growth of Internet and broadband services. The reduction in tariffs notified in this Order will not only spur growth, as witnessed in mobile telephony, but also enhance capacity utilization of networks and relax one of the constraints in improving Broadband penetration in India.

1.5 The state of competition in the DLC market in India has been succinctly summarized in a recent report by Gartner (22 February 2005, ID Number G00126348), an independent international research agency that also covers the India telecom market: *“A limited number of players compete, and only incumbent carrier BSNL can provide comprehensive national coverage. However, there is measured competition in key routes. As a result, prices have decreased, but prices are still high compared with competitive markets, including a comparable developing market such as China.”*

1.6 In view of the above, the Authority considers it appropriate to continue with the tariff regulation until such time that competition becomes adequate and effective in the DLC market. The ceiling tariffs have thus been revised taking into account the developments of the last few years including the reduction in the cost base. The Authority also received several representations from user industries and others recommending a review of DLC tariffs to make them in step with tariff declines witnessed in this sector across the world and also to reflect the general tariff declines that have occurred in India since the notification of TTO 1999. The consultation paper on “Revision of Ceiling Tariff for DLC” (Consultation Paper No.12/2004) was issued on 22nd June 2004. Various stakeholders, including service providers, user industries, consumer organizations and associations of service providers sent written responses to the consultation paper.

Subsequently, Open House Discussions were also held on 20.07.2004 and 22.07.2004 in

Delhi and Bangalore, respectively.

2. outline space

Section 2.	**Summary of Main Comments**
2.1	The key comments of various stakeholders on the issues raised in the consultation

paper are given below.

2.2 On the Need for Tariff Regulation for DLCs

2.2.1 COAI is of the opinion that the review of tariffs for DLC by the Authority is appropriate and timely in view of the significant decline in the cost of transmission equipment coupled with the rapid advances in technology. According to them, reduced tariffs would go a long way in driving the growth of broadband services in the country.

2.2.2 One of the ISPs commented that in the absence of effective competition, regulatory intervention was necessary to drive prices of DLC to their economically rational levels.

2.2.3 On the other hand, the incumbent operator believes that there is sufficient competition in the leased line segment and therefore tariff for all types of leased circuits should be forborne. If the Authority however, decided to prescribe a tariff, it should be specified as a ceiling with built in flexibility for operator driven reduction on high density/high routes where provisioning may be cheaper as compared to other routes where it is expensive.

2.2.4 One of the NLDOs feels that effective competition has emerged in the provision of DLC and access to the DLC is no longer a ‘bottleneck’.

2.2.5 ISPAI submitted that the competition is not yet effective and hence, the Authority has justly embarked upon revision of the tariff regime based on cost.

2.2.6 AT&T Communication Services India Private Ltd. has submitted that IDA in Singapore has mandated SingTel to establish a wholesale tariff for local leased line, and Ofcom in UK has mandated reductions of BT’s access circuit prices during its leased line market review. Similarly, provision of domestic leased line services in a timely, non-discriminatory and cost oriented manner can make a positive contribution to the health

of the overall Indian knowledge-based economy and the proposal of the Authority would certainly make rates in India competitive with rates in other leading Asia-Pacific and OECD countries.

2.2.7 VSNL has submitted that the Authority should simultaneously issue regulations / guidelines regarding the terms and conditions governing leasing of local leads and these guidelines must also cover all aspects relating to local leads like (a) tariff, (b) Rent and Guarantee, and (c) Contribution.

2.3 On the Methodology and Related Issues

2.3.1 The COAI has submitted that instead of a normated approach to derive the annual rental value it would have been appropriate for the Authority to follow international practices and adopt the cost of the most efficient operator. In fact, a large number of Regulators are adopting Long Range Forward Looking Cost while determining cost based tariffs.

2.3.2 The COAI has also stated that there is no need to consider both a capacity utilization factor of 80% and a redundancy factor of 25%. It would be sufficient to take a capacity utilization factor of 75% as this will also take care of the provision for redundancy. This should provide the guarantee of 25% redundancy for each capacity hired. One of the mobile operators has submitted to the Authority that the fill factor of 75% would be adequate to take care of both redundancy and capacity utilization and there was no further need to provide for redundancy separately.

2.3.3 An NLDO has commented in its response to the consultation paper, that as the capacity utilization is intrinsically linked with the requirement of network uptime or redundancy, an efficient network that guarantees 99.99% network uptime is forced to work at 50% of capacity utilization in order to meet the uptime requirement levels. One of the BSOs has stated that for the major trunk routes, utilization could be taken at 80% even on STM-4 circuits, but it would be difficult to achieve a utilization of even 50%

in most mid-sized towns. According to another operator, capacity utilization of 80 percent is on the higher side particularly in DWDM network wherein capacity available is huge.

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Domestic Leased Circuits

2.3.4	The incumbent has submitted that the license fee of 15% should be used for

calculating the cost based rental for leased circuits as BSNL and other NLD operators are paying license fee at the rate of 15% of their revenues for long distance leased line services.

2.3.5 The incumbent has further submitted that, while the transmission network of BSNL has been regularly upgraded and built on SDH system, in case of SDCC to LDCC links, majority of the circuits are either 34 Mb or below. A redundancy factor of 50% is, therefore, conservative; making it even lower is not justified except on routes connecting major cities.

2.3.6 The Authority should specify the ceiling tariff for circuits beyond 500 kms since there is a proportionate extra variable cost for every additional meter of the fibre laid.

2.3.7 The Infrastructure Providers Association has stated that for long distance circuits, STM-4 and above or DWDM equipment is needed. Further, to provide a capacity of STM-1 at least 2 STM-1s are needed including protection. In certain cases an STM-4 link is required to provide STM-1 capacity. Hence the cost for STM-4 should be taken as a base cost and accordingly the dividing factor for 2 Mbps (E-1) shall remain 63 as per the existing practice.

2.3.8 One submission states that 25% allowance for redundancy seems quite high. Proper foresight and planning should enable the service provider to foresee redundancy to avoid such high loading factor. Therefore, a redundancy factor of more than 10% would appear to be rather high and not justifiable.

2.3.9 Tata Power Broadband Company Ltd. has submitted to the Authority that they appreciate the concept of “second lowest operators cost” for arriving at the assessment of the cost.

2.3.10 RailTel Corporation of India Ltd. has in its comments on the consultation paper stated that it will not be fair to estimate 80% utilization of capacity on overall basis, instead it should be taken as 40%.

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2.4 2.4.1	***Analysis of the Comments*** The above summary of the responses clearly reveals the conflicting views

expressed by stakeholders both on the need for tariff regulation as well as on the methodology related issues. Consumers of DLCs prefer higher capacity utilization (as much as 80%) and low or nil redundancy, while suppliers prefer low capacity utilization (as low as 40%) and high redundancy. Section 4 explains the methodology adopted by the Authority in deriving the tariff ceilings taking in to account the various comments documented above and received from operators during open house discussions and meetings. In addition, certain other issues not related specifically to the cost calculations are addressed in Section 5.

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Domestic Leased Circuits

Section 3.	**Review of Existing Tariffs and International**

Practices

3.1 Review of Existing Tariffs for DLCs

3.1.1 The Authority reviewed existing tariffs offered in the market by operators for various capacities and for various distances. Salient features of the existing tariff structure are given below:

•Leased circuit tariffs for high capacities i.e. E-1 and above are being provided at discounts of about 60 per cent of the ceiling tariffs. The discount policies of the incumbent operator and a few other providers of leased circuits show that large discounts on high capacities are primarily applicable to trunk routes / inter-city routes.

•Operators in general do not discount leased circuit tariffs for lower capacities i.e.

below 2 Mbps. In one or two cases where discount rates are offered, these discounts are much lower than those applicable to high capacities (for details see Annexure A - Appendix 1).

•The Authority noted that the incumbent (BSNL) has offered 90% discount on the tariffs applicable for E-1 circuits to be used for providing connectivity for purposes of e-governance through State Wide Area Network (SWAN) projects. This offer of 90% discount on the present ceiling tariff of TRAI is on the main bandwidth portion for one 2 mbps link from State Capital to District Headquarters (DHQ) and DHQ to Block Headquarters (BHQ). The above offer is applicable only for e-governance projects undertaken by the State Governments and these are also subject to certain conditions like free right of way /and waiver of reinstatement charge, etc. for cable laying.

•The Authority also noted the various e-governance initiatives and broadband projects of State Governments in the country. One such project aims at accelerating the deployment of broadband to provide high quality, affordable and equitable broadband access and information devices and services for citizens, businesses and public institutions using the latest generation Hybrid Technology Solutions.

Interestingly, the cost estimates for such network using the latest technology are a

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fraction of the annual lease rental payable even at the discounted tariff of BSNL meant for e-governance projects.

3.1.2 These developments indicate that unless bandwidth is made available at prices that are cost-based, not only will the capacity set up with OFC media remain under-utilized but also the developmental initiatives of the Government in an emerging digital economy will be hindered.

3.2 Review of International Practices Governing DLC Regulation

3.2.1 The Authority reviewed international practices in the regulation of DLC segment. Recognized international experts with vast experience in studying regulations of various telecom jurisdictions relevant for DLC were consulted for details of the regulatory environment in respect of DLC in various countries (please see Annexure A - Appendix 2 for more details). The following major conclusions emerged from the above review: •Regulation, including regulation of tariff exists in many countries, particularly for the dominant operator.

•In a number of countries where there is no official cap on price for DLC, the National Regulatory Authority reviews/approves the tariffs.

•The cost standard adopted for regulation of tariffs of DLC in general is that of Long Run Incremental Cost (either top-down or bottom-up).

•It is common practice for tariffs to be regulated until competition in the market has developed to a level where the regulator can safely withdraw and allow forces of competition to impose effective market discipline on prices. This appears to be the approach adopted by most overseas regulatory authorities prior to competition getting established in those markets.

4. outline space

Section 4.	**Methodology for Arriving at Tariffs**
4.1	The methodology for determination of cost based tariffs for various capacities of

DLCs is the 'Bottom-Up' approach, using costs of disaggregated network elements submitted by operators to derive annual rental value. This is similar to the methodology adopted by the Authority in TTO 1999 while fixing ceiling tariffs for DLCs. This methodology was also detailed in the consultation paper and except for minor variations, has largely been retained for the purpose of specifying the tariffs. The changes in the methodology and the corresponding rationale are discussed in this section.

4.2 The underlying cost base has been developed using an Optical Fibre Cable (OFC) system. This is a widely used system, and therefore its cost provides a rational justification for deriving the ceiling tariff. The data was collected from operators in September 2003.

4.3 The methodological differences from TTO 1999 are few, as mentioned above. The first is that since BSNL was the only operator when the analysis was conducted in 1999, its cost elements were the sole source of data considered. In this exercise, since a number of operators have entered the market, the data of private BSOs / UASLs, NLDOs and IP-II operators were also considered when calculating the tariff. The second difference is that capacity utilization and redundancy figures were also adjusted to reflect the current environment. The third difference is that while tariffs of higher bandwidth circuits above E-1 were set as simple linear multiples in TTO 1999, the Authority has decided to set cost-based tariffs for DS-3 and STM-1 circuits in this exercise. This decision is based on specific feedback received by the Authority during the consultation process to specify tariff ceilings for leased circuits of capacities above E-1. The Authority noted that higher capacities, particularly DS-3 and STM-1 would have significant demand in future, as they do already in matured markets internationally. This increased demand would capture the economies of scale and lower the cost in selling circuits of higher capacity. Finally, the last difference comes in the treatment of variable costs. It was considered in TTO 1999 that 50 km of every circuit would be considered as bituminous soil for costing the laying of cable, and the remainder of the circuit would be considered to be in soft soil. In the current exercise, instead of fixing a cap of 50 km for bituminous soil, the costing has been taken on a ratio of 15:85 for bituminous soil to soft soil. Furthermore, it has been assumed that there will be on average more than one system operating on each route laid by an operator, and

therefore the variable cost has been adjusted to capture this phenomenon. These changes to the treatment of variable cost are discussed in more detail below in Section 4.6.

4.4 In general, following the practice set in TTO 1999, a higher capacity system was used in calculating the cost of a circuit derived from that system. Therefore, to derive the cost of E-1 and 64 kbps circuits, an STM-1 system has been considered as the base. To derive the cost of STM-1 and DS-3 circuits, an STM-4 system has been taken as the base. The Authority in its cost calculations has considered the entire cost of setting up a new cable system and provided for the recovery of these costs. This analysis is equivalent to calculating full replacement cost of the system. The Authority has kept in view two considerations while proposing the revision of the ceiling tariff. One is that the revision of tariff should be cost based, and the other is that there should be a continued incentive for investment in this segment.

4.5 The Authority fully recognizes that in most mature markets, regulators fix prices based on Forward Looking Long Run Incremental Costs (FLLRIC). This would inter-alia involve estimation of costs based on most recent high capacity equipment and technology which in turn would imply major reduction in costs as compared to current cost based on equipment / technology presently in use. If however, this approach is used to fix the lease rental for DLCs in India, the market would be unable to bear the rapid adjustment that it would necessitate. It was, nonetheless, noted that the incumbent is already deploying the latest technology and using lower cost equipment in its expansion program. Therefore, while the Authority is emphasizing a reduction in prices towards costs, it is also emphasizing sustaining this process so that a transition to FLLRIC-based prices may take place overtime either through competition developing in the market or through usage of FLLRIC in setting new tariffs in case competition does not develop later. Relying mainly or fully on FLLRIC at present would give a much greater shock to the market, and is also likely to make transition to competition, especially in smaller capacities such as 64 kbps, much more difficult.

4.6 Key Cost Drivers

4.6.1 Four categories are considered for assessing costs: fixed, semi-variable, variable, and operating expenditure and maintenance. Fixed costs are those that are independent of

distance, semi-variable are those costs which change after a specified distance is covered (50 km. in this case) but remain unchanged within the distance interval, and variable cost items are directly linked to each kilometer covered. The costs that have been considered include cost of the equipment, cost of cable and laying the cable, cost on

account of termination of cables, repeater stations, other supporting equipment, operating and maintenance (O&M) expenditure, etc. The various elements of costs considered for determination of tariff are given in Appendix 3 to this Annexure.

4.6.2 For calculating variable costs, it is relevant to note that for end-to-end connectivity, leased circuits have to pass through both the city / town area, which is predominantly bituminous soil area, and highways that are predominantly soft soil area. The cost of laying cables in these types of areas obviously differs on account of differential charges for right of way, labour cost, laying cost, etc. Therefore, a proportion of the two soil types has to be assigned when costing the complete leased circuit. In this regard, specific suggestions were sought from the service providers as to the proportion that could be considered for bituminous soil and soft soil. As discussed above, the practice followed in TTO 1999 was to assign 50 km in any circuit to be in bituminous soil and the remaining in soft soil. Based on submissions from industry, this allocation method was changed to using a ratio of 15:85 for bituminous and soft soil, respectively, and applied to the length of the circuit in deriving the cost based tariff.

4.6.3 Furthermore, variable costs have been traditionally allocated completely to one system on that route for which the variable expense was incurred. In actuality, since all operators have reported using cables that contain 18 fibers or more, operators are able to light multiple pairs of fiber in the same cable. On each pair, operators can run different systems, e.g., STM-1 on one pair while running STM-4 on another. This would therefore amortize the complete variable cost over more than one system. The Authority has considered that on many routes which are between major cities including state capitals, LDCAs, and other such major points, operators already have two or more pairs in use. As demand increases, this will also increase dramatically with fairly simple equipment and repeater commissioning. On the other hand, a number of routes still do exist where only one pair of fiber is lit, supporting only one system. The Authority has therefore taken a weighted average of 1.5 systems per cable and allocated variable cost across 1.5 systems. Furthermore, in many instances, operators lay more than one cable when creating a new

route, thereby amortizing the cost of digging and cable laying across more than one cable. This is prudent economically since the cost of the cable itself is a small proportion of the total variable cost per km. But today, those additional cables are typically lying idle and therefore are not considered in this calculation.

4.6.4 O&M cost, among other things, includes the following: facility maintenance and repair, fibre maintenance and repair, utilities, and labour. A network's physical infrastructure has a greater impact on O&M costs than does the capacity carried. Facility maintenance and repair, and fibre maintenance and repair cost are generally unaffected by operating higher capacity systems. Consequently, O&M costs per unit of capacity drops substantially as capacities increase. Technological advancements in the field of fault detection and repair have also resulted in lower cost of maintenance and repair. This item is taken as a percentage of total capital expenditure from all categories.

4.6.5 In addition to the four main cost components, there is a fifth component of additional cost which only applies to 64 kbps circuits. Since these circuits are created by stepping down an E-1 circuit, the cost is related to the equipment required for demultiplexing at both ends of the 64 kbps circuit.

4.7 Data Consistency and Verification

4.7.1 The bottom-up cost calculations of DLCs are based on the cost data provided by operators. Examination of this data shows significant variation across operators. One reason for the variation is that operators are at various stages of maturity and market penetration, and thus their network and operations have reached different levels in their product cycle. Choosing any one operator's costs as the basis for tariff calculations would therefore not be justified. Furthermore, since this cost was collected with the operators having full knowledge of the purpose for which the data would be used, they had very high incentive to inflate their submissions by accounting for costs of items that may also be allocated to other services and operations. An example of the large variance of data received from operators is indicated below in Table 4-1. The Equipment Cost category is an element in Fixed Costs, while Cost of Cable is a Variable Cost, taken on a per km basis. Considering the above, a normated model of cost has thus been considered.

Table 4-1 – Element Costs Submitted by Various Operators (Rs.)

Operator	Equipment Cost	Cost of Cable*
A	820,000	140,000
B	555,000	59,000
C	500,000	65,000
D	2,000,000	44,000
E	360,000	60,000
F	1,791,000	189,000
G	276,000	40,000

* This cost category is part of Variable Costs, but has been indicated here as submitted by the operators.

Note: Values above are rounded and are therefore not the exact submissions.

4.7.2 The goals of the normative process are to yield cost estimates that provide continued incentive to new entrants for achieving greater efficiency and cost reduction, while also ensuring the feasibility of deploying such a system in the market. This would also ensure that the dominant operator does not have the opportunity to skew the market in his favor. Additionally, decreasing cost due to achieving economies of scale also has to be considered.

4.7.3 It must also be borne in mind that the cost of inputs continues to decrease at a rapid pace. An international report on terrestrial networks has confirmed the impact of technical progress on the cost of inputs by stating: "Rapid technological advances have sharply reduced the unit cost (in terms of dollar per km.) of long-haul bandwidth. Indeed, the more recently built the network, the lower the unit costs tend to be." (Primetrica, 2004: Terrestrial Networks).

4.7.4 To normate the cost on inputs for all cost categories (fixed, semi-variable, variable and additional cost for 64 Kbps), the second lowest value for each individual cost item was used. In particular, fixed and semi-variable cost categories are also likely to see significant impact due to technological advances and achieving economies of scale. The process of normating costs and taking the second lowest operator had been followed in earlier exercises, i.e. the 22nd Amendment to TTO dated 4th July 2002. It is important for the Authority to balance the twin (and conflicting) objectives of creating incentives for investment (and efficiency) while promoting downstream competition. To have taken the lowest cost for each category at this stage would not have achieved the first objective of the

Authority. Likewise, choosing the third lowest cost would provide too much buffer and would be unlikely to promote efficiency in operations.

4.7.5 To further support the above reasoning, a recent submission by a State Government pursuing an e-governance project has indicated the costs for their network build-out. While not all categories were comparable, those that were are significantly cheaper than those submitted by operators for this exercise. One such example is the Cost of Laying Cable, which is more than 45% lower than the normated cost considered by the Authority for the current costing exercise. This indicates that newer more efficient operators can indeed achieve these cost levels.

4.7.6 For deciding the level of Operations and Maintenance (O&M) Expenditure that could be considered for purposes of deriving cost estimates, the Authority examined the cost data provided by the operators and noticed that it generally ranged from 1% to 10% of the capital expenditure. There was one outlier at 26%. In the past the Authority has assumed 10% as opex recovery in the Recommendations on Universal Service Obligation (USO), 3rd October 2001, costing framework. Therefore, O&M cost in this model has been applied at 10% of capital expenditure on equipment, cable, and all other capital outlays. This is the highest level amongst all operators (except for the one outlier), therefore allowing for comfortable recovery.

4.8 Mechanism for Capital Expenditure Recovery

4.8.1 Two factors have to be considered when calculating the required annual return to an operator, above and beyond the opex cost that have already been discussed: recovery of depreciation on assets, and return on capital employed (ROCE), which is also known as weighted average cost of capital (WACC).

4.8.2 Since cable and equipment are long-lived assets, there is a need to devise a mechanism for recovery of the capital expenditure (capex) over a period of time, besides providing for opex stemming from it, as discussed above. Towards this end, annual depreciation rates of 5.28% and 11.88% have been assumed for capex recovery of cable and equipment, respectively. This is derived from straight-line depreciation calculations on a cable life of 18 years and for other assets a life of 8 years. These values for life of cable

and equipment and other assets are the same as the values used in TTO 1999 for arriving at annual leased rental for domestic circuits. This percentage is applied to the total capital expenditure in each of the above discussed cost categories: fixed, semi-variable, variable, and additional costs for 64 kbps circuits. Suggestions by industry sources indicate that the depreciation periods for cable and equipment could be longer than considered above, thereby reducing the annual return required. However, in general the rates indicated above for depreciation could be taken as a reasonable basis for calculation.

4.8.3 The second part of capex recovery is setting a value for ROCE, which will be applied to the total capital expenditure amount, and is treated as the required annual return on the capital invested and employed. A WACC of 13.93% has been adopted for this exercise based on the data submitted by the operators. This is the same WACC as what was adopted by the Authority in other determinations, i.e. The Telecommunications Interconnection Usage Charges Regulation, 2003 dated 29th October, 2003.

4.9 Capacity Utilization and Redundancy

4.9.1 When pricing the individual circuits, i.e. 64 kbps, E-1, DS-3, STM-1, the capacity utilization of the parent system, i.e. STM-1 or STM-4, has to be considered along with provision of redundancy. Allowing for this is necessary since for full cost recovery the capital expenditure employed in building these networks and the related equipment has to be recovered across the capacity that is sold.

4.9.2 Based on the above, capacity utilization does not apply to the operational expenditure portion of expenses since opex is already derived based on the full capital expenditure amount. Similarly, since network redundancy is the provisioning of multiple links on different routes (route diversity) to avoid disruption of data and processes of end-user enterprises, the provision for redundancy applies only to the capital expenditure on items in variable costs category. Different factors were considered when calculating the capacity utilization and redundancy of the various individual circuit types for which tariffs are being fixed. However, to the extent that cable systems are installed with commercial considerations in view, there is a deliberate recognition amongst operators of its likely use over time.

4.9.3	In the 1999 tariff determination for leased circuits, the Authority had considered

80% capacity utilization based partially on the fact that the only provider of leased circuits was the incumbent. Since then, capacity build-out has taken place on account of entry of new classes of players i.e. infrastructure providers, NLDOs, BSO / UASLs and other new entrants. This means that utilization levels of capacity in general would now be less than 80%. In this regard, the Authority reviewed the various submissions of operators to the consultation paper. The Authority also considered the available data, *albeit* very limited, on the sales of various capacities and links. A substantial proportion of the capacities sold by operators is in the category of E-1 followed by capacities below E-1. The submissions of the industry to the consultation paper suggest that higher capacities i.e. DS-3, STM-1 and even STM-4 would be in great demand in the near future. However, as of now, the capacities sold in these higher categories are low. Available information / data with the Authority indicates that the capacity build up has been substantial in the recent past.

4.9.4 In fact, even though pricing has been calculated based on STM-1 and STM-4 systems, operators almost universally have deployed much higher capacity systems such as STM-64, Wave Division Multiplexing (WDM) and Dense Wave Division Multiplexing (DWDM). The cost of equipment to carry these higher capacities is proportionately less than for the equipment to carry STM-1 or STM-4 systems. Because of this, while each fiber pair laid can carry many times the capacity of an STM-1 or STM-4, the full cost of that fiber is being allocated only based on STM-1 or STM-4 systems for purposes of the cost calculation. Furthermore, capacity utilization when taken as a percentage of total capacity laid (but not lit) is significantly lower than those values adopted by the Authority for each type of circuit. This is related to the earlier discussion on

distribution of variable costs. Since multiple fibers are included in each cable, the dark capacity presents a huge opportunity for operators to, with only marginal additional expenditure, introduce tremendous capacity, especially given the higher bandwidth systems that can be installed. Therefore, the current poor performance of operators in terms of lighting and selling more capacity to distribute the cost base is loaded on to the end customer. Though operators have already deployed fairly extensive systems of this sort with high capacity, high bandwidth prices will cause capacity utilization to remain low and laid fibers to remain dark.

4.9.5 Another source of variation in capacity utilization is the route of the particular system deployed by the operator. For instance, in the major trunk routes linking major

cities / towns and state capitals, the demand for capacities appears to be substantially more and thus the utilization levels of the capacities set up in these routes are also significantly higher. Other routes, though, still experience lower capacity utilization levels, but these routes typically also have installed lower capacity systems and most of the time do not have more than one operator. Therefore, this scenario had to be considered and a weighted average adopted when setting capacity utilization for the circuit types, especially the lower capacity ones.

4.9.6 Another point to note is that for each system, i.e. STM-1 and STM-4, that has been used to calculate the cost of derived circuits, i.e. 64 kbps, E-1, DS-3 and STM-1, the parent system has been assumed to be used only for a single circuit type. In essence this means that for calculating capacity utilization, an STM-4 system has been taken as being populated only by one type of circuit, i.e. DS-3 or STM-1. This is an underestimation of actual capacity utilization because operators typically sell multiple circuit types from the same system. Therefore, in actuality capacity utilization would be a statistical combination of the independent utilization levels derived by the Authority for each circuit type.

4.9.7 There was also considerable feedback during the consultation process about how to account for redundancy given the prevailing architecture of fiber systems. Typically, fiber is laid in a ring system and these are already widely in place. Since ring architecture provides for route diversity, it also serves the function of providing redundancy. These ring networks are used for all higher capacity systems such as E-1 and above. Thus, the presence of excess capacity itself provides for redundancy. Therefore, accounting for redundancy is best done by considering it with capacity utilization. For example, a capacity utilization of 50% would imply a redundancy of 100%. In actuality, due to gains from aggregating traffic from multiple customers and locations, the requirement to provide complete redundancy would be substantially less than 50% of total bandwidth, and capacity utilization could still be taken at more than 50%. With excess capacity being available, provisioning of redundancy in addition to such available capacity in the cost estimate would amount to double provisioning.

4.10 4.10.1	***License Fee for DLC*** In considering the license fee to load on to the cost base for calculating the tariffs

for the various circuits, the Authority considered a number of different factors. The first of these factors is that while NLDOs pay 15% of their adjusted gross revenue (AGR) as license fee, they are the only type of operator who provides DLC services that pay license fees at that level. Of the remaining types of operators, IP-II operators pay 6% based on the recent change in policy resulting from recommendation by the Authority, and BSOs / UASLs pay a range of 6% - 10%, depending on which circle they operate in.

4.10.2 The second factor to consider is that when a DLC is provided, a combination of various operators is required to be involved in the process. Since NLDOs and IP-II operators are not allowed to directly provide bandwidth to an end-customer, a BSO / UASL must be involved in the provision of the circuit. Furthermore, when considering revenue allocation for a leased circuit by converged operators who possess both NLD and BSO / UASL licenses, the revenue allocation is significantly weighted more towards the BSO / UASL, thereby paying fees at the lower license level. The data available with the Authority supports this fact. Thus the main providers of leased circuit would have an applicable license fee which is less than 10%

4.10.3 Based on the weighted average of the various license fee levels discussed above and the data available with the Authority the average license fee estimates is less than 10%. The license fee for this exercise has been set to 10% for purposes of setting the tariffs of DLC. Using 15% or any other higher value would distort the market and allow operators return beyond what is required.

4.11 Cost Estimates for 64 Kbps and E-1 Circuits

4.11.1 As mentioned above, to arrive at the cost of E-1 and 64 kbps circuits, an STM-1 system was considered as the base. Cost components from all operators who submitted data were examined. Since there is significant variance in the data received, a normative process was adopted to determine the relevant data to use for the costing. Capex recovery requirements were derived based on industry standard and prior application by Authority in other costing exercises. The cost arrived at based on the inputs were then applied to arrive at the final normated raw cost per STM-1 system. This raw cost was then used for arriving

at both the final costs for E-1 and 64 kbps circuits by loading on capacity utilization, license fee, and the distance-based pricing structure.

4.11.2 Redundancy and Capacity Utilization for E-1 Circuits

4.11.2.1The raw cost of setting up an STM-1 system, as calculated based on the above inputs, divided by a factor of 63 gives the raw cost estimates of an E-1 circuit. For capacity utilization and redundancy of E-1 circuits, the various factors discussed above in Section 4.9 were evaluated and are discussed in the following paragraph.

4.11.2.2 For capacity utilization, the Authority considered keeping the value the same as in TTO 1999, but a number of changes in the industry, which have been discussed above, justify a decrease. Not employing a decrease would have put the operators at a disadvantage vis-à-vis the current market scenario. The Authority used inputs from the industry and based on its judgment assigned capacity utilization values to the various factors affecting the final product. This included the different utilization levels on urban and trunk routes versus other routes, as well as the requirements for redundancy. Based on this, the capacity utilization was calculated to be 50%. This level is overall equivalent to allowing 100% redundancy for all links that are sold, leaving operators with more than enough margin in their networks and costs. In the present ring configuration, capacity levels deployed are much higher than the STM-1 that has been used for deriving the cost estimates. To that extent, a capacity utilization of 50% with

STM-1 would amount to much smaller capacity utilization for a system with higher speed. This would itself mean that we would in fact have a redundancy level of much more than 100% in a system with higher speed.

4.11.3 Distance-Based Pricing for E-1 Circuits

4.11.3.1For E-1 circuits, the tariff ceilings have been specified by the Authority for distances in the interval of 5 km starting with the first tariff at the 5 km mark. This format is consistent with the method adopted in TTO 1999, and continues to be applicable for E-1 circuits.

4.11.3.2The accounting of costs when calculating distance-based pricing differs for the various cost categories. For Fixed Cost, the cost is applied on a per circuit basis regardless

of the length of that circuit. The Variable Cost is applied on a per kilometer basis, while the Semi-Variable Cost is applied only once every 50 km. Semi-Variable Cost is associated with the cost of the repeater, and therefore is only required to be incurred when crossing distance marks in multiples of 50 km.

4.11.3.3The Authority noted that capacities serving key routes covering longer distances, typically > 500 km, are of very high capacities like WDM and DWDM, and thus to that extent the cost estimates calculated in this exercise on the basis of STM-1 systems (in respect to E-1 and 64 kbps circuits) would be higher than actual costs. It is further noted that these higher capacities are deployed in key trunk routes that are much intensively used. This implies substantially lower unit costs than those derived from an STM-1 system. Given the large reduction in unit costs for such high capacity equipments, cost based price for leased circuits for distances beyond 500 kms with this capacity are in fact lower than the cost based tariff for 500 kms using STM-1. Therefore, it would be appropriate to keep the fixation of ceiling tariff at 500 km and apply that to distances higher than 500 km. This again is consistent with the methodology adopted in TTO 1999.

4.11.4 Tariffs for E-1 Circuits

4.11.4.1Below in Table 4-2 is a sample of the resulting ceiling tariffs for E-1 circuits and comparison to existing market rates at maximum available discounts.

Table 4-2 – E-1 Ceiling Tariffs per Annum for Select Distance Slabs and Comparison with Current Market Rates

Distance	**Existing**	**Existing Market**	**Revised Ceiling**	**Reduction with**
	Ceiling Tariff	**Rate**	**Tariff**	**Respect to**
(km.)	**(Rs.)**	**(Rs.)**	**(Rs.)**	**Market Rate (%)**
5	55,820	22,328	17,016	-23.79%
10	88,056	35,222	25,180	-28.51%
25	184,763	73,905	49,673	-32.79%
35	249,235	99,694	66,001	-33.80%
50	348,642	139,457	92,667	-33.55%
70	413,482	165,393	125,324	-24.23%
100	538,454	215,381	176,482	-18.06%
150	744,943	297,977	260,297	-12.65%
200	951,431	380,572	344,112	-9.58%
500	2,190,360	876,144	847,002	-3.33%
>500	2,200,000	880,000	850,000	-3.41%

4.11.4.2The complete set of ceiling tariffs for E-1 circuits is available in Annexure 2 to Schedule IV.

4.11.5 Additional Costs for 64 Kbps Circuits

4.11.5.1The raw cost of setting up an STM-1 system, as calculated based on the above inputs, divided by a factor of 63 gives the raw cost estimates of an E-1 circuit. This value further divided by 30 gives the raw cost of a 64 kbps circuit. Further to the costs derived from this calculation, 64 kbps circuits require usage of demultiplexers on both ends of an end-to-end 64 kbps link. This additional cost is considered as part of the Fixed Cost category since it is only applied once per circuit. Further, this cost is applied on a per E-1 basis, since this is how the 30 circuits are derived from the E-1.

4.11.6 Redundancy and Capacity Utilization for 64 Kbps Circuits

4.11.6.1For capacity utilization and redundancy of 64 kbps circuits, similar factors were considered as for determining the capacity utilization for E-1 circuits, as discussed above in Section 4.11.2.

4.11.6.2Feedback received from the operators suggest that capacity utilization to be assumed for deriving cost estimates in respect of 64 kbps needs to be lower than the fill factor in respect of higher capacities. For 64 kbps circuits there are two segments of the complete link, the back-haul and the radial portion. Since the back-haul is part of a larger system which is deployed in a ring network, the redundancy allowance is accounted for based on similar parameters as what was used in calculating the capacity utilization for E-1 circuits. While in the radial portion ring circuits are not deployed, operators are not providing redundancy via route diversity for all of their customers who take sub-E-1 circuits. When route diversity is employed, it is found to typically cover major areas with multiple customers. Keeping these factors in view, the Authority has set effective capacity utilization at 40%.

4.11.6.3In comparison to the capacity utilization considered for E-1 circuits, this is equivalent to the excess capacity being 25% higher in the case of 64 kbps circuits. The excess capacity available would now be 150% of the capacity used.

4.11.7 Distance-Based Pricing for 64 Kbps Circuits

4.11.7.1For capacities below E-1, the tariff ceilings have been specified by the Authority in the same format as for E-1 circuits, and is consistent with the method adopted in TTO 1999.

4.11.8 Tariffs for 64 Kbps Circuits

4.11.8.1Below in Table 4-3 is a sample of the resulting ceiling tariffs for 64 kbps circuits and comparison to existing market rates at maximum available discounts.

Table 4-3 – 64 Kbps Ceiling Tariffs per Annum for Select Distance Slabs and Comparison with Current Market Rates

Distance	Existing Ceiling Tariff	Existing Market Rate	Revised Ceiling Tariff	Reduction with Respect to Market Rate (%)
(km.)	(Rs.)	(Rs.)	(Rs.)	
5	24,558	24,558	10,207	-58.44%
10	25,632	25,632	10,533	-58.91%
25	28,856	28,856	11,511	-60.11%
35	31,005	31,005	12,163	-60.77%
50	34,319	34,319	13,214	-61.50%
70	36,480	36,480	14,519	-60.20%
100	40,646	40,646	16,548	-59.29%
150	47,529	47,529	19,881	-58.17%
200	54,412	54,412	23,215	-57.33%
500	95,710	95,710	43,217	-54.85%
>500	96,000	96,000	44,000	-54.17%

4.11.8.2The complete set of ceiling tariffs for 64 kbps circuits is available in Annexure 1 of Schedule IV. The ceiling tariffs for capacities above 64 kbps are set in TTO 1999 based on the coefficient multiples recommended by the ITU (Recommendation D.8 of the International Telecommunications Union) for capacities of 128 kbps to 960 kbps. These multiples have been modified in the current Tariff Order to only give specifications for multiples at 128 kbps and 256 kbps where the bulk of demand is present. These multiples are 1.8 for 128 kbps and 3.1 for 256 kbps. For capacities higher than 256 Kbps and below 2 Mbps, the Authority is putting the tariffs under forbearance which implies that service providers are given the flexibility to decide the tariffs for these capacities. In this regard, the Authority is of the view that fixation of ceiling tariffs for each of the smaller capacities beyond 256 kbps and below E-1 would only lead to further rigidity in the system of tariffs

and does not serve a useful purpose. It is confirmed by data available with the Authority that the demand for capacities in this range is very insignificant. Just as the Authority is not fixing tariffs for capacities between E-1 and DS-3, so it also believes that based on similar justification those capacities between 256 kbps and E-1 do not need to be fixed.

4.12 Cost Estimates for DS-3 and STM-1 Circuits

4.12.1 To arrive at the cost of STM-1 and DS-3 circuits, an STM-4 system was considered as the base. Since there are economies of scale in offering services through higher capacities, the final tariffs for these capacities will be substantially lower than the technical coefficient. Performing a bottom-up cost-based exercise in similar fashion to what was done for E-1 circuits will yield an accurate result of the cost of provisioning these higher capacity circuits. Cost components for STM-4 systems from all operators who submitted data were examined. The Variable Cost components remain the same in both STM-4 and STM-1 systems since the same cable and cable laying can be used for either of those systems. There was a change in Fixed and Semi-Variable Costs because of the upgraded equipment that is required for the higher capacity STM-4 system.

4.12.2 Similar to the process for E-1 circuits, since there was significant variance in the data received, the same normative process was adopted to determine the relevant data to use for the costing. Furthermore, the same capex recovery requirements were derived. The cost arrived at based on the inputs were then applied to arrive at the final normated raw cost per STM-4 system. This raw cost was then used for arriving at both the final costs for STM-1 and DS-3 circuits by loading on capacity utilization, license fee, and the distance-based pricing structure.

4.12.3 Redundancy and Capacity Utilization for STM-1 Circuits

4.12.3.1The raw cost of setting up an STM-4 system, as calculated based on the above inputs, divided by a factor of 4 gives the raw cost estimates of an STM-1 circuit. For capacity utilization and redundancy of STM-1 circuits, the various factors discussed above in Section 4.9 were considered.

4.12.3.2The capacity utilization, was calculated based on different considerations given prevailing market behavior for STM-1 circuits. As mentioned above, there are a total of 4

STM-1 circuits that will fit in an STM-4 system. For an STM-1 taken on lease, in an STM-4 system, the capacity sold will by definition be in units of STM-1. In such a system, if just a single STM-1 system is leased, capacity utilization is 25 % or if two STM-1 circuits are leased, it will be 50%. Since these high capacity circuits are typically taken on major routes with relatively higher levels of overall demand, the appropriate capacity utilization to be considered would be well above 50%.

4.12.3.3The Authority used the above considerations and inputs from the industry to apply weights to the various factors affecting the final product, as it had done for E-1 circuits. Based on this weighted average calculation, the Authority set capacity utilization at 40% in an STM-4 system for purposes of deriving cost estimates in respect of STM-1 circuits. This is likely to provide considerable buffer in the cost based ceiling tariff. Further, as discussed for E-1 pricing, each fiber pair laid can carry many times the capacity of even an STM-4 system, but for this exercise the full cost of that fiber is being allocated only based on STM-4 systems (as discussed in Section 4.6), therefore loading higher levels of cost on the end customer. Though operators have already deployed higher capacity systems, if prices remain high, capacity utilization will remain low and laid fibers will remain dark.

4.12.4 Distance-Based Pricing for STM-1 Circuits

4.12.4.1For STM-1 circuits, the tariff ceilings have been specified by the Authority for distances in the interval of 5 km starting with the first tariff at the <50 km mark. As discussed before, the accounting of costs when calculating distance-based pricing differs for the various cost categories. For Fixed Cost, the cost is applied on a per circuit basis regardless of the length of that circuit. The Variable Cost is applied on a per kilometer basis, while the Semi-Variable Cost is applied only once every 50 km. This treatment of Semi-Variable Cost, which is associated with the cost of the repeater, is required to be incurred only when crossing distance marks in multiples of 50 km.

4.12.4.2 The basis for changing the lower distance pricing bands for STM-1 circuits is based on following factors. It is seen that higher capacities are usually taken for longer distances. Additionally, the higher Fixed Cost components of STM-4 systems make STM-1 links below 50 km less practical in terms of cost recovery. This also applies to the Semi-Variable cost category. Therefore, the first slab was fixed at below 50 km, to reflect

the distance slab prior to the first repeater. The intervals of 5 km thereafter remain as in E-1 circuits up through the final slab of beyond 500 km. The Authority noted that capacities serving key routes covering longer distances, typically > 500 km, are of very high capacities including WDM and DWDM, and thus to that extent the cost estimates calculated in this exercise on the basis of STM-4 systems (in respect to STM-1 and DS-3 circuits) would be higher than actual costs. Therefore, it would be appropriate to keep the fixation of ceiling tariff at 500 km and apply that to distances higher than 500 km.

4.12.5 Tariffs for STM-1 Circuits

4.12.5.1Below in Table 4-4is a sample of the resulting ceiling tariffs for STM-1 circuits and comparison to existing market rates at maximum available discounts.

Table 4-4 – STM-1 Ceiling Tariffs per Annum for Select Distance Slabs and Comparison with Current Market Rates

Distance	Existing Ceiling Tariff	Existing Market Rate	Revised Ceiling Tariff	Reduction with Respect to Market Rate (%)
(km.)	(Rs.)	(Rs.)	(Rs.)	
<50	21,964,446	8,555,249	1,787,528	-79.10%
50	21,964,446	8,785,791	1,901,152	-78.36%
70	26,049,366	10,419,759	2,517,523	-75.84%
100	33,922,602	13,569,003	3,524,884	-74.02%
150	46,931,409	18,772,551	5,148,616	-72.57%
200	59,940,153	23,976,036	6,772,348	-71.75%
500	137,992,680	55,197,072	16,514,740	-70.08%
>500	138,600,000	55,440,000	16,520,000	-70.20%

4.12.5.2The complete set of ceiling tariffs for STM-1 circuits is available in Annexure 4 of Schedule IV.

4.12.6 Redundancy and Capacity Utilization for DS-3 Circuits

4.12.6.1The raw cost of setting up an STM-4 system, as calculated based on the above inputs, divided by a factor of 4 gives the raw cost estimates of an STM-1 circuit. Further dividing that raw cost by 3 (since there are 3 DS-3 circuits in an STM-1) yields the raw cost per DS-3 circuit based on an STM-4 system. For capacity utilization and redundancy of

DS-3 circuits, as before, the various factors discussed above in Section 4.9 were considered.

4.12.6.2In an STM-4 system, if one DS-3 circuit is sold capacity utilization would be 33%. Further, if two DS-3 circuits are sold, the capacity utilization increases to 67%. As in each of the prior evaluations of capacity utilization, the Authority applied weights to the different factors discussed above based on its judgment and inputs from the industry. The Authority also has decided to provide a buffer in the cost and use a capacity utilization very close to that corresponding to using a single DS-3. Thus, the Authority has used capacity utilization of only 35%.

4.12.6.3Again, as discussed for STM-1 pricing, each fiber pair laid can carry many times the capacity of even an STM-4 system, but for this exercise the full cost of that fiber is being allocated only based on STM-4 systems (as discussed in Section 4.6). In practice, the likely capacity utilization would be higher and the cost-based tariffs lower than that estimated by the Authority. However, the Authority is being conservative so as to avoid shock to the system.

4.12.7 Distance-Based Pricing for DS-3 Circuits

4.12.7.1For DS-3 circuits, the distance-based factors used to set the tariff ceilings have been specified by the Authority in the same format as for STM-1 circuits. This is based on the fact that the tariffs for DS-3 circuits have also been derived from the same STM-4 system as used for STM-1 circuits.

4.12.8 Tariffs for DS-3 Circuits

4.12.8.1Below in Table 4-5 is sample of the resulting ceiling tariffs for DS-3 circuits and comparison to existing market rates at maximum available discounts.

Table 4-5 – DS-3 Tariffs per Annum for Select Distance Slabs and Comparison with Current Market Rates

Distance	Existing Ceiling Tariff	Existing Market Rate	Revised Ceiling Tariff	Reduction with Respect to
(Km.)	(Rs.)	(Rs.)	(Rs.)	Market Rate (%)
<50	7,129,374	2,851,749	666,798	-76.62%
50	7,321,482	2,928,597	709,301	-75.78%
70	8,683,122	3,473,253	939,050	-72.96%
100	11,307,534	4,523,001	1,314,690	-70.93%
150	15,643,803	6,257,517	1,920,080	-69.32%
200	19,980,051	7,992,012	2,525,470	-68.40%
500	45,997,560	18,399,024	6,157,807	-66.53%
>500	46,200,000	18,480,000	6,159,000	-66.67%

4.12.8.2The complete set of ceiling tariffs for DS-3 circuits is available in Annexure 3 of Schedule IV of this Order.

4.12.9 It is noteworthy to mention that the resulting ratio of tariffs for E-1:DS-3:STM-1 circuits for the distance segment >500 km is 1.0:7.2:19.4. When the Authority set tariffs for International Private Leased Circuits (IPLC), the price multiples for these capacities was derived to be 1:8:23, whereas the cost-based process discussed in this section for DLCs has yielded a lower ratio in addition to a lower base tariff for E-1 circuits.

4.12.10Another point noted by the Authority was that based on the data submitted by operators, revenue from providing DLCs is a very small portion of their total revenue realized. Further, it is relevant to note that cost data that has been used in the setting of tariffs in the present exercise had been collected in the year 2003 and since then there has been significant reduction in the cost of providing services, this also contributes to the buffer contained in the revised ceiling tariffs.

4.13 Tariff for Intermediate Distances

4.13.1 The tariff ceilings are provided in the ready reckoner annexed to Schedule-IV for distances in the interval of 5 km. For distances lying in between distances specified in the ready reckoner, the tariff shall be charged on pro-rata basis, taking for this purpose the tariff ceilings for the two distances of the ready reckoner between which the relevant distance

lies. Multiplying the radial distance by a factor not exceeding 1.25 shall be used to arrive at the chargeable distance for purposes of leased circuits pricing. This is consistent with the formula that already exists in TTO 1999, and stakeholders were of the view that there was no reason to change it.

4.14 Mandatory Provision of Leased Circuits

4.14.1 The Authority has specified that leased circuits must be provided wherever capacity is available, and when such capacity is not available then on Rent and Guarantee Basis / Special Construction / Contribution Basis.

4.15 Charging for Local Leads

4.15.1 The majority of service providers are of the view that the local lead is the circuit between subscriber premises to nearest SDCC (Short Distance Charging Centre). The Authority after considering various views has decided that the leased circuit between the subscriber's premises to the nearest SDCC is a Local Lead. Similar to the specification for the charging for leased circuits, the Authority has specified that for local lead tariffs, the first option for charging for local leads should be to provide them on lease as per ready reckoner. If this is not possible, then tariffs could be either on Rent and Guarantee terms / Special Construction / Contribution Basis i.e. on the basis of mutual agreement between the parties concerned about the extent of contribution to costs that will be made by the party leasing the circuits.

4.15.2 User industries including service providers have pointed out that the commercial conditions governing Rent and Guarantee (R&G) schemes, special construction and contribution schemes resorted to by the leased circuit providers turn out to be onerous and the basis for conditions in these schemes lack transparency and any firm economic criteria. As a result of which, the users end-up paying higher charges including locking-in of the customers for a longer duration. Therefore, Authority is of the view that the conditions governing these contracts need to be fair, just, reasonable and transparent. The Authority has specified that when capacity is sought to be provided under these schemes, the terms should be invariably based upon costs. Further, the Authority has specified that the providers of leased circuit shall submit to the Authority the commercial and economic basis

of various terms and conditions of the above-mentioned schemes including but not limited to the cost of capital, life of assets used, depreciation norms adopted with respect to their agreement with the customers as part of the reporting requirement envisaged under the TTO 1999. The reporting requirement requires the service providers to report their tariff to the Authority within seven days of implementation. Besides, the leased circuit service providers shall also make these terms and conditions known to the customers in a transparent manner.

4.16 Tariffs for E1/R2 Links for ISPs

4.16.1 Tariffs for E1/R2 ports for ISPs remain unchanged and incorporated as clause 5 of this Order. However, applicable tariffs for leased line / local leads / end-links shall be as per the revised rates notified in this order.

4.16.2 As regards port charges, these have been specified in the Telecommunication Interconnection (Port Charges) Regulation, 2001 dated 28th December 2001. These port charges are relevant in case of E1/R2 links also, as the same direct costs are involved in this situation. The charges for end links are the same as those for leased circuit as applicable in terms of capacity and distance. The overall charge will be a combination of these different components as applicable.

4.17 Application of Tariffs Specified in Schedule IV

4.17.1 The ceiling tariffs specified by the Authority will replace the existing ceiling tariffs from the date of implementation, which is 1st May, 2005. Pro rata corrections wherever applicable, must be made to any advance payments that might have been made for leased circuits on the basis of the prevailing tariffs.

5. outline space

Section 5.	**Further Examination of Outstanding Issues**
5.1	The Authority has noted the point of view of the incumbent operator that their

existing discount of 60% etc. offered on leased line tariff cannot be a trigger for TRAI to reduce leased line tariff because discounts are given due to competitive pressures of the market. While not disagreeing with the phenomenon of competitive decline in leased circuit prices, the Authority found evidence in data that suggested substantial cost declines in various elements including optical fiber cable. In fact, the discounts on lease line tariff that exist today could be more so attributed to the decline in the cost of various elements including the optical fiber cable resulting from technological progress rather than competition. This is not only evident from the data submitted by the operators to the Authority but has also been declared by a major operator in their tariff circular announcing tariff reduction for leased circuits. Further the benefits of technology led cost declines ought to be available across the board by regulatory intervention if competition (or the lack thereof) does not provide for the decline.

5.2 One concern that was raised during the consultation process related to activation / increase of grey market operations in long distance calls following a reduction in leased circuit prices. It was pointed out that the average revenue from a 64 kbps circuit is around Rs. 3.5 lakhs per annum if the circuit is used for domestic long distance calls. Further, reduction in annual lease rental for 64 kbps will provide an arbitrage opportunity encouraging gray market operation. The Authority examined this point and does not find it to be valid. The Authority has already held vide its Directive No.1-2/2000-CN 11 September 2001 that apprehension of illegal usage is not a rational ground to deprive benefits / facilities to bona fide users. Further, increasing the leased circuit tariffs to address the grey market would not be an appropriate pricing instrument keeping in view the objectives of promoting competition and reduced tariffs. In this context, the Authority has already held that "there are enforcement mechanisms to prevent such a misuse."

5.3 Since the Authority has based its ceiling tariffs of E-1 on STM-1 system, it has therefore provided some buffer because operators are using higher capacity. Separately the Authority has verified the cost estimates using STM-4, STM-16 and a weighted average of STM-1, 4 and 16 systems and has found that the cost based tariffs derived from higher

benchmark capacities would be much lower than the current one that is specified using STM-1 as the benchmark capacity.

5.4 One of the issues raised in the Consultation Paper relates to fixation of ceiling tariff in respect of capacities between E-1 and DS-3 circuits, and between DS-3 and STM-1 circuits. Generally, stakeholders were of the view that such fixation of ceiling tariffs at every point between two definite capacities would lead to anomalies and complexities may arise in billing the customers. This argument is further strengthened by the fact that bandwidth is usually purchased in definite capacities like E-1, DS-3, STM-1, etc. The Authority has therefore not fixed tariffs for capacities in between E-1 and DS-3, and DS-3 and STM-1.

5.5 Another issue raised in the Consultation Paper is with respect to specification of ceiling tariff on a 'per kilometer' basis for the first 5 km and in slabs of 5 km thereafter. It is seen that the incumbent operator already has per kilometer range of tariffs for local circuits below 5 km in respect of lower capacities like 64 kbps. Further, responses received from some of the service providers indicate that the cost of connectivity on shorter distances is high. Keeping these in view and taking into account the fact that the Authority is fixing a ceiling tariff which is applicable for distances even beyond 500 km it is not considered necessary to introduce a regime in which per kilometer tariff is available for the first 5 km.

5.6 Measures to Promote Competition

5.6.1 The long-term goals of the Authority are to establish effective competition in the sector such that regulation of tariffs is not required. Until such a market scenario prevails, cost-based tariff pricing is required. As stated in the consultation paper, the DLC market has witnessed an increase in the number of players but competition is still not effective in the majority of cases. This is mainly on account of the fact that new entrants have not matched the incumbent in rolling out networks both in terms of quantum and in terms of reach. Further, new entrants perceive a significant risk in building out new high capacity networks since the capacity is bought over time and capital recovery is dependent on how quickly utilization levels can be increased. Thus the choice of service providers to the consumers is limited. This coupled with the absence of interconnect regulations for leased lines results in end-users to rely solely on what is offered by the operators nearest to his

premises. The Authority intends to release consultation papers on measures that could be taken so that competition in this space is further promoted. These measures include:
•Inter-connect of operators for provisioning of multi-operator leased circuits •Introduction of reselling of bandwidth
•Introduction of wholesale and retail pricing

5.7 Promoting Growth of Rural Networks

5.7.1 The Authority recognizes that without focus on rural areas, sizeable growth in the telecom sector would not be possible. One of the major initiatives of the Authority and that of the government is to drive growth of telecom infrastructure in rural areas considering the fact that this infrastructure has a multiplier effect on economic and social activities. It has been discussed in the context of both the broadband initiatives and the Authority's Consultation Paper on "Growth in Telecom Services in Rural India" that significant potential for industry growth and the attendant economic growth exist in this market.

5.7.2 Universal Service Objectives (USO) have been sought to be achieved through a combination of initiatives that include Government funding, Access Deficit Charge, roll-out obligation, tariff policy, direct USO subsidy, etc. The Authority has also come across initiatives of the State Governments seeking to provide broadband connectivity for rural development as part of their e-Governance plans. Needless to say, the availability of broadband services and Internet connectivity has to be at affordable prices levels. In these endeavors it is seen that modern technologies providing high-speed networks using fiber and wireless are sought to be used. A number of other private initiatives by corporations and other voluntary agencies all-aiming to take ICT (Information Communication Technology) services to rural areas have also been noticed. All these point to the need for making available the services of leased circuit in areas beyond the commercially attractive zones of availability.

5.7.3 In this context, it is relevant to quote the statement of the Authority in the consultation paper on "Growth in Telecom Services in Rural India" dated 27.10.2004: *"We are in a fortunate situation where the optic fibre structure has already been extended to the extent that on an average optic fibre termination is available in 4-5 locations in each Block. This implies that we can reach within 15 to 20 kms. of most*

villages with large bandwidth through lighting up of dark fibres which would, in turn, imply that the total investment needed for achieving this objective could be one-fourth to one-fifth of that needed in case we had to lay the entire optic fibre backhaul infrastructure. And in this regard, India is in a far more advanced and fortunate situation than most of the similarly placed countries. One approach could be that capital funding required and the maintenance effort needed for creating this bandwidth from district headquarters down to all such locations in a Block could be provided from the USO Fund."

5.7.4 The Authority examined whether an incentive mechanism could be built in the pricing policy for DLC, so that DLC with rural links could get the benefit of an in-built subsidy. Analysis of the extent of competition in non-rural areas indicates that a cross-subsidy mechanism in the pricing policy would not be appropriate. Therefore, an alternative mechanism needs to be evolved in the matter of providing affordable bandwidth services to areas that are considered uneconomical by service providers and that mechanism has to be outside the tariff policy regime. USO is said to arise from requirements imposed as a result of inter-alia regulation for providing telecommunication services as may be specified in geographic areas / locations that can only be met under cost conditions that fall outside normal commercial standards. Taking all these factors into account, the Authority would consider making Recommendations to Government on the issues of providing direct support from USO fund to bandwidth providers in rural / remote areas. Needless to say, the extent of such support would depend upon the price at which bandwidth services are to be made available to consumers in such areas as against the ceiling tariff specified in this Order. These and other related issues for operationalising the scheme would form part of Recommendations of the Authority to the Government.

5.8 Review of the Tariffs

5.8.1 The Authority is of the view that the reduction effected in the tariff for DLC would give rise to a very strong demand for them, resulting in a surge in revenues from leased circuits and in a strong impetus for related economic activity in addition to providing increased capacity utilization. This viewpoint was strongly endorsed by several commentators. The increase in capacity utilization of laid down circuits will increase the revenues of operators leading to higher profits / reduced losses, as was seen in mobile telephony during the last 2 – 3 years. The Authority will revisit this ceiling tariff after a

year based on prevailing market trends and data prevailing at that time. Furthermore, if license fees imposed by the Government are decreased in the interim period, as recommended by the Authority, tariffs would be adjusted accordingly.

Domestic Leased Circuits

Annexure A - Appendix 1.

Current Annual Tariff of Domestic Leased Line

Current Annual Tariff of Domestic Leased Line (As at the end of December 2004)

Rs. in Lakhs

Operator	**Capacity (For distance >500kms)**			
	64Kbps	**2Mbps**	**DS3**	**STM1**
Existing Ceiling tariff	**0.96**	**22**	**462***	**1386***
BSNL	0.96	8.8	185	554
MTNL	0.96	8.8	185	554
VSNL	0.48	11	231	693
Reliance Infocomm Ltd.	0.96	8.8	185	554
Bharti Infotel Ltd.	0.77	12.8	248	617
Tata Teleservices Ltd.	0.96	13.2	254	624
HFCL	0.86	17.6	370	1109
Shyam Telelink Ltd.	0.96	22	-	-
Power Grid Corpn. of India Ltd.	0.96	7.7	162	416
RailTel Corpn. of India Ltd.	0.96	13.2	231	624
GAIL(India) Ltd.	0.58	9.9	139	416

* 'N' times the ceiling tariff of E1
Source: Tariff reports of service providers

Domestic Leased Circuits

Annexure A - Appendix 2.

International Regulatory Practice

Country Overview of Regulation of Domestic Leased Circuit Market

Internationally, the regulatory and competitive environment for Domestic Leased Circuit

products is as follows:

Country	**Regulation**	**Cost Standard**
Australia	ACCC currently applies a cost orientation requirement on the sale of local access leased lines. National and International leased lines were under a CPI-X% price cap control between 1992 and 2001.	Bottom Up (BU) - Long Run Incremental Cost (LRIC)
China	All leased line rates set by the Government.	

France	The ART considers France Telecom to have SMP in the domestic leased line market. The following obligations currently apply: •Publish technical characteristics and tariffs for an interconnection offer - France Telecom must offer part leased lines (PPCs) in addition to wholesale DPLCs. •Cost orientation (LRIC) •Comply with interconnection requests. •Obligation to ensure access to network. •Align access provision with costs - cost orientation. •Price control - FT must publish tariffs, must seek approval from the ART to change tariffs, and customised pricing offers must be on a non discriminatory basis.	Top Down (TD) - LRIC

Domestic Leased Circuits

Country	**Regulation**	**Cost Standard**
Ireland	ForDPLC ComReg is currently conducting a consultation exercise on both the wholesale market and Retail market for leased lines. ComReg is likely to find that Eircom has SMP in both markets, and has proposed the following remedies: **Wholesale** •Access to and use of specific network facilities - the provision of Wholesale leased lines and access to Eircom's network facilities for interconnection with PPCs. •Non discrimination. •Price control and cost accounting - PPCs to be subject to LRIC at CCA prices, Wholesale leased lines to be provided at Retail-8%. •Accounting separation. **Retail leased lines <2Mbps** •Non discrimination •Cost orientation - Fully Distributed Historic Costs •Cost accounting - Accounting Separation •Transparency ComReg believes that this market is competitive and proposes to remove all regulation in this market.	Top Down LRIC for PPCs. Retail - 8% for wholesale leased lines. FAC for Retail LL <2Mbps.
Japan	Japan defines operators as Type I or Type II. Type I operators were subject to price ceilings, and any tariff changes needed to be approved by the regulator before implementation. All regulations were abolished in April 2004 as the regulator determined that the market for DPLCs was now competitive.	

Domestic Leased Circuits

Country	**Regulation**	**Cost Standard**
Malaysia	The Malaysian Communications and Multimedia Commission published a report on 8th December 2004 entitled "A report on a Public Inquiry: Assessment of Dominance in Communications market" •This considered the market for leased lines and concluded that competition in the provision of leased line services may not be as effective as it might and that Telecom Malaysia faced few constraints in the provision of leased line services over a number of routes, and that it is likely to enjoy a number of competitive advantages over other providers of leased line services. •The characteristics of competition in the provision of leased lines services vary on a route-by-route basis. The Commission therefore has decided that competition needs to be assessed on a case-by-case basis, taking into consideration the specific characteristics of the given leased line route, and propose to conduct an review. The Commission is also reviewing the cost model for Access and Retail services and will undertake a costing study on leased lines.	

Domestic Leased Circuits

Country	**Regulation**	**Cost Standard**
Singapore	The Info-communications Development Authority (IDA) conducted a consultation exercise in 2003 and as a result published a paper on 16 December 2003 entitled "Designation of Singapore Telecommunication Limited's Local Leased Circuits as a Mandated Wholesale Service"	

	The IDA concluded that competition did not exist in the Wholesale and Retail markets for Local Leased Lines and decided to intervene. The IDA defined two markets - a retail market and a wholesale market and concluded that SingTel was dominant in both markets. The IDA considered that facilities based competition was the best method of achieving its objectives of ensuring sustainable and effective competition. The IDA therefore determined that LLC tail circuits (ie PPCs) should be made available for interconnection purposes, and should be cost based. As an interim measure it proposed that SingTel should provide wholesale circuits at Retail-30%, or Retail-50% if only a tail circuit was requested.	
South Korea	The MIC has typically encouraged facilities based competition. In the Domestic Leased line market, KT and Dacom (originally part of KT) dominated until 1994 but since the entry of Thrunet in 1996 there has been significant market entry, there are now 12 license holders. Facilities based providers have interconnection requirements placed upon them - originally calculated at historic FAC, there was a move towards LRIC in 2003.	FAC, LRIC for interconnection requirements

Domestic Leased Circuits

Country	Regulation	Cost Standard
UK	Ofcom published a market review into leased lines in July 2004 entitled "Review of the retail leased lines, symmetic broadband origination and wholesale trunk segments markets" In this market review Ofcom made the following decisions: **Retail low bandwidth <8Mbps** - circuits are subject to the following regulations: •Obligation to supply on reasonable request the minimum set of retail leased lines; •Requirement not to unduly discriminate; •Cost orientation and a cost accounting system to take effect only if BT breaches its voluntary undertaking not to raise the combined prices of a basket or these services by more than RPI before June 2006 •Requirement to publish a reference offer (obligation to publish current prices, terms and conditions; and same day price notification); and •Requirement to publish information concerning delivery and repair times. **Retail High bandwidth >8Mbps** - not regulated **Wholesale all bandwidths** - are subject to the following regulations: •A general obligation to provide access on reasonable request; •Requirement not to unduly discriminate; •Basis of charges obligations (cost orientation and a cost accounting system); •Price control (not for trunk market); •Accounting separation obligations; •Requirement to publish a reference offer; •Obligations to give notice of changes to prices, terms and conditions. •Obligations relating to requests for new network access.	Top down LRIC + mark up for common costs.

Domestic Leased Circuits

Country	Regulation	Cost Standard
UK (cont'd)	•A direction under the general access condition to provide Partial Private Circuits (PPCs) at a range of bandwidths, Radio Base Station (RBS) backhaul link products, and Local Loop Unbundling (LLU) backhaul products, subject to specific terms and conditions; •A direction under the cost orientation condition covering pricing matters relating to PPCs and LLU backhaul; and •A direction under the quality of service condition to require specific information in respect of PPCs.	
USA	•There are broadly two types of carrier - local carriers like Verizon and Bellsouth who typically provide private lines within their network footprints and long distance carriers like AT&T, and Sprint who provide long distance and international services. •Each State sets its own regulation; some States have deregulated local private circuits, which allows carriers and customers to negotiate prices. In other States private circuits are only deregulated in Metropolitan areas. •Capacities of T1 (1544 Kbps) and above are considered competitive and wholesale customers negotiate their own contracts for prices. •T1s primarily used for data traffic are considered non-regulated at wholesale levels as well. •T1s largely used for voice traffic were required to be unbundled by the ILECs - though this is currently being contested in the courts.	Bottom up TELRIC CCA (Total Element LRIC as opposed to Total Service LRIC).

Source: *ERNST & YOUNG*

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Domestic Leased Circuits

Annexure A - Appendix 3.

Cost Elements

Fixed Cost Category
a)Equipment cost: Two terminals required, one at each end equipped with the tributary cards up to E1 (2Mbps) level
b)30 channel demultiplexer along with channel cards of 64 kbps level (for both ends) c)Line control terminal
d)Network manager
e)Digital Distribution Frame
f)Power plant
g)Battery
h)Engine alternator
i)Electrical items
j)Test instruments
k)Earthing
l)Accommodation, electricity and air conditioning
m)Installation and commissioning charge including project management cost
n)Others not anywhere specified

Semi-Variable Cost Category
a)Repeater station inclusive of all equipment/accessories: Separation of repeater stations in kms (average) 50

Variable Cost Category
1.Various cost elements in cabling
a)OFC Cable
b)Cost of trenching (Brick bedding, back filling, cable pulling in ducts etc.) Trench 0.4 m x 1.6 m
c)Supply and laying of HDPE subduct : 50mm one way with all necessary fittings d)Charges for supply of installation jointing box and materials, testing equipment, splicing machine charges etc.

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Domestic Leased Circuits

e)Charges for project management and coordination charges paid to statutory agencies including Right of Way (ROW) charges
f)Others not anywhere specified

2.Extra cost on account of each termination of 24 fibre cables a)Termination of 24 fibres inclusive of termination box
b)Supply of 24 pig tails/24 patch tails
c)Supply of installation of fibre distribution frame for 24 fibres

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Telecom Regulatory Authority of India

Notification
New Delhi, the 2nd May, 2005

No.312-7/2003-Eco. In exercise of the powers conferred upon it under sub-section (2) of section 11 read with section 11(1)(b)(i) of the Telecom Regulatory Authority of India Act, 1997, the Telecom Regulatory Authority of India (TRAI) hereby further amends the Telecommunication Tariff Order, 1999 as under, namely:

1. Short title, extent and commencement:
(i) This Order shall be called “The Telecommunication Tariff (Thirty Seventh Amendment) Order, 2005” (4 of 2005).

2. In Schedule IV (Domestic Leased Circuits) of the Telecommunication Tariff Order 1999, as last amended on 21st April 2005, after clause (3)(e) a new clause (3)(f) and entries relating thereto shall be inserted to read as under:

(3)(f) Circuits with Speed / Capacity of 64 Kbps up to but less than 2 Mbps provided on Managed Leased Line Network technology	For circuits of type Managed Leased Line Network technology, utilizing V-MUX and Transit Stations, and where the modem and its maintenance is provided by the provider of the leased circuit, for capacity of 64 Kbps the ceiling tariff is as specified in Annexure 5 to this Schedule. Ceiling tariffs for capacities 128 Kbps to 960 Kbps (N*64 Kbps) shall be determined by multiplying the ceiling tariff for leased circuits of 64 Kbps by the coefficients specified below: **Capacity (Kbps) Coefficient** 128 1.8 192 2.5 256 3.1 320 3.6 384 4.0 512 4.8 768 6.4 960 7.6

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The existing clause (3)(f) shall be renumbered as (3)(g), and the existing (3)(g) shall be renumbered as (3)(h), and substituted to read as under:

(3)(h) Tariff for intermediate distances	For distances lying in between the distances specified in Annexures 1 to 5 of Schedule IV, the tariffs shall be charged on pro-rata basis.

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Annexure 5 to Schedule IV
READY-RECKONER CEILING TARIFF (in Rs./Annum) FOR

64 Kbps Managed Leased Line Network (MLLN) DOMESTIC LEASED CIRCUITS

Distance	**Tariff for**	**Distance**	**Tariff for**
(km)	**64 Kbps Circuit**	**(km)**	**64 Kbps Circuit**
5	24,558	180	51,604
10	25,632	185	52,284
15	26,707	190	52,963
20	27,781	195	53,642
25	28,856	200	54,412
30	29,930	205	55,091
35	31,005	210	55,770
40	32,079	215	56,449
45	33,154	220	57,129
50	34,319	225	57,808
55	34,442	230	58,487
60	35,121	235	59,167
65	35,800	240	59,846
70	36,480	245	60,525
75	37,159	250	61,295
80	37,838	255	61,974
85	38,518	260	62,653
90	39,197	265	63,332
95	39,876	270	64,012
100	40,646	275	64,691
105	41,325	280	65,370
110	42,004	285	66,050
115	42,683	290	66,729
120	43,363	295	67,408
125	44,042	300	68,178
130	44,721	305	68,857
135	45,401	310	69,536

140	46,080	315	70,215
145	46,759	320	70,895
150	47,529	325	71,574
155	48,208	330	72,253
160	48,887	335	72,933
165	49,566	340	73,612
170	50,246	345	74,291
175	50,925	350	75,061

Distance (km)	**Tariff for 64 Kbps Circuit**
355 360 365 370 275	75,740 76,419 77,098 77,778 78,457
380 385 390 395 400	79,136 79,816 80,495 81,174 81,944
405 410 415 420 425	82,623 83,302 83,981 84,661 85,340
430 435 440 445 450	86,019 86,699 87,378 88,057 88,827
455 460 465 470 475	89,506 90,185 90,864 91,544 92,223
480 485 490 495 500	92,902 93,582 94,261 94,940 95,710
>500	96,000

This Order contains at Annexure A an Explanatory Memorandum, which explains the reasons for this amendment to the Telecommunication Tariff Order, 1999.

By Order,

(M.Kannan)

Advisor(Economic)

Annexure - A

Explanatory Memorandum

1. Bharat Sanchar Nigam Limited (BSNL) has submitted that 64 Kbps circuits are being provided in two methods: classical 64 Kbps circuits, and new Managed Leased Line Network-based 64 Kbps circuits. These Managed Leased Line Network (MLLN) based circuits that utilize V-MUX technology, utilize Transit Stations, and where the modem / Customer Premise Equipment (CPE) for terminating the circuit is provided by BSNL for circuits of speed / capacity of 64 Kbps or N*64 Kbps up to but below 2 Mbps. The calculations of the Authority in issuing the 36th Amendment to TTO 1999 where tariff ceilings for 64 Kbps and N*64 Kbps circuits were specified in clause (3)(a) of Schedule IV, were based on the classical method of providing 64 Kbps leased circuits.

2. The Authority has reviewed the information submitted by BSNL and has seen that this claim is for a new service for which the Authority has had no prior submission or cost data available. BSNL's claim is that for provision of such circuits, special modems and build-up of circuits through Transit Stations is necessary, and therefore cost of provision is potentially significantly higher than the ceiling tariffs notified by the Authority on 21st April 2005 in the 36th Amendment to TTO 1999.

3. The Authority has therefore notified a ceiling tariff for MLLN circuits as per clause (3)(f) of the amended Schedule IV above. This tariff ceiling is equal to the previous tariff ceiling for 64 Kbps and N*64 Kbps circuits prior to the 36th Amendment of TTO 1999. This tariff shall prevail for one month so that the Authority has sufficient time to collect the relevant cost information from service providers and evaluate what the new ceiling tariff for such services should be. For traditional 64 Kbps and N*64 Kbps circuits the tariff ceilings as prescribed in 36th Amendment of TTO 1999 in clause (3)(a) of Schedule IV would continue.

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Telecom Regulatory Authority of India

Notification

New Delhi, the 2nd June, 2005

No.312-7/2003-Eco. In exercise of the powers conferred upon it under sub-section (2) of section 11 read with section 11(1)(b)(i) of the Telecom Regulatory Authority of India Act, 1997, the Telecom Regulatory Authority of India (TRAI) hereby further amends the Telecommunication Tariff Order, 1999 as under, namely:

1. Short title, extent and commencement:

(i) This Order shall be called "The Telecommunication Tariff (Thirty Eighth Amendment) Order, 2005" (5 of 2005).

2. The tariff and entries relating thereto in Annexure-5 to Schedule IV of the Telecommunication Tariff (Thirty Seventh Amendment) Order, 2005 (4 of 2005) shall stand deleted and substituted with the tariff and entries as specified in Annexure-5 to Schedule IV of this order.

3. The following entries shall substitute the entries relating to clause (3)(f) of Schedule IV of the Telecommunication Tariff (Thirty Seventh Amendment) Order, 2005 (4 of 2005):

(3)(f) Circuits with Speed / Capacity of 64 Kbps up to but less than 2 Mbps provided on Managed Leased Line Network technology	For circuits of type Managed Leased Line Network technology for capacities of 64 Kbps, 128 Kbps and 256 Kbps the ceiling tariff is as specified in Annexure 5 to this Schedule. Tariff for capacities higher than 256 Kbps and below 2 Mbps are under forbearance. Furthermore, tariff for the Modem / Network Termination Unit is under forbearance, but must be provided on rental based on cost.

4.	This Order contains at Annexure A an Explanatory Memorandum, which explains

the reasons for this amendment to the Telecommunication Tariff Order, 1999.

By Order,

(M.Kannan)

Advisor (Economic)

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Annexure 5 to Schedule IV

READY-RECKONER CEILING TARIFF (in Rs./Annum) FOR 64 Kbps, 128 Kbps and 256 Kbps MANAGED LEASED LINE NETWORK (MLLN) DOMESTIC LEASED CIRCUITS

Distance	**Tariff for**	**Tariff for**	**Tariff for**
(km)	**64 Kbps Circuits**	**128 Kbps Circuits**	**256 Kbps Circuits**
5	17,811	32060	55214
10	18,137	32647	56225
15	18,463	33234	57236
20	18,789	33821	58247
25	19,116	34408	59258
30	19,442	34995	60269
35	19,768	35582	61280
40	20,094	36169	62291

45	20,420	36756	63302
50	20,819	37473	64538
55	21,145	38060	65549
60	21,471	38647	66560
65	21,797	39234	67570
70	22,123	39822	68581
75	22,449	40409	69592
80	22,775	40996	70603
85	23,101	41583	71614
90	23,428	42170	72625
95	23,754	42757	73636
100	24,152	43474	74872
105	24,478	44061	75883
110	24,804	44648	76894
115	25,131	45235	77905
120	25,457	45822	78916
125	25,783	46409	79927
130	26,109	46996	80938
135	26,435	47583	81949
140	26,761	48170	82960
145	27,087	48757	83971
150	27,486	49475	85206
155	27,812	50062	86217
160	28,138	50649	87228
165	28,464	51236	88239
170	28,790	51823	89250
175	29,117	52410	90261

Distance	**Tariff for**	**Tariff for**	**Tariff for**
(km)	**64 Kbps circuits**	**128 Kbps Circuits**	**256 Kbps Circuits**
180	29,443	52997	91272
185	29,769	53584	92283
190	30,095	54171	93294
195	30,421	54758	94305
200	30,820	55475	95541

205	31,146	56062	96552
210	31,472	56649	97563
215	31,798	57236	98574
220	32,124	57823	99585
225	32,450	58410	100596
230	32,776	58997	101607
235	33,102	59584	102618
240	33,429	60171	103629
245	33,755	60758	104640
250	34,153	61476	105875
255	34,479	62063	106886
260	34,805	62650	107897
265	35,132	63237	108908
270	35,458	63824	109919
275	35,784	64411	110930
280	36,110	64998	111941
285	36,436	65585	112952
290	36,762	66172	113963
295	37,088	66759	114974
300	37,487	67476	116209
305	37,813	68063	117220
310	38,139	68651	118231
315	38,465	69238	119242
320	38,791	69825	120253
325	39,118	70412	121264
330	39,444	70999	122275
335	39,770	71586	123286
340	40,096	72173	124297
345	40,422	72760	125308
350	40,821	73477	126544

Distance	**Tariff for**	**Tariff for**	**Tariff for**
(km)	**64 Kbps circuits**	**128 Kbps circuits**	**256 Kbps circuits**
355	41,147	74064	127555
360	41,473	74651	128566

365	41,799	75238	129577
370	42,125	75825	130588
375	42,451	76412	131599
380	42,777	76999	132610
385	43,103	77586	133621
390	43,430	78173	134632
395	43,756	78760	135643
400	44,154	79478	136878
405	44,480	80065	137889
410	44,807	80652	138900
415	45,133	81239	139911
420	45,459	81826	140922
425	45,785	82413	141933
430	46,111	83000	142944
435	46,437	83587	143955
440	46,763	84174	144966
445	47,089	84761	145977
450	47,488	85478	147213
455	47,814	86065	148224
460	48,140	86652	149235
465	48,466	87239	150246
470	48,792	87826	151257
475	49,119	88413	152268
480	49,445	89000	153278
485	49,771	89587	154289
490	50,097	90174	155300
495	50,423	90761	156311
500	50,822	91479	157547
>500	**51,000**	**91800**	**158100**

Annexure - A

Explanatory Memorandum

(I) Introduction and Background

1. The Authority had revised the cost based ceiling tariff for Domestic Leased Circuits (DLC) vide 36th Amendment to TTO dated 21.4.2005. Subsequently, Authority also notified separate ceiling tariff for 64 kbps Managed Leased Line Network (MLLN) Domestic Leased Circuits vide 37th Amendment of TTO dated 2nd May 2005. This tariff was notified as an interim measure on the grounds that MLLN required certain additional investment such as Versatile Multiplexers (VMUX) and Transit Stations, thus adding to the cost of service provision in comparison to the cost of provision for classical 64 kbps circuits.

2. In the explanatory memorandum to the 37th amendment of TTO, the Authority had indicated that the interim arrangement would be reviewed within one month. Meanwhile, relevant cost information from service providers was sought with a view to specifying a new ceiling tariff for 64 kbps using MLLN Technology. Accordingly, the Authority initiated the process of estimating cost based tariff for MLLN service based on the details of the cost of provision of services provided by the service providers, who offer such service. This notification is the outcome of that process.

(II) Summary of submissions made by service providers

3. The Authority called for detailed data from the service providers relating to cost elements required for providing leased line circuits of 64 kbps and multiples of the same below 2 Mbps using MLLN technology. Major operators submitted the information in respect of MLLN service, its special features, its advantages and variations from the classical 64 kbps circuits. The following paragraphs summarize the submissions made by various service providers.

4. Managed Leased Line Network (MLLN) system provides '*managed'* leased line connectivity. Bandwidth of a leased line on MLLN varies between 64 Kbps and Nx64 kbps up to a maximum of 2 Mbps (E-1 interface). It is an integrated, fully managed, digital network platform through which the service provider offers leased line services, mainly to business subscribers. A distinctive feature is that the service is backed by a flexible Network Management System (NMS) with powerful
diagnostics and maintenance tools. MLLN can thus provide high-speed leased line connectivity with improved QoS (Quality of Service), high availability and reliability.

The NMS also supports service provisioning, network optimization, planning and service monitoring. The system offers features such as end to end circuit creation and monitoring, circuit loop test and fault isolation, automatic re-routing of traffic in case of trunk failure, software programmability of NTUs, etc. The following features form part of the service providing benefit to customers through the MLLN technology.

i) 24 hours performance monitoring of the circuit. ii) Circuit fault reports generated proactively.

iii) Point to Point and Point to Multi-Point bandwidth.

iv) The bandwidth can be increased on demand.

v) Low lead time for new circuit provisioning.

vi) Protection against the failure of the circuit.

vii) Long drive on single pair copper.

viii) Centrally managed from Network Management System. ix) Higher level Service Level Agreement (SLA) can be offered to leased line customers due to performance monitoring.

5. While provision of services through this technology has a number of
advantages including better quality and lower maintenance, additional costs are also involved. The nature of these costs is described in a later section. Discussions with industry sources reveal that for one operator the subscriber base for 64 Kbps leased circuits using classical method of delivery is about 60 percent. The rest i.e. 40 percent is delivered using MLLN technology. In certain cases, a hybrid delivery mechanism is used i.e. services are provided partly through the classic mode and partly through MLLN technology for the same sub-circuit. This is due to the fact that MLLN technology may not be available across all locations.

6. From the user groups, Internet Service Providers Association of India (ISPAI) has opposed the prescription of a separate tariff for MLLN on the grounds that MTNL and BSNL have been offering MLLN for more than 5 years and neither has reported this tariff as a separate service to TRAI. While welcoming provision of leased lines through MLLN, ISPAI however believes there should not be any extra cost burden on the users. ISPAI argues that MLLN is just another way of providing leased line services (rather than a different service) and hence does not deserve to be kept outside the ambit of the tariff ceiling specified by the Authority vide TTO (36th amendment) order dated 21st April 2005.

Analysis of the conflicting submissions

7. The ceiling tariff prescribed for 64 kbps in TTO 1999 was Rs.96,000 for the distance slab of > 500 kms. The Authority noted that during the last 5 to 6 years no discount to the tariff applicable in this lower capacity has been offered by the service providers as against high discounts seen in the market for capacities of 2 Mbps and above. The ceiling tariff fixed in 1999 had provided sufficient flexibility to offer leased circuits in capacities less than 2 Mbps using either of the two technologies available. Thus there could have been no requirement for the service providers to offer a separate tariff for MLLN technology based leased circuits in 64 kbps and N*64 kbps capacities. The Authority revised downwards its ceiling tariff for DLC in general vide 36th amendment to TTO.

8. As discussed in paras 13 through 15, for providing MLLN-based leased circuits a substantial amount of additional equipment which is also of a different nature than used in classical leased circuits is required, and the costs of these had not been taken into account in the Authority's latest revision of DLC pricing in the 36th amendment to TTO 1999. Therefore, the Authority is of the view that a separate higher ceiling for MLLN is justified in the current context. This cost based higher ceiling will not only encourage deployment of the more powerful MLLN technology by service providers, it will also improve efficiency of the businesses that subscribe to

this service. More importantly and in keeping with past practice, the Authority leaves the choice of service to the customers. Those wishing to subscribe to MLLN will be subject to a higher price ceiling compared to classical circuits. The tariff framework, however, allows the possibility of lower tariffs.

(III) Technical architecture of MLLN

Definitions of individual elements used in MLLN

9. Digital Cross Connect (DXC)

The Digital Cross Connect (DXC) is a device used in transmission network. It separates channels carry from other devices and rearranges them into new channels for output. A digital cross connection means that the connection is set up and released by the network operator (by using NMS computer), but not through subscriber signaling.

10. Versatile Multplexer (VMUX)

The Versatile Multplexer (VMUX) is used as the access Multiplexer. The equipment is used in access and consolidation levels in between DXC and NTUs.

11. Network Termination Units (NTU)

Network Termination Units or NTUs are G.703/V.35 / Ethernet interface transmission modems used for accessing the VMUX over the cable used as the transmission media. These are kept in the customer premises for leased line connectivity. There are two types of modems classified according to the operating speed i.e., 64/128 kbps (also called just 64 kbps) and N*64 kbps. The 64/128 kbps modem operates at 64 /128 kbps speed whereas an N*64 kbps modem can operate at speeds from 64 kbps up to 2 Mbps depending on the requirement of the subscriber.

12. Network Management System (NMS)

MLLN circuits are managed by a centralized NMS. The network manager is a set of interactive components for user interface and non-interactive components to perform background operation. To meet the customer demand, high capacity servers in NMS are provisioned for application, database, billing, firewall, web self-care etc. The NMS has to be duplicated i.e., one main site and one Disaster Recovery (DR) site to enable highest availability of the system. Data traffic from all network elements for connectivity with NMS are from the DXCs in the transit center.

Difference between MLLN and Classical method of leased circuit provisioning:

13. In classical method, Primary MUX (PMUX) is used to connect customer premises to the exchange / transmission center at both ends of the link. Please refer to Appendix I of Annexure A for a diagram. The customer provides two modems at each end, one between the PMUX and the local lead and one at the customer premise

end of the local lead. A similar arrangement is needed at both ends of the complete circuit, resulting in a total of four modems. For connecting the PMUXs, either a full 2 Mbps of higher bandwidth link is required between the PMUXs at both ends of the circuit.

14. In the case of MLLN, a network connecting VMUXs and DXCs through 2 Mbps or higher links is created in advance in a manner similar to the circuit switched network for voice communications. A diagram of the circuit can be viewed at Appendix II of Annexure A. For providing the circuit, modems (NTUs) are provided at both customer premise ends of the circuit and the link is created by giving a command from the slave terminals of the NMS at one of the stations. The link from the customer premise traverses the local lead between the NTU at the customer premise to the VMUX, which is located in a local exchange or point of presence (POP) of the service provider. The 64 kbps and N*64 kbps links are then aggregated into a higher bandwidth backhaul link which travels to the nearest Transit Center (typically a larger area exchange or regional exchange) where it enters into a DXC.

From the DXC through which the link enters the Transit Center, the circuit is electronically linked to the appropriate next DXC that would carry forward to the circuit to its final destination.

15. The purpose of using a Transit Center is not only to connect to the NMS systems for higher quality of service, but it also allows the service provider to leverage economies of scale by aggregating and disaggregating traffic through such switching centers, much like a traditional telephone network. A MLLN leased circuit could traverse multiple such Transit Centers and go through the process of passing through multiple DXCs, depending on the distance traveled as well as the particular route. It is not always true that larger distances imply traversing more Transit Centers, especially since high usage routes, even if they are long distances, would not have a requirement for aggregating and disaggregating traffic repeatedly.

(IV) Methodology for arriving at tariffs

Normation process

16. Since the data submitted by operators varied significantly, the Authority relied on its earlier practice of normation. To normate the cost of inputs for all components required to build a MLLN based leased circuit, the second lowest value for each individual cost item was used. This is identical to the process followed by the Authority in 36th amendment of the TTO issued on 21st April 2005.

17. As discussed in the explanatory memorandum of the 36th amendment, while specifying a particular tariff, it is important to balance the twin (and conflicting) objectives of creating incentives for investment (and efficiency) while promoting downstream competition. To have taken the lowest cost for each component in building 64 kbps and N*64 kbps circuits at this stage would not have achieved the first objective of the Authority. Likewise, choosing the third lowest cost would provide too much buffer and would be unlikely to promote efficiency in operations. The normated (i.e. the Second lowest value for each individual equipment) cost data

of additional equipments required for provision of MLLN based leased circuit services is given in Appendix III of Annexure-A.

18. Based on the data, the Authority calculated the additional cost required for providing leased circuit through MLLN technology employing the above mentioned normation process. The cost calculations in respect of the additional equipments required in MLLN based service, are given in Appendix IV of Annexure-A. Since one of the points of differentiation of MLLN circuits from classical circuits is the usage of Transit Centers, the Authority had to examine how many Transit Centers would be traversed by each MLLN-based leased circuit. Discussions with operators suggest that while local links will typically involve only transit through one center, there are many links that would transit through 2 or more. Further, it is understood that the majority of circuits would transit through two Transit Centers, therefore utilizing four DXC ports, two in each transit center. This was therefore the value used by the Authority to calculate the applicable costs. The cost calculations for deriving the cost of Transit Center in respect of 64 kbps are given in Appendix V of Annexure-A.

Capacity utilization

19. Capacity utilization in general has been broken into two parts for evaluation of tariffs of MLLN-based circuits. As was done in the 36th amendment, when pricing the individual circuits, i.e. 64 kbps, the capacity utilization and provision of redundancy of the higher order system, i.e. E-1 has to be considered. Provision for this is necessary since for full cost recovery the capital expenditure employed in building these networks and the related equipment has to be recovered across the capacity that is sold.

20. If we consider the network architecture for classical leased circuits and MLLN based leased circuits as given in Appendix I and II of Annexure A, it is evident that while in the classical arrangement the utilization of PMUX, E-1s etc. were considered, in the MLLN case, one has to consider the utilization factor of VMUXs, DXCs, E-1s, etc. As discussed earlier, one of the advantages of using Transit Centers is to leverage economies of scale by aggregating capacity. However, the Authority has conservatively determined the capacity utilization of the E-1 and STM-1 links connecting the various parts of MLLN-based 64 kbps and N*64 kbps circuits to be equivalent to the capacity utilization of classical circuits, i.e. 50%, even though MLLN technology has been deployed at the moment in higher demand areas.

However, capacity utilization of VMUX and DXC equipment has been considered separately in deciding the tariff of MLLN circuits because the utilization factors are different for different operators as per their submissions. Thus based on the feedback from operators, and the way the equipment is deployed and used, the current level of capacity utilization of these elements are 25%.

21. It should be noted that capacity utilization does not apply to the operational expenditure portion of expenses since opex is already derived based on the full capital expenditure amount. Similarly, since network redundancy is the provisioning of multiple links on different routes (route diversity) to avoid disruption of data and processes of end-user enterprises, the provision for redundancy applies only to the capital expenditure on items in variable costs category.

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License fee

22. The license fee has been loaded on the cost base for calculating the tariff for leased circuit provided on MLLN circuit at the same rate as has been used for pricing the domestic circuit vide 36th amendment i.e. 10%.

Return on capital employed

23. The annual return to an operator above and beyond the opex cost in this exercise has been considered at the same value as has been considered while fixing the domestic leased circuit price vide 36th amendment of TTO. A Weighted Average Cost of Capital (WACC) of 13.93% has been adopted in addition to depreciation.

(V) Tariffs for MLLN circuit

24. Based on the data and information submitted by various operators and also based on their detailed comments, the Authority is of the view that, at this stage there can be differential prices for the two types of circuits, i.e. those which are provided on classical system and those on MLLN system. Moreover, the networks provided on MLLN system require additional equipment and hence this justifies a differential tariff regime. The circuit provided through MLLN guarantees a higher rate of quality. Hence, the domestic leased line circuit provided through MLLN technology must be priced at a different level taking into account the incremental costs involved in providing such a circuit.

25. The Authority has noted that one of the cost components of providing the leased circuit is the modem cost. Different operators in their submissions have given different prices of the modem. Some of the operators are of the view that the modem cannot be left to the consumer to be procured, as it is system specific. Taking into account all the submissions made by operators the Authority has decided to keep the cost of NTU / CPE (modem) under forbearance. Thus it is not included in pricing of MLLN circuit. But the Authority is of the view that these modems must be provided on rental, with tariff for such equipment based on cost and reasonable recovery period. Therefore, this element would be part of the tariff filing requirements.

26. The complete distance wise ceiling tariff for 64 kbps circuits provided on MLLN technology is available in Annexure 5 to this order, which will form Annexure 5 to Schedule IV. The ceiling tariff for capacities above 64 kbps were set in the original TTO 1999 based on co-efficient multiples recommended by ITU
(Recommendation D.8 of the International Telecommunication Union) for capacities of 128 to 960 kbps. As in the 36th amendment, these multiples have been adopted in respect of MLLN circuit in the current tariff order to only give specifications for multiples at 128 kbps and 256 kbps where the bulk of demand is present. These multiples are 1.8 for 128 kbps and 3.1 for 256 kbps. This is further supported by the fact that even though DXC and VMUX ports can be capable of N*64 kbps capacity, the overall maximum through capacity of that equipment is capped at a fixed value, whether circuits are sold as individual 64 kbps links or N*64 kbps. So the cost does proportionally increase as the capacity does, even though MLLN circuits are typically

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flexible in the bandwidth they offer. For capacities higher than 256 kbps and below 2 Mbps, the Authority has forborne specifying the multiples, which implies that service providers are given the flexibility to decide the tariffs for these capacities. It is noteworthy that the Authority had adopted the same method when it fixed tariff for lower capacities in the classical 64 kbps system up to 2 mbps notified vide its TTO's 36th amendment dated 21st April 2005.

27. The Authority will revisit the ceiling tariff after a year based on the prevailing market trends and other relevant factors at that time. It is also the view of the Authority that costs and capacity utilization of classical 64 kbps and MLLN based 64 kbps circuits should converge over time, eliminating the need to differentiate. As already mentioned in the 36th amendment that, if license fee imposed by the
Government are decreased in the interim period as recommended by the Authority, the tariff would be adjusted accordingly.

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Appendix - I *Typical Schematic Diagram for 64 KBPS Circuit (Classical)*

Exchange Station A

Modem	Modem	Primary MUX	*E-1*	**TRANSMISSION**

Subs. 1A
Circuit - 1

Modem	Modem	Primary MUX	*E-1*

Subs. 2A
Circuit - 2

Modem	*Exchange Station B* Modem	Primary	*E-1 E-1* Primary	Modem	Modem

Subs. 1B	MUX	MUX	*Subs. 2 B*

Circuit – 1			*Circuit - 2*

Appendix – II

NMS NMS

Primary (D R)

Transit Centre

E-1 E-1

Transit Transit

Centre Centre

E-1

Local Lead			**E-1**	**Local Exchange**		**E-1**			Local Lead
Copper Pair			**Local exchange**			**Local Exchange**	**64**	**N * 64**	Copper Pair
64	**64**	**N * 64**	**N * 64**	**64**	**N * 64**	**64**			**N * 64**
Kbps	**Kbps**	**Kbps**	**Kbps**	**Kbps**	**Kbps**	**Kbps**	**Kbps**	**Kbps**	**Kbps**
NTU	**NTU**	**NTU**	**NTU**	**NTU**	**NTU**	**NTU**	**NTU**	**NTU**	**NTU**

Appendix III

Cost data of additional equipment required for providing MLLN based DLC service Normated i.e. second lowest cost of equipment, among operators.

Fixed Cost for various network element for Domestic Leased circuit – MLLN (Using E-1 Capacity) in Rs.		
Item No.	**Fixed cost items**	**Normated**
1	1 V-MUX Equipment Cost (2 per circuit)	138780
2	2 Digital Cross-Connect Equipment Cost	27450
3	Network Operation & Management (NOC & NMS)	22500

Total	**188730**

Note:

1. Cost of Installation and Commissioning already included in the original cost estimate."
2. The Cost of equipment has been considered for using E1 capacity.

Appendix IV

Cost of additional equipments required for provision of MLLN leased circuit

Cost Estimate of 64 Kbps stream (Rs.)

Total	-	-	-	**15471**

NOTE:

The calculations given above are only in respect of the additional equipments required for MLLN service. The costs incurred as part of the Basic network including the costs of equipment and Cabling etc. considered earlier in the 36th Amendment have been retained after making suitable adjustment for purposes of ceiling tariff fixation in respect of MLLN service.

For detailed calculations see Appendix - V.

$ Not included as it is kept under forbearance

Appendix V

Cost Estimation detail of Transit Center for 64 Kbps MLLN Stream (Rs.)

		A	B	C
Item No.	**Cost of elements**	**Costs**	**Cost for 64 Kbps stream with 25% utilization for MLLN Equipment (A / 0.25)**	**Cost for 64Kbps circuits**
I	**Fixed Cost**		0.25	
A	Total Cost of Transit Center MUX	27450	-	-
B	Cost per 64kbps circuit for Transit Center MUX (27450 / 30)	915		
C	Number of Transit Center MUX's used per circuit	4		
D	Annual recovery of Transit Center per Circuit (915 x 4 x 0.2581)	945	3779	3779
II	**Total Cost of MLLN NOC**	22500		
A	Cost per 64kbps circuit for NOC (22500 / 30)	750	-	-
B	Annual recovery of NOC per Circuit (750 x 0.2581)	194	774	774
C	Operating & Maintenance Cost of MLLN Equipment (**@ 10 %) [(27450 x 4)+22500]**	13230		
D	Operating & Maintenance Cost of MLLN Equipment per 64 Kbps circuit (13230/30)	441	-	441
	Sub Total per 64 kbps circuit			**4994**

Telecom Regulatory Authority of India

Notification

New Delhi, the 8th September, 2005

No.310-3(1)/2003-Eco. In exercise of the powers conferred upon it under sub-section (2) of the section 11 read with section 11(1)(b)(i) of the Telecom Regulatory Authority of India Act, 1997, the Telecom Regulatory Authority of India hereby further amends the Telecommunication Tariff Order, 1999 as under, namely:-

1. Short title, extent and commencement:

(i) This Order shall be called " The Telecommunication Tariff (Thirty Ninth Amendment) Order, 2005" (6 of 2005).

2. In the Telecommunication Tariff Order, 1999 :-

(i) In Clause 3, the number 'X' shall substitute the number 'IX' appearing after the word and number 'Schedule I to'; and, (ii) After Schedule IX, the following new schedule shall be inserted, namely :-

Schedule X
International Private Leased Circuit (IPLC)-(Half Circuit)

ITEM	**TARIFF**
(1) Date of implementation	16.09.2005
(2) Coverage	(a) All tariffs specified as ceilings (b) The ceiling tariff in respect of each capacity specified in Item No.3 of this Schedule will be applicable for all destinations and types of cable systems used for carrying either voice or data. (c) Service providers may offer discount on the ceiling tariff. Discounts, if offered, shall be

	transparent, non-discriminatory based on laid down criteria and should be reported to TRAI. (d) It is mandatory for International Private Leased Circuit Service Providers to offer Half Circuits for all routes/destinations for which circuits are offered by them.
(3) Tariff for IPLC	**Capacity/Speed Ceiling Tariff per annum (Rupees in Lakhs)** E1 13 DS-3 104 STM-1 299
(4) Tariff for speed capacity/ below E1	Forbearance
(5) Tariff for IPLC through satellite media	Forbearance
(6) All other matters relevant to IPLC	Forbearance

General

In case of any doubt with regard to the interpretation of any provision of this Order, the decision of the Authority shall be final.

This Order contains at Annexure-A, an Explanatory Memorandum, which explains the reasons for this amendment to the Telecommunication Tariff Order, 1999.

By Order,

(M. Kannan)
Advisor (Economic)

Annexure-A

Explanatory Memorandum

Cable based International Private Leased Circuit (IPLC) that offers global connectivity through submarine cable is a critical input for provision of Broadband and Internet services, International Long Distance Voice Telephony and for a number of key industries like

Information	Technology	(IT)	and	Information	Technology-Enabled

Services. These industries play a key role in the economic development of the country at this point of time and they are also considered to be quite critical to the future socio-economic development of India. It is therefore important that the price at which IPLC services are made available to the user industries are competitively determined.

Tariffs for Domestic Bandwidth fixed twice

2. Considering the fact that the cost of bandwidth – both domestic and international constitute a significant part of the total cost of providing Broadband and Internet services, the Authority revised the ceiling tariff of domestic bandwidth vide its Tariff Order (36th Amendment) notified on 21.4.2005. The revised ceiling tariff of domestic leased circuit in respect of STM 1 was 70% lower than the then prevailing market rate and in respect of DS-3, the tariff was reduced by as much as 67% from the then prevailing market rate. The extent of reduction in respect of other capacities varied. It is to be noted that this was the second instance of fixation of ceiling tariff in respect of domestic leased circuits. When the ceiling tariff was fixed for the first time i.e. in 1999, the reduction from the then existing tariff was as high as 90% in certain capacities.

Market Failure in IPLC Services

3. The Authority got signals from the users that the market for IPLC (submarine cable based) is not sufficiently competitive. In fact, the Authority received representations from user groups such as NASSCOM, Internet Service Providers Association of India (ISPAI), and other Business Process Outsourcing (BPO) units requesting to regulate the tariff for IPLC on the ground that the tariffs in India for IPLC were much higher than in several other countries. Protracted discussions with the incumbent operator {i.e. VSNL who holds a substantial market share in the IPLC market and complete control over four out of five cable landing stations (CLS)} for a reduction in the tariffs for IPLC services did not yield fruitful result. A consultation process was therefore initiated with the issue of a consultation paper (No.10 of 2004) on fixation of ceiling tariff for IPLC in April 2004 followed by Open House Discussions in July 2004 in Delhi and Bangalore.

Tariff Regulation desired by many Stakeholders

4. The overwhelming opinion of the stakeholders to the consultation paper was that despite the opening up of the International Long Distance (ILD) sector in 2002, effective competition in the IPLC business segment has not yet emerged and therefore they are of the view that the Authority should not only regulate tariffs for IPLC but also take further steps to encourage competition in this segment. Further, they pointed to the substantial spill over benefit that would accrue as a result of cost based tariffs for IPLCs, including greater penetration of Internet and Broadband Services. Promotion of broadband is now a major objective of the Government as demonstrated by the Broadband Policy 2004 of the Government, which also provides a basis for fundamentally transforming the socio-economic opportunities in rural India. This requires consumer prices for the service to be affordable. The summary of various comments

of the stakeholders on the consultation paper are given in **Appendix 1 of Annexure A**

Authority found justification for Tariff Regulation

5. During the process of consultation, the Authority considered the existing market conditions in India for IPLC including prices, its market structure, the conditions prevalent elsewhere in the region including prices for IPLC and the practices governing regulation of IPLC in other jurisdictions. The state of competition and the factors that constrain competition in the IPLC market in India are given in **Appendix 2 of Annexure A.** The comparison of Indian IPLC tariffs with International benchmarks are given in **Appendix 3 of Annexure A**. Further, the Authority noted that the IPLC service providers are also Internet Service Providers (ISP) (i.e they are integrated) and thus they compete with other standalone ISPs who use international bandwidth resources. Similarly, ILDOs owning international capacities, which provide IPLC services, are also providing international long distance telephony and to that extent ILDOs not owning international capacities have to depend upon facilities of their own competitors. Keeping in view these factors and likely developments in the Indian market for IPLC, the Authority concluded that the immediate need would be to mandate ceilings for IPLC prices primarily based on costs. This measure would thus promote a level playing field in the industry.

Fixation of Ceiling Tariff

6. The Authority fixed ceiling tariff for IPLC (half circuit) to be made applicable w.e.f. 1.4.2005 vide the Telecommunication Tariff (34th Amendment) Order 2005 dated 11.3.2005. The ceiling tariff per annum for IPLC (half circuit) was fixed for three different capacities i.e. E-1, DS-3 & STM-1 at Rs. 13 lakhs, Rs. 104 lakhs and Rs. 299 lakhs, respectively. The prescribed ceiling tariff for specified capacities was

made applicable for all destinations, capacities and types of cable systems used for carrying either voice or data. The tariff for capacity / speed below E-1 was kept under forbearance i.e. left to market forces. The said ceiling tariffs were determined based on cost data supplied by the incumbent.

Approach/Methodology of Tariff Fixation

7. With separated accounts coming into force, the data provided by VSNL as part of Accounting Separation Regulation was used to arrive at cost estimates. The approach of Top Down, Fully Allocated Cost (with historical cost) was used to arrive at the relevant cost estimate by using the cost data of Separated Accounts of VSNL. Although, Forward Looking Long Run Incremental cost (FLLRIC) is used to arrive at tariffs by most regulators, the Authority did not use FLLRIC as it was thought that such an approach would give a major shock to the market and is also likely to make transition to competition much more difficult. This implied that the cost base that had been used to arrive at the ceiling price had a buffer in it. Further, it is noteworthy that the cost based tariffs determined by the Authority were not based on the extremely low levels of investments / cost of acquisitions of submarine cable systems recently executed by the ILDOs in India. Using these costs would have resulted in a drastic reduction in the cost based tariff of IPLC and would have gone against the Authority's attempt to fix cost based ceiling tariffs without causing major shock to the market during the transition period. For the same reasons, the Authority also did not use the cost of providing submarine cable IPLC services by new entrants including that of the Tata Indicom Cable System. The detailed methodology and the method of calculation of costs adopted by the Authority in the fixation of IPLC ceiling tariff are given in the **Appendix 4 of Annexure A.**

VSNL's Challenge of Tariff Order

8. The 34th Amendment to TTO, which fixed the ceiling tariff for IPLC (half circuit) was challenged by VSNL in TDSAT vide Appeal No.5 of 2005, mainly on the ground that TRAI did not disclose various documents and information on the basis of which it fixed the tariffs for IPLC. TDSAT vide its Order dated 28.4.2005 set aside the impugned order and remanded the matter to TRAI to have a fresh look after sharing with VSNL relevant material.

Authority carried out TDSAT mandated disclosures

9. With a view to bringing quick remedy to the user industries and consumers at large who continue to pay high tariffs for IPLC (half circuit) because of the existing detrimental market structure, TRAI complied with the directions of TDSAT and proceeded to engage with and share the relevant reports, cost data, detailed calculations of tariff for E-1 and price ratios for higher capacities, etc. with VSNL. This was done with the purpose of keeping the best interests of the industry and consumers in mind to deliver an expedited Order based on the requirements for transparency contained in the TDSAT orders in this regard. The cost data and calculation of costs pertaining to the IPLC service provision of M/s Reliance Infocomm, M/s Bharti Infotel and that relating to Tata Indicom Cable System have not been shared with VSNL, because IPLC ceiling tariff was determined based on VSNL's historical cost only. The TDSAT orders on disclosure covered only the case of VSNL and not of others.

TRAI's Appeal in Supreme Court

10. While the Authority proceeded with disclosure to VSNL as directed by TDSAT, it also filed an appeal with the Supreme Court vide Civil Appeal No.3362/2005 (since admitted) on the larger regulatory issue of

the extent of transparency required in its exercise of function like tariff fixation and the other issue of applicability of the principles of natural justice in the matter of tariff fixation. In the views of the Authority, these are crucial issues that need to be resolved on an urgent basis for discharging its regulatory functions without which the regulatory process would get seriously undermined.

Process of Sharing Data/Reports with VSNL

11. After sharing the information, VSNL was given opportunity by the Authority for being heard. VSNL made use of this opportunity provided by the Authority and made presentations before the Authority on two occasions, on 1.7.2005 and on 8.7.2005. Separately, VSNL also gave written submissions to the Authority. The issues raised in the submissions of VSNL were considered and taken into account by the Authority in the fixation of IPLC tariff notified vide this Order. Apart from providing VSNL all the relevant cost data, cost calculation, copy of Ernst and Young Report, etc., the Authority gave hearing to VSNL on two occasions in which VSNL made presentations. Further, the report of verification of Books of Accounts and other documents of VSNL made by TRAI officials was also shared with them and their comments obtained. After this, the reply received from VSNL was examined and the points of view of the Authority along with the revised calculation details were also communicated to the VSNL. Key issues raised by VSNL in this process have been addressed and are given in the following Sections.

Section-II

Observations of VSNL relating to the need for regulation of IPLC and the comments thereof.

12. The observations of VSNL in this regard are to argue against the need for regulation of IPLC, and these include that the comparison of price information for benchmarking is 'erroneous' and use of appropriate

benchmarks would show 'IPLC prices in India are competitive'. These are discussed in the following paragraphs.

International Benchmarks, its role and relevance

13. The Authority has used the international benchmark and other factors only to know and compare the situation in India with that outside the country. It has no other relevance for fixation of tariff which is based on cost. Further, the absolute comparison of prices between India and other countries was not the basis for the Authority's consideration to regulate the tariff in India in the IPLC sector. **The reasons why regulation is required include a lack of significant decline in tariff over time in India as**

compared to international benchmarks and also as compared to the decline in the cost of provision of services that signalled market failure to the Authority. Furthermore, the TDSAT judgment did not question the need to regulate the sector, therefore, raising no objection to the Authority performing this exercise. Notwithstanding this, the specific issues raised by VSNL in this regard are fully and adequately addressed in the following paragraphs:

Erroneous Comparison of Time Period and Markets by VSNL

14. VSNL contested the period of comparison of IPLC prices and sought a comparison since 2000 instead of 2002. The comparison of trends in the IPLC prices in India and the International prices for the same service made by the Authority for the period since 2002 is appropriate. The year 2002 is significant for comparison because it saw the opening of the ILDO Sector to competition and the transfer of ownership of VSNL to a private company. Strangely enough, the evidence before the Authority is that after the sector had been opened for competition, VSNL's tariff declines have been marginal, if at all (See Table No. 4 in Appendix 3 of Annexure A.). VSNL showed comparison of IPLC

prices since 2000 and preferred comparison not after transfer of ownership that coincided with opening up of the sector for competition.

Independent Reports Classify Indian Market for IPLC as Least Competitive

15. Further, VSNL has sought a comparison between India and countries like Indonesia, Malaysia, Thailand, Middle East etc. which are considered to be among the least competitive markets. It is noteworthy that independent international report by Gartner (2004) in this regard has concluded that the IPLC market in India is lacking in competition.

The findings of Gartner Report in this regard are reproduced below:- ***'The most-competitive markets for international bandwidth are Hong Kong, Singapore, Japan, Taiwan and South Korea. The least-competitive markets are Indonesia, India and Malaysia'.*** (Source: Gartner, Inc 2004, "Market Focus: International Bandwidth Pricing Trends, Asia-Pacific, 2004")

When the goal is to achieve competitive efficiency, the submission of VSNL that comparison has to be made with less competitive markets goes against the objective itself.

Comparison of Markets for the Near-end and the Farther-end half Circuits

16. VSNL has also argued that the Indian end half circuit E-1 prices compare favourably with the distant end. The Authority has considered this point and also the evidence produced by VSNL in this regard. Evidence was in the form of very few selective invoices unaccompanied by the relevant details. It was not possible to verify whether the prices cited by VSNL have prevailed in the far-end were for a short-term supply of an additional capacity or the comparison itself was being made for the equivalent services and standards. In fact the **Report on International Bandwidth 2005, (PRIMETRICA,** INC. California 2005) has provided

evidence to the effect that the market is more competitive in the farther-end than the near-end. The report states thus:-

*"In 2004, **bandwidth pricing on routes to India did not vary by region of origin**. Prices for full circuits – based on a combination of two half circuits – between Mumbai and Europe, Asia and the US were highly uniform in 2004…**Much of this uniformity can be attributed to the fact that the price of the incumbent's half-circuit was effectively fixed** and competition only affected prices on the foreign owned half circuit." (emphasis added)*

Perspective of NASSCOM's Observations

17. In this context, VSNL has referred to the observations of NASSCOM in response to the consultation paper on IPLC tariff fixation. To put the issue in proper perspective, the Authority recalled some of the key submissions made by NASSCOM to the Authority prior to and in response to the consultation paper on fixation of ceiling tariff for IPLC.

These are given below:-

• The cost of a 45 MB/155 MB link from India to US is nearly two to three times (200-300%) as expensive as a similar one from Singapore and of great concern 8-10 times as expensive as China.

• Of particular concern is the fact that while the price for 2 MB link is higher than international norms, as you go to 45 MB and 155 MB the differential is huge. **The price multiplier in going from 2 MB to 45 MB and then to 155 MB is about 17 and 53 times for the India end, for the foreign end it is only about 7 and 18 times respectively. Our disadvantage on this front is therefore getting literally multiplied.**

• With the proposed tariff of Rs.12 lakhs for a half circuit E-1 (as in the consultation paper), the end-to-end Indian price will be three to four times that of the Philippines.

• The methodology used in setting the ratio is in the right direction and is a good start. The ratio of price for E-1, DS-3 and STM-1 which has been calculated as 1:8:23 should be lower so as to be in line with the world wide industry standards (Japan-US 1:4:10; China-US 1:5:12; Hong Kong-US 1:5:11; Singapore-US 1:4:9)

•

ILDOs specially those having 'incumbent' facilities should be made to offer a discounted rate to other ILDOs so as to reflect the higher order capacity need and also to encourage sharing of this bottleneck facility.

• TRAI must implement the spirit of sharing of these bottleneck resources to meet the need of flexibility, higher SLA and cost reductions needed by the industry to keep India competitive.

18. It is thus evident that the feedback of one of the key user industry associations like NASSCOM confirms some of the major findings of the Authority in the context of its analysis of IPLC market in India.

19. It has been erroneously concluded by VSNL that the comparison used by the Authority for benchmarking the international prices of IPLC is between the wholesale price and retail price. According to VSNL, the prices compared by the Authority for benchmarking reflect wholesale transit volumes particularly in the case of higher capacity and thus the comparison is too simplistic. This is an incorrect inference by VSNL. It is well known that it is hard to differentiate between a wholesale capacity purchase and a retail purchase of IPLC particularly in respect of higher capacities like STM-1. The buyers of these levels of capacity in those

markets are invariably a telecom operator or large trans-national companies (TNC) with very high capacity demands. Both the operators and TNCs would be buying their capacity in the same market. If at all anything could be considered as the 'wholesale only product', that would be the market for wavelengths and/or dark fiber which are extremely high capacities without any additional services at the terminating ends. Sales of such capacity are not common and these were not considered by the Authority to be part of the international comparison of IPLC prices.

20. In its attempt to prove that the comparison made by the Authority is inappropriate, VSNL made a wrongful comparison of international prices of IPLC sourced by its own consultant i.e. Boston Consulting Group (BCG) with that of the prices reported in the *Ernst & Young* report (Shared with them by TRAI as part of TDSAT's mandated disclosure). The comparison is wrongful because BCG relied upon the list prices while *Ernst & Young* had taken the market prices in their final analysis. The relevant price for comparison in such situation is the average actual prices prevalent in the market and not the listed prices.

21. The incumbent has further submitted to the Authority that certain lower prices for IPLC shown to be prevalent in certain Asian countries are in fact prices between hubs and prices of IPLC between such hubs ought to be lower. This assertion of VSNL is not entirely true under the prevailing circumstances. Where there are specific dedicated links – like for Singapore – the capacity available there is on the order of magnitude of a Hub to Hub link. Further, India has the advantage of being on the direct routes of the major trunk cable systems landing in India. The "Hub- Spoke" framework of analysis propounded by BCG on behalf of VSNL in their report is applicable to a market where there is a lack of demand and corresponding lack of international capacity which is not true of Indian market considering the growth of data services in India

and the investments of ILDOs including VSNL in augmenting international private line capacity. The usage of international bandwidth in India as projected by Primetrica for 2005, 2006 and 2007 are in the order of 12.8 Gbps, 28 Gbps and 45.9 Gbps respectively. The utilization of international Bandwidth by India (as estimated for 2005) is higher than in countries like Thailand, Malaysia, Philippines, Indonesia, Vietnam, UAE, Saudi Arabia, New Zealand, Egypt and South Africa (Source: Primetrica Inc. 2005, International Bandwidth Report 2005). Needless to say, the demand for international Bandwidth is stimulated by the success of the Business Process Outsourcing Industry and also by the high rate of growth of the economy itself. In this regard, the Authority further noted that the tariffs fixed for IPLC have been determined based on actual costs and in that cost also sufficient margin and buffer have been provided.

Low international submarine bandwidth prices in other markets is not in all cases due to the distress of cable owners

22. The argument of VSNL that prices in other market are route specific and the low international submarine bandwidth prices in other markets is due to the distress of cable owners on account of Chapter 11 bankruptcy is not entirely true. If that was so, VSNL has not explained as to why heavy downward pressures on pricing exist on routes that are not catered to by carriers who are distressed. In fact, according to the data provided by the VSNL (BCG Report), the large share of capacity for such bankrupt companies was in the trans-Atlantic segment, and not in links to South, South East and East Asia. Further, recent investments by the cable operators in i2i, TIC cable system, SEA-ME-WE-4 and FALCON run contrary to the theory of VSNL that 'price falls on either side of India has been a compulsion to recover any thing possible' and thus 'cable investments of carriers are uneconomical'. VSNL had in fact admitted that

"all the ILDO players are entering the market aggressively with significant investments in cable systems. In the near term (6 to 12 months) it is anticipated that Indian companies are likely to invest around US $ 500 million in various new cable system that land in India."

(source : p.11 of 24 of VSNL submissions dated 6.7.2005 in response to consultation paper on 'Measures to Promote Competition in International Private Leased Circuits in India').

Lastly, the operators in India, including VSNL have themselves also been in a position to take advantage of the unfortunate financial conditions of various international circuit operators by buying or sourcing submarine bandwidth from them at tremendous discount to actual investments. This is not included in the cost based calculations of the Authority. Since cost is being fully allocated on a Historical Basis, the bankruptcy of operators in other markets is not relevant.

Regulation of market will not hamper investments

23. VSNL was of the view that any effort to regulate the market will hamper investments and hence the growth. They also believe that it might introduce rigidity in offering packages to the customers. The Authority is of the view that setting a ceiling price as set by the Authority will not affect future investments, as there is considerable under utilized existing capacity and sufficient margin has already been provided in the cost estimates owing to the adoption of historical cost and providing a buffer in those cost estimates as discussed elsewhere in this Explanatory Memorandum. Further, these capacities of the incumbent have earned huge surplus owing to high prices prevailed during the last several years. Since the price proposed for IPLC will be in the form of Ceiling, the operators will be at liberty to offer any tariff package to the consumers within the ceiling prescribed.

Significance of IPLC in Broadband Penetration

24. Further, VSNL has stated that the cost of IPLC is too small a percentage of the total cost/revenue of ITES-BPO Enterprises and therefore tariff regulation will not provide any significant relief to these industries. The Authority is not convinced of this argument for two reasons: firstly, it is not the intention of the Authority to provide relief to any industry by bringing in tariff regulation. Next, as long as the prices paid by user industries like ITES, BPO enterprises for IPLC Services are not competitively determined because of the distorted market structure, there arises the need for regulation irrespective of the relative importance of the cost of that item in the total cost. IPLC is a key input for broadband/internet service. In this regard it is relevant to quote from the Mid-term Appraisal of 10th five year Plan made by Planning Commission (source: http://planningcommission.nic.in/midterm/midtermapp.html) : ***"Bringing broadband to all citizens by the end of this decade should be the national priority for every modern country and also for India (para 9.2.18-page 300)"***

"To become an engine of growth and change broadband has to be made easily accessible, affordable and useful to the masses (para 9.2.22-page 301)".

"Broadband is fast becoming a prerequisite for rapid economic growth and social transformation. Broadband enabled internet applications promise to fuel productivity growth in virtually every sector…… Effective and affordable broadband services would hold the key to maintaining India's competitive advantage in the international markets (para 9.2.17-page 300)." "……Cost of international bandwidth is another bottleneck that needs to be quickly addressed. Enormous efforts need to be made to reduce the costs of international bandwidth and make it affordable (para 9.2.22-page 301)"

25. In this regard, the **Planning Commission has also advocated to device a system aimed at substantially reducing the cost of international bandwidth.**

Further Examination of Issues Relating to Competition in the Market

26. VSNL has claimed that it has lost significant market share to its competitors since the ILD sector was opened to competition and thus it was no longer a monopoly. It has also claimed that there are

formidable competitors in the form of Bharti and Reliance who have substantial market share of IPLC.

27. The Authority noted that presently VSNL controls 4 out of the 5 cable landing stations in India and as of now VSNL is the only IPLC service provider who besides having control over so many cable landing stations, has also access to multiple cable systems having full restorable capacity. VSNL has ownership interest/capacity/indefeasible rights of usage (IRU) in several undersea cable networks across the world that enables it to carry data and voice traffic seamlessly with no restorability issues. Besides its own cable system from Chennai to Singapore, VSNL owns Bandwidth capacity in several key operational undersea optic fibre cable networks landing in India. Telegeography (an international Bandwidth research agency) that has launched coverage of Indian Bandwidth prices in the year 2004, has stated in its report on International Bandwidth 2005 (Primetrica Inc. International Bandwidth Report, 2005) that **'85% of the revenue for Indian half circuits went to VSNL'.** The report goes on to state that pricing has generally been based upon two separate half circuit prices: one from the Indian incumbent, VSNL and the other from a foreign carrier. This goes to

prove that VSNL's contention that it has formidable 'competitors' in the IPLC market is not borne out of facts.

28. Continuing with the same argument, VSNL has quoted from a Background Paper on 'Competition Policy in Telecommunication' (November 2002) that there are number of factors both quantitative and qualitative that are to be taken into account while assessing whether a **level of dominance in the market place** has been reached.

29. The Authority would limit its comment on this issue to the point that the same report quoted by VSNL, also states in paragraph 3.13 that, "***although the relative importance of these factors is determined largely on a case by case basis, market share is commonly used as a starting point in determining dominance. In general, a market share of 40% to 50% is highly indicative of dominance."*** By VSNL's own admission, it has a market share of 60%.

30. VSNL has contended that it is in fact a **standalone operator and is dependent upon access providers** in International Bandwidth as well as other segments of its operations.

31. The Authority tested the above statement of VSNL based on certain facts contained in its own Annual Report 2003-04 and these are reproduced below:-
• VSNL remains India's top international long distance services provider, offering telephone services to 237 international destinations.

• In September 2002, VSNL entered the NLD services market.

• VSNL is a leading player in Internet services such as Internet access and Internet Telephony and is planning a major thrust in the retail Broadband business.

• VSNL's leased line business grew 83% in volume during 2003- 04 and the company expects it to remain a large growth driver.

• In November 2002, VSNL became India's first VPN vendor. • VSNL's total investment in TTSL's equity as on March, 31st, 2004, stood at Rs.6 billion, whichwill give substantial access to attractive end customers across the entire country.

32. Page 7 of the Annual Report of VSNL states thus :
"*VSNL also benefits greatly by being part of the US$ 12 billion Tata Group and is fully leveraging synergies with other Tata group companies in the telecom and software sectors to give customers a broad range of end-to-end solutions."*

33. Thus it is evident from the above that the operations of VSNL in conjunction with other group companies of TATA's as a telecom service provider is in the nature of vertically integrated service provision and not in the nature of a "stand alone operator".

34. VSNL has contended that its financial performance is deteriorating over the last three years due to loss of monopoly three years back. The Authority is of the view that IPLC market requires tariff regulation because the market is lacking competition. This cannot therefore be linked to the financial performance of VSNL which is dependent upon a large number of factors. Further, Investment Analysis Report by Morgan Stanley in their report on VSNL in April 2005 has stated that VSNL's data business would grow from Rs.3.7 billion in F2005 to Rs.8 billion in F2007, thereby raising its contribution to the company's total EBITDA

from 54% to 73% and they also expect the data business of VSNL to yield an operating margin of 43-45% going forward, versus a 6% operating margin for the ILD telephony business (source : JM Morgan Stanley, Equity Research, Asia-Pacific, Report on Videsh Sanchar Nigam Ltd., April 5, 2005). In fact, the reduction in IPLC tariff can be expected to stimulate the demand for more capacity by end users which in turn would enhance the capacity available for services and thus the overall cost would come down for VSNL. Therefore, VSNL cannot oppose tariff regulation of IPLC on the ground that its non-IPLC business is less remunerative.

35. VSNL has in its submissions to the Authority made certain observations about its dealings with other telecom operators and issues relating to access to cable capacity, etc. Since the Authority has issued a separate Consultation Paper (No.5/2005) on Measures to Promote Competition in International Private Leased Circuits in India, the Authority would consider and address these submissions in an appropriate manner while framing its regulatory policy with a view to promote competition in IPLC.

Evidence of IPLC Regulation in many countries

36. The Authority made a detailed review of the International practices governing regulation of the IPLC market in a number of countries. The results of the review are tabulated and a detailed exposition of the regulatory practices governing IPLC sector in many countries are given in **Appendix 5 of Annexure A**. As per that review, a number of markets, which are now considered to be competitive, have at one time or other been subjected to regulation of various kinds including tariff regulation. Even now, in some of the competitive markets for IPLC, the dominant operator is subjected to tariff regulation in that they are required to file their tariffs with the regulator, which are then subjected to detailed

scrutiny and prior approval has to be obtained which is given only after the regulator is satisfied with the prices proposed by these operators. Even the submissions of the incumbent to the Authority clearly indicate that IPLC sector is regulated in countries like Vietnam, Singapore and Taiwan. In the case of Vietnam, it is in the form of price band/ceiling and prior approval of the regulator. In the case of Taiwan, for dominant operators the type of regulation in IPLC is through price band/ceiling. In Singapore, the dominant IPLC providers have to obtain the prior approval of the regulator for the tariffs.**Each country has to decide whether or not to regulate a particular market, and in the case of India there is a good case for regulation of IPLC.**

37. Thus, conclusions drawn by the Authority in regard to the need for tariff regulation for IPLC have been based on objective factors and analysis of relevant data including the submissions of various stake holders.

Recent Developments

38. VSNL in their submissions has cited certain recent developments and argued that there is no rationale for regulating IPLC pricing in the light of these developments in the international bandwidth market in India. These are discussed below:-

"Price cuts effected in anticipation of new capacities and competition"

39. The Authority noted with appreciation the recent voluntary reduction in IPLC tariffs offered by VSNL (applicable w.e.f. 15th August, 2005) on two routes, one on Chennai- Singapore and another on Chennai- USA (Pacific route). Such a reduction however, is not made in respect of the more important route of the Atlantic Ocean connecting India to Europe and USA (East coast), and to destinations in the Intra-

Asia Pacific (excepting Singapore). Further, IPLC providers other than VSNL have not offered reduction in the tariffs consequent upon this development. Thus, it is equally important that the IPLC price in general to all destinations, for all routes and capacities, and for all operators needs to come down. The tariff regulation mandated by the Authority vide this order provides for ceiling tariff and to that extent there is considerable flexibility for all operators to keep their price band within the ceiling.

"Bharti's cable i2i can now provide restorable services"

40. The Authority noted that the mutual restoration agreement between VSNL and Network i2i Ltd. is another welcome development in the recent past as such an arrangement has the potential to enhance the quality of services to the customers. This development may have favourable impact on the state of competition in the IPLC market in the near future since now one more operator has restorable capacity on the India-Singapore route. But this is independent of determining the overall tariff since potential competition from this development would only effect a limited portion of the market, e.g. routes to or via Singapore. On the other hand, all other routes and destinations are likely to be unaffected.

"Reliance Infocomm is also laying a submarine cable system called Falcon …… BSNL is planning to have its own cable landing stations and planning to construct multiple cable systems"

41. In the views of the Authority, these developments, as and when they fructify, would be significant for the IPLC market as they are most likely to make the market competitive. These indications also signal the importance of the data services market of India in the global context and thus such investment decisions of major ILDOs in India are consistent with projections made about the growth of the international services market of India. The Authority is of the view that the need for regulation

of IPLC services or otherwise has to be assessed on the basis of the present and recent past trends in this market. Expected/projected developments when they actually fructify and become sufficiently effective to impact the market will provide the necessary opportunity for a review of decisions taken to correct the present situation.

Indian IPLC Market Requires Regulation

42. **In view of the fact that the decline in the tariffs for IPLC half circuit services in India is substantially less than the extent of decline witnessed in other parts of the world over time and also as compared to the cost of provision of services owing to skewed market structure and also considering the fact that the services of IPLC are critical to the penetration of Broadband/Internet services and to IT and IT Enabled Services, the Authority has concluded that it is necessary to fix ceiling tariff for IPLC at present. This measure would also promote level playing field in the industry.**

Section-III

Observations of VSNL in regard to issues connected with the methodology used for determination of cost based tariff and comments thereof.

43. VSNL has contended that it is not appropriate to determine ceiling tariffs based on weighted average of costs, because of the 'perfect correlation' between distance and costs. The Authority believes that this assertion is not based on a complete understanding of the issues as discussed below:

Distance and cost are not 'Perfectly Correlated'

44. The cost of submarine cable system is not a linear function of distance. In fact, given the high design capacities of submarine cable system, the additional costs associated with longer cables are not high

enough to substantially impact the unit capacity cost. The high capacity capabilities of a cable system means that the individual unit capacity cost associated with the additional cable/repeaters is low. Further, technological progress has led to the reduction in the number of amplifiers/repeaters required on cable systems bringing down their contribution to the overall cost of the cable system.

45. It is a known fact that costs of submarine capacity (as a percentage of total cost) to international operators is rapidly falling and it is very often packaged in such a manner that it is not proportional to distance. The tariffs for IPLCs charged for ILDOs in India confirm this fact. This position has been aptly summarized by Telegeography given in the following Table.

Tariffs are not Distant Dependent

Route/Destination	**Q2.2004**	**Q3.2004**	**Q4.2004**
London – Mumbai	$ 10,605	$ 8,156	$ 9,638
Hong Kong – Mumbai	$ 8,174	$ 7,450	$ 7,611
Mumbai – Singapore	$ 8,174	$ 7,519	$ 8,065
Los Angeles – Mumbai	$ 8,636	$ 7,301	$ 9003
Mumbai – New York	$ 8,869	$ 7,061	$ 8,614

Notes : Prices reflect average E-1 monthly leased price, exclusive of installation fees. Prices reflect the combined price of two half circuits.

Source :TeleGeography research (Primetrica Inc. 2005, International Bandwidth, 2005).

46. In VSNLs own submissions made in November 2004 (BCG report) in their recommended price structure, VSNL also indicated only an average price and not a distance dependent pricing model.

47. It is important to realize that all the relevant costs incurred by VSNL have been taken into account by the Authority in the fixation of ceiling tariff. In fact, a substantial portion of VSNL's investment in

consortium cable systems has already been recovered, as has been demonstrated in the consultation paper No.10/2004 dated 30th April, 2004 (paras 17-20).

48. Further, the ceiling tariff so fixed by the Authority contains a number of elements of buffer in it. Since the tariff mandated by the Authority is a ceiling tariff, it provides full liberty to the service providers to offer different tariffs to different destinations/routes etc. provided such tariffs are not above the ceiling tariff and transparent in nature. With the acquisition of new cable systems and establishment of fully owned private cable system to Singapore, the weighted average cost for VSNL in respect of providing IPLC services across various destinations ought to be much lower and thus, substantial buffer is still available to VSNL. The tariffs of VSNL filed recently with the Authority prove the point that IPLC price is not directly linked to distance. For example the rates for Chennai to USA per E-1 per annum is Rs.11 lakhs and for Chennai to Singapore per E-1 per annum is Rs.10 lakhs.

49. Lastly, the costs associated with the entire submarine or wet elements of a cable system are very much in the nature of sunk costs. Therefore, no incremental wet segment costs are incurred when upgrading longer distance cables. The only relevant costs on such up gradation on a longer distance cable are the dry end costs which are distant independent. It is noteworthy that cable systems like SEA-ME-WE-3, SAFE and SEA-ME-WE-4 etc. are consortium cable systems. VSNL does not incur the full cost of building the full length of the cable system. Rather it is shared among consortium members. In such consortium cables, the method of purchase of capacity can be a system of Minimum Investible Unit (MIU) kms. A pool of these MIU kms is assigned to each landing party/partial owner and capacities/routes are then "bought" in exchange for "spending" MIU km, in partnership with a

party for the distant half. While the concept of purchasing MIU kms exists on these cables, the MIU kms associated with each route may not be directly linked to the distance.

50. In view of the above, the 'perfect correlation' between distance and costs claimed by VSNL is not tenable and thus this should not be a reason for not using averages for prescribing ceiling tariffs.

Arbitrage Opportunity Significantly Overstated by VSNL

51. VSNL has also stated that the tariff structure for IPLC fixed by the Authority i.e. Rs.13 lakhs per E-1 with a price multiple of 8 times and 23 times that of E-1 for DS-3 and STM-1 would create an opportunity for arbitrage enabling its competitors to buy an STM-1 from VSNL and profitably sell the same at below cost at E-1 level to customers. This point has been carefully considered by the Authority and it is seen that the apprehensions of VSNL in this regard are misplaced for the following reasons:-

52. The arbitrage opportunity is one that is repeated in many markets and that has been significantly overstated by VSNL. For that matter, even in the existing tariff structure of VSNL for IPLC there does exist an arbitrage opportunity. But this is an over simplification of the complex situation involving resale and that too only by other ILDOs. Resale of E-1s after purchasing STM-1 capacity involves acquiring 63 E-1 customers, which involves substantial cost and time. This would also further require the facilities of an NLD operator and a BSO/UAS Licensee to sell this capacity directly to a customer. Beyond that, equipment and IT infrastructure is required to technically take STM-1 capacity from one operator and to then attempt to resale it as E-1 capacity in the market. Rather, the advantages for the seller of STM-1 like VSNL would include, a large financial commitment from the customer, a simpler selling and

service process and thus a lower administrative cost in general, and better utilization of capacity and thus reduced cost for that capacity.

Price Multiple and its Economic Rationale

53. Closely related to this issue is the price ratio multiple adopted by the Authority and reservations of VSNL about it. Economies of scale arise when any goods/services are traded in bulk. This is also applicable in the case of IPLC services. STM-1 is a larger capacity than DS-3 and DS-3 is again a larger capacity than E-1. The physical capacity ratio known to exist among the three capacities that are discussed here are 1:21:63. The price ratios for the three capacities i.e. E-1, DS-3 and STM-1 would not be in the same ratio because of economies of scale in operations. That is to say for example, the STM-1 price has to be less than 3 times of the price of DS-3. When larger capacities are purchased, the prices are less because the cost of selling larger capacities is also less when compared to selling smaller capacities. This economic rationale behind the price multiple has been acknowledged by a recent international report on "International Bandwidth – Submarine Networks, It states:-

"Capacity-Price Multiples

Bandwidth, like most goods, tends to be cheaper on a per-unit basis when it's purchased in large volumes. For example, DS-3 circuits, which have 22 times more capacity than E-1 circuits, frequently cost only four to eight time more than an E-1. Carriers charge proportionally more for small circuits because, on a bit-for-bit basis, smaller capacities cost sellers more to administer than larger circuits. Some provisioning costs including sales, legal fees, installation, and some maintenance costs are fixed regardless of circuit size.

Traditionally, prices across different capacities tended to fall into fairly predictable multiples. At each successive circuit increase, from DS-3 to STM-16, price roughly doubles, while capacity sometimes quadruples. However, bulk discounts have become increasingly aggressive in recent years, as operators have come under growing financial pressure. Since prices of high-capacity circuits have fallen faster than prices of smaller circuits, capacity-price multiples have declined sharply. Consequently, an STM-1 can carry about 76 times more data than an E-1, but can be leased for only three to 15 times the price of an E-1."

(Source: PriMetrica Inc., International Bandwidth Report, 2004)

54. The evidence given above implies the following:-

a) The price ratios have to be less than the ratios of respective capacities.

b) The price ratios prevalent worldwide are far less than the capacity multiple ratios for E-1, DS-3 and STM-1 that are obtained in Indian market for IPLCs.

c)	The	maximum	price	ratios	reported	to	be	prevalent

internationally are: Price for DS-3 = 8 times the price for E1 and Price for STM-1 = 15 times the price of E1.

d) Thus, if one goes by this alone, then the price ratio for international Bandwidth in respect of E-1, DS-3 and STM-1 shall at the maximum be 1:8:15.

55. From this analysis, it emerges clearly that the price ratios fixed by the Authority i.e. 1:8:23 are higher than the ones prevalent elsewhere in the world. And more importantly, the revenue realization for VSNL on a weighted average basis (with these multiples) would comfortably cover the cost for VSNL and still leave a surplus. This has been demonstrated

to VSNL by TRAI in the material made available to it as part of the TDSAT mandated disclosure **(for details see Appendix 4 of Annexure A)**. The prevalent tariffs offered by ILDOs in India gave the ratio for these capacities that were very high as compared to international price ratios (see Table below).

International comparison of IPLC price (E-1 prices and price multiples)

	(1)	**(2)**	**(3)**	**(4)**
Country	E-1 US$'000	DS-3 US$ Million	STM-1 US$ Million	Ratio of Columns (1):(2):(3)
Japan	23	0.10	0.2	1:4:8
South Korea	23	0.10	0.2	1:4:8
Hong Kong	24	0.12	0.3	1:5:11
Singapore*	33	0.17	0.3	1:5:11
India**	**41**	**0.70**	**1.8**	**1:17:44**

Source of International data: ERNST & YOUNG/Telegeography Note :-US $=Rs.44

*	Singapore's E1 price is high inter-alia on account of low multiple for DS-3 and STM-1
**	IPLC half circuit tariffs of VSNL offered w.e.f. June 2005 for India-USA (Atlantic route). Not adjusted for discounts as discount is dependent upon a number of criteria

No Evidence of Consortium Imposed Constraint on VSNL in pricing matters

56. VSNL has contended the pricing ratio on the ground that, most submarine cable capacity sold out of India is on consortium cables. The Authority noted that this argument has no basis because consortium members do have complete freedom to set their prices and VSNL has not brought before the Authority any evidence of constraint being imposed on VSNL in the matter of pricing by the consortium.

57. Further, raising these ratios above the ones fixed by the Authority will give undue surplus to VSNL which has been verified by the Authority based on full cost recovery on a weighted average basis for various

capacities, and the share of each of these capacities to the total. Once full cost recovery is ensured to VSNL for the price fixed for E-1 and on the basis of the price ratios for other higher capacities, the question of revenue realization going below the cost does not arise.

Appropriate capacity mix assumptions used in the calculations 58. VSNL has submitted that the capacity mix assumptions used in the tariff fixation exercise are "inappropriate". In the calculation sheets containing detailed calculations of costs, provided to VSNL (as part of the disclosures made), it has been amply demonstrated that even if 50% of the total capacity is sold in terms of DS-3 and STM-1, the revenue to VSNL is more than adequate. Even if it is assumed that large capacity as projected by VSNL would be sold in terms of higher capacities like STM-1 in future, it is logical that the operating expenses would also substantially come down because of economies of scale in selling STM-1 as against selling in terms of E-1s. Using a range of capacity mix assumptions, an iterative process revealed that the weighted average recovery of revenue would still be above the average cost leaving a surplus (demonstrated in the cost calculations shared with VSNL). Further, in a given period of time, if there has to be shift of customers from lower capacity to higher capacities like STM-1 (of a greater magnitude), it can take place only if the total capacity sold also goes up simultaneously and in which eventuality, unit cost per capacity would come down on account of higher utilization of capacity in services.

Section-IV

Issues relating to Cost data and calculations of cost, raised by VSNL and comments thereon

59. One of the points raised by VSNL on the costing exercise is that the cost arrived at by the Authority is an under estimation. The detailed examination of each of the arguments advanced by VSNL for its claim of

higher cost per E-1 is contained in various paragraphs in this Section. Further, VSNL contends that certain additional investment/operating expenses have been made/incurred in their new cable system all of which could significantly impact the effective cost of providing IPLC services and therefore a fresh exercise for examining costs is required. This is discussed in the following paragraphs.

Falling cost of building a Submarine Cable

60. VSNL's argument of new cable cost is not correct as in reality it gives lower cost than the one arrived at by the Authority using historical cost. The cost comparison of submarine cable system (see Table below) made by Morgan Stanley in their report of April 2005 reveals that the cost of building a submarine cable is falling rapidly.

Cost of Building a Submarine Cable is Falling

Cable System	Design Capacity		Length	Cost
	RFS	(Gbps)	(000 Km.)	(Us $ Million)
TGN			60.00	3,246*
Trans Pacific	2002	7,680		
Trans Atlantic	2001	2,560		
Western Europe		3,840		
Northern Europe Ring		640		
FLAG				3,150*
Atlantic 1	2001	2,400	14.5	
Europe – Asia	1997	80	28.0	
North-Asian Loop	2002	2,880	9.5	
i-2-i	2002	8,400	3.2	650
SEA-ME-WE-2	1994	1,100	18.0	800
SEA-ME-WE-3	1999	505	38.0	1,500
SEA-ME-WE-4	2005	1,000	20.0	500
Tata Indicom Cable	2004	5,120	3.2	100

*Morgan Stanley Research estimates

Source : JM Morgan Stanley, Equity Research, Asia-Pacific, Report on Videsh Sanchar Nigam Ltd., April 5, 2005.

RFS : Ready for Service.

61. Further, the Authority has not taken recourse to determining the tariffs based on investment in new cable systems, acquisition of cable systems by the ILDOs, for that would have meant a much lower price

than the one prescribed. Having said that, the Authority will review the IPLC tariffs fixed vide this Order, if necessary, after watching the market developments subsequent to the tariff regulation.

Buffers in the Calculation of Costs – FLLRIC Not Used

62. VSNL in their submissions has contended (without any basis) that the buffers indicated in the cost calculations are incorrect. It is widely accepted that FLLRIC is a method of pricing that forces Service Providers to become efficient. However, the Authority has chosen not to use FLLRIC at this stage, so as to avoid a shock to the system. Instead, the Authority has used a fully allocated costing method in which a buffer is available for VSNL, thus making the transition to a competitive environment gradual. The fact that FLLRIC is not used in the present calculations for determining the tariffs which itself gives rise to buffer has been contested by VSNL merely by saying that applying FLLRIC is impracticable and highly complex. Complexity involved in a costing approach does not take away its advantages in pricing the provision of IPLC services in an accurate manner. Similarly, the buffers that arise out of using historical cost of VSNL as against using a weighted average cost of other operators/cable systems has been simply dismissed by stating that the 'cost of capital is highly understated'. This has no relevance to the arguments on the basis for buffer indicated in the tariff order.

63. One of the submissions of VSNL in regard to cost calculations is that the data on cost, capital employed and capacity sold pertain to different points of time. In fact, in the revised calculations (shared with VSNL), the Authority has considered the capacity reported to have been utilised by VSNL as at the end of March 2004 and capital employed during the period ending March 2004. It would have been appropriate for the Authority to have concluded that the capital employed reported in separated accounts for 2003-04 could be allocated to the capacity

available in September 2004 or even a later period because this includes capital work in progress also and thus this could be considered as giving rise to the available capacity during the later period. This has however not been done by the Authority and to that extent there is an element of buffer in the cost estimates arrived at by the Authority. Further, the costing was being done for fixation of a price that would be applicable for a future period and not for the past period and to that extent the Authority should have been more futuristic in their approach itself by adopting the FLLRIC approach which has not been done thereby giving rise to surplus over-cost (Historical). Moreover, it is evident that the average cost of IPLC services has been declining over time both for investment and operational cost. This trend is likely to continue in the future as well owing to technological advances, which implies that the marginal cost of acquiring additional capacity is substantially below the average cost estimate and will decrease further in the future. It would have been valid for the Authority to have used the much lower cost estimates taking account of the new capacity of the new entrants and even the incumbent. However, the Authority has not done so to ensure smooth transition to lower cost and has kept a buffer in the cost based tariff.

64. VSNL has submitted to the Authority that the value of depreciation taken for costing capital should be higher because the depreciation amount has been taken on the basis of a lifetime of 18 years, where as for all practical purposes, the economic life of the cable is only 5 to 8 years.

65. The Authority noted that it is using the actual depreciation amounts for IPLC that are given by VSNL in the audited separated accounts submitted under a Regulation to the Authority, on 31st December, 2004. Moreover, the Authority noted that in the Annual

Report of VSNL for 2003-2004, they have stated with respect to Tata Indicom India Singapore Cable (TIIS Cable) thus:

"*With an estimated life of 25 years, the new cable aims to significantly enhance India's connectivity into the Asia-Pacific region and the U.S. via the Pacific*" (emphasis added; page 12 of the Annual Report).

66. If we use this estimate of lifetime, then the amount of depreciation should be even lower. However, the Authority has not done this and has relied on the audited accounts submitted to it with separated accounts. The Authority also noted that the cable in its physical form normally does not cease to function at least until its full life assumed in the calculation of TRAI. Further, the capacity of cables can be enhanced phenomenally at a very low cost owing to the availability of new techniques. Based on various data submitted by VSNL, the Authority also noted that the prices have been very high in the past (e.g. in 2000, the E-1 Half-Circuit IPLC price was Rs. 163.7 lakhs), which have already provided large returns on the investment.

67. VSNL has also contended that Authority has underestimated cost of capital. The Authority noted that the equity-debt structure of VSNL was substantially different from normal and reasonable capital structure. The Authority has examined the average of the ROCE for other operators in the industry and that figure amounts to less than 14%. In the above-mentioned submission of VSNL too, if we change the equity-debt ratio to 60:40, which is a reasonable ratio for an efficient capital structure, the ROCE become similar to the one used by the Authority. In fact, the Authority has in some other previous exercises, used an equity-debt ratio of 1:1 and if this ratio is used then the ROCE would be even lower at 13.46%. Above all, VSNL has used 14.42% as the WACC (Weighted Average Cost of Capital) in the accounting separation statement, which

are audited accounts submitted to the Authority on 31st December, 2004 under a Regulation (notified in the Gazette). For these reasons, the Authority has continued to use the ROCE of 14.42%.

68. VSNL has contended that money raised from GDR issue of capital have been excluded and such an exclusion of capital has the effect of significantly reducing the cost. Further, VSNL has submitted that the inclusion of monies raised during the GDR issue is in compliance of the Accounting Separation Regulations, 2004. The Authority noted that the amount of capital employed for IPLC in VSNL's separated account includes money raised from its GDR issue, which is presently lying in the bank. This has been excluded for costing as they are not relevant for IPLC service for which costing is done. These funds are not linked to the operation of IPLC *per se*, and the costs related to them should not be imposed on the customers of IPLC and thus this has been excluded.

69. As stated earlier, in compliance to TDSAT's Order of 28.4.05, the Authority shared the relevant data/information/reports with VSNL. After sharing of information / data by the Authority with VSNL, they made certain submissions to the Authority regarding calculation of cost wherein some data used by the Authority in the IPLC tariff fixation exercise was contested. One relates to the amount of capital considered by the Authority as relevant for IPLC pricing and the other major item relates to the data on International Bandwidth charges that is relevant for IPLC pricing. After examination of these submissions including certain documents submitted by VSNL, the Authority found it appropriate to verify the Books of Accounts and other documents of VSNL to ascertain the validity of its contentions. The verification exercise undertaken by a team of officials from TRAI not only did not prove the service providers point, it opened up further areas of doubt. The documents produced by VSNL during the verification process did not

conclusively establish the veracity of allocation of bandwidth charges to various products and the criteria for apportionment of expenditure relating to joint costs/common costs. Further, the actual capacity of submarine cable bandwidth utilized for IPLC reported by VSNL at several points of time in the past and as found during the verification

process has been inconsistent.

70. The Authority considered the submissions of VSNL on the data used for costing and the treatment of that data, and the data made available to the Authority on earlier occasions by VSNL and those found during the verification process now. The findings of the verification carried out by the TRAI officials were communicated to VSNL. Reply of VSNL to the observations contained in the report of the team of TRAI deputed for verification of Books and other documents has also been examined by the Authority. The analysis of the observations made by VSNL on the report of Inspection (made by TRAI officers) was made available to VSNL along with the revised calculation. Since these matters involving commercial data of VSNL are sensitive, the Authority does not wish to share the details of the findings of verification of Books of

Accounts	and	other	documents	of	VSNL	in	this	Explanatory

Memorandum. However, in the final analysis, the Authority is of the view that even conceding that the claims of VSNL in this respect are correct, the ceiling tariffs fixed by the Authority in its earlier exercise require no alterations. Considering the fact that the tariffs are being made applicable now in September, 2005, as against the 34th Amendment that was to take effect from April, 2005 (5 months passed), the cost of providing services should still be lower now. The Authority does not at this point of time intend to involve itself in detailed inquisition which would only delay matters further. These and other related matters like acquisition / installation / expansion of submarine cable capacity in this part of the world and the emerging pattern of demand and its

implications for IPLC prices will be dealt with by the Authority in the next review of IPLC tariff.

71. Accordingly, the Authority reiterates the ceiling tariff framework for IPLC services in India as under:

Capacity	**Price (Rupees in lakhs)**
E-1	13
DS-3	104
STM-1	299

Price for capacity below E-1

72. It is proposed not to specify separate ceiling price for IPLC capacities below E1 as smaller capacities form a low proportion of total demand for international bandwidth now which would become an insignificant proportion in future. Therefore, the tariffs for such capacities are forborne.

Price for Different Use

73. Another issue raised in the Consultation Paper relates to the applicability of this ceiling tariff for various usages i.e. voice or data. There appears no cost based rationale for the associated IPLC tariff ceiling to vary when it is used for different products/services. The majority of the stakeholders were of the view that the proposed ceiling tariff should be the same whether it is used for voice or for data services. In view of the above, the Authority has mandated that the ceiling tariff for IPLC half circuit shall be the same irrespective of its end use i.e. whether for voice or for data.

Tariff forbearance for satellite IPLC

74. As mentioned in the methodology, the costs related to satellite IPLC have not been considered. Thus, tariff for satellite IPLC are forborne.

Standard Tariff for Half-circuit IPLC to be mandatory

75. There are two components involved in the provision of IPLC service i.e half circuit of the Indian end and the other half-circuit of the farther end. TRAI's regulation/tariff orders for IPLC can cover only the near end portion of the IPLC that is offered by a licensed ILDO of India. ILDOs in India do provide full circuit services of IPLC by having commercial arrangements with the foreign carriers; but the Tariff order of TRAI applies only for the near-end Half-circuits linked to India. Therefore, the Authority mandates a Standard Tariff Package in which Half-circuit will be offered in compliance with the ceiling tariff for each of the capacities and destinations for which full circuit services are offered by the ILDOs. This would enable the Authority to monitor the compliance of the tariff order by the service providers. However, the ILDOs are at liberty to offer any other Alternative Tariff Packages subject to the ceiling fixed to match competitive activity in the market. The choice from among all the tariff packages including the mandatory Standard Tariff Package will rest with the buyers of IPLC Services.

Conclusions

76. The Authority recalls the growth experience in mobile telephony consequent upon tariff declines witnessed in India. Similarly, reduction in lease price for IPLC would also stimulate strong growth. The experience with growth in India has been that with low prices, there has been explosive growth of subscriber base in voice telephony and it would be reasonable to expect that the same story would be repeated in the growth of Broadband /Internet and other data services that are crucially dependent upon international bandwidth. Therefore the intervention of the Authority by stipulating a cost based tariff for IPLC becomes important but the growth in demand induced by the lower prices being mandated by the Authority will itself act as demand stimulant leading to

higher utilization of capacity of the operators that would have secondary effects in pushing down the price levels. A number of other reasons have also been given in this Explanatory Memorandum to show the basis of the Authority's intervention with respect to IPLC tariffs.

77. The Authority is of the view that the process of tariff ceiling regulation has been significantly extended to accommodate various and repeated submissions by IPLC providers, and it is expected that the IPLC service providers appreciate the necessity for regulatory intervention at this stage and implement the ceiling tariffs wherever applicable and report the same as per existing reporting requirements.

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Appendix 1 of Annexure A Summary of Main Comments

The various comments of the stakeholders on the consultation paper (No 10 of 2004) are summarized below:-

a) Should IPLC (half circuit) be henceforth regulated?

• The user groups and consumer organizations were of the view that the tariff for IPLC should be regulated till adequate competition is established in the market.

• Telecom service providers in general have expressed their concern that despite the opening up of the ILD sector in 2002, effective competition in the IPLC business segment has not yet emerged and therefore they are of the view that the Authority should not only regulate tariffs for IPLC but also take further steps to encourage

competition in this segment.

• TRAI's intervention in regulating the tariff of IPLC is considered necessary at this point of time by many stakeholders on the ground that availability of IPLC at cost based prices would stimulate the growth and lead to greater penetration of the Internet and broadband services.

• One of the telecom service providers has stated in their submissions to consultation paper that fixation of tariff for IPLC by TRAI is essential so as to make IPLC prices in India more affordable and to make in line with market prices within the Asia-Pacific region.

• One view was that the stimulation and encouragement of Internet use and availability of affordable broadband services is dependent upon among other things, the access to lower priced international bandwidth because IPLCs are the main international carriage platform for these services.

• There was also a view that the high prices for IPLC's in India are constraining the potential growth of Indian international data revenues and by inference the underlying demand for capacity as well.

Thus high IPLC prices tend to stifle demand for consumer services, which would otherwise employ large amounts of bandwidth capacity. • Unless the IPLC prices are brought down, the customers for BPO services would turn to the growing number of other countries that seek to provide BPO services at lower prices. This could have negative consequences for the BPO industry in India.

• TRAI should set tariff ceilings to ensure that VSNL's rate moves towards cost orientation. The tariff should be reviewed periodically but should remain in place until there is a basis to conclude that effective market forces will sufficiently constrain IPLC rates.

• One of the ILDOs commented that the market forces should be allowed a free reign such that price is a function of market demand and supply. But the regulator should ensure that the operators who hold significant capacities (bottleneck facilities) do not resort to restricting bandwidth supply thereby artificially inflating prices.

Accordingly, the regulator should ensure easy access to bottleneck facilities such as landing stations owned by the significant operators. • The incumbent was of the view that market forces should be allowed to decide the price and thus there should be no price regulation of IPLC. Further, VSNL was of the view that any effort to regulate the market will hamper investments and hence the growth. They also believe that it might introduce rigidity in offering packages to the customers.

• The incumbent is of the view that IPLC prices in India are likely to fall by 30% over the next 12-18 months with increase in supply.

• VSNL has submitted that IPLC price constitute a very small proportion of the cost structure of IT, IT-ES and Broad Band services.

(b) Whether the reduction proposed by the Authority is adequate, less than adequate or too high.

• One of the ILDOs submitted that, the proposed tariff ceiling for E1 circuit of Rs.12 lakhs per annum seems very aggressive and more realistic level should be 15% to 20% reduction on the current tariff of VSNL. Similarly the multiple of 8 times of E1 ceiling price proposed for DS3 capacity should be revised to 11 times of E1 based on international practice

• One other ILDO was of the view that the reduction in tariffs proposed by the Authority is impressive. However the tariffs for the half circuits should be made more attractive than in those countries competing with India in BPO/ITES sector. This is absolutely necessary to create an attractive business atmosphere.

• One of the standalone players in telecom services submitted that while the cost+ method could be adopted to work out the prices for

different	Circuits,	this	should	be	benchmarked	against	the

international prices so as to ensure that VSNL, the monopoly service provider, does not unduly realize the benefits of its inefficiencies.

• ISPAI was of the view that the reduction proposed by the Authority in the consultation paper is too little, too late. The reduction is highly inadequate considering the rapid reductions in the ISD tariffs by the very same ILDOs who have deliberately not passed on similar benefits to the users of IPLC.

• COAI in their written comments stated that the reduction proposed by the Authority in the consultation paper is too little, too late. The reduction is highly inadequate considering the rapid reductions in the ISD tariffs by the very same ILDOs who have deliberately not passed on similar benefits to the users of IPLC.

• One of the ISPs commented that the greatest weight should be given to market rates charged elsewhere in the Asia-Pacific region for similar IPLC capacities when making the initial determination of VSNL's IPLC tariff.

(c) On the methodology and related issues including price-multiples

• One of the ILDOs was of the view that the cost based approach taken by the Authority for fixing of the tariffs seems appropriate. However there are overestimates in some places.

• The ISPAI submitted that, most international cables land in many countries and hence, the investment decisions are not based on the potential or current market in a single country like India. This aspect becomes crucial in computing the costs.

• COAI has commented that loading the entire costs of the ILD on IPLC alone is unjustified.

• One of the foreign carriers has stated that TRAI should adopt the proposed rate reductions in an initial phase, but should conduct a full LRIC study for the methodology in a subsequent stage.

• One of the Telecom service providers has submitted that the methodology seems to be reasonable. However it should be recognized that installed capacity is much more. The capacity utilized is very nominal. If installed capacity was made available, cost per E1 would be substantially lower. It is to be noted that demand has been there and the market absorbs Capacity as soon as it is made available.

• VSNL has observed that the Paper assumes that the total available cable capacity will be sold on the day one and will remain committed to be sold for the next 15 years and there would not be any vacuum or churn. This is far from factual position. The assumption that there will be no downward price revision-taking place in the next 15 years is

not a reality in practical scenario. Assumption that the Opex of 10% is sufficient to recover the entire operational cost of the entity is not a correct assumption. This methodology does not differentiate between the physical life of assets and economic life of assets.

• VSNL in its submission has commented on certain assumptions of the methodology contained in the consultation paper. These include that the proportion of satellite costs in the total cost assumed by the Authority is higher, there is under estimation of capital cost, and lower provision of supervision and administration charges

• VSNL has also observed that while the Authority has approved the ratio of 1:21: 63 for NLD pricing, it has proposed 1:8:23 for IPLC pricing. However, in both the services, the technology being used is similar and associated costs for multiplexing/demultiplexing are also in the similar proportion.

• One other ILDO has pointed out that they are in agreement with methodology that an E1 can be used as benchmark for higher multiples of the bandwidth. However, the cost and O&M charges for an E1 and its higher capacities are not in linear relationship. Hence it is not appropriate to consider bandwidth multiple as cost multiple.

Thus there is no reason why the international standard for cost multiple be any different from that in India. They therefore recommend that prevailing international ratio should be accepted. • NAASCOM was of the view that the methodology used and setting the ratio are in the right direction and is a good start. However, as the usage of both DS3 and STM1 will increase, same benchmark and current multiples will not be valid and need to be periodically reviewed. Then the TRAI needs to have a look at factors like utilization factor, quality and reliability of services and congestion levels.

• One of the Investment analyst firms has commented that they agree with the pricing-multiples specified by the TRAI in the CP since these

have a rational basis and are also in line with corresponding multiples in other countries.

• A telecom service provider has said that given the rapidly changing dynamics of the telecom sector, whatever tariffs the TRAI fixes may be reviewed after 12 months.

• The notified ceilings should be reviewed regularly, at least twice a year and ceilings modified, if so necessitated. However, once the 'Retail Minus' pricing is introduced, over one year, there may be no more a need to review, except intervening in exceptional circumstances.

• On the issue of whether the same tariff be made applicable irrespective of end use i.e. voice or data, the overwhelming opinion of the stakeholders was that from an economic and cost causality perspective, there is little or no difference in the cost of providing IPLCs for either data or Voice. There is, therefore, no cost-based rationale for the associated IPLC. Indian businesses and consumers would both benefit from the availability of the wide spread and higher quality standards normally associated with PSTN based international voice services at lower prices.

• An industry Association has submitted that ILDO's are bound by the conditions of the license to offer bottleneck facilities to all users and other ILDO's. The cable capacity is a bottleneck at this time as India has limited landing stations. ILDO's especially those having "incumbent" facilities should be made to offer a discounted rate to other ILDO's so as to reflect the higher order capacity need and also to encourage sharing of this bottleneck facility.

• The incumbent has stated that they invested in the infrastructure in the past when the country needed it and when the costs were on a higher side. They need to recover composite cost of its network while it offers IPLC services to its competitors. The tariff for the competitors

(ILDOs) who resell the services, need to be different as compared to the tariff for corporate customers, who do not resell the services.

(d) Other comments

• Long run incremental cost (LRIC) on a forward looking basis of all cost elements including capacity increase in the long term, should not be used as they require deep understanding of network economics, and modeling assumptions are subjective.

• LRICwould more accurately reflect underlying service economics and will not protect inefficient incumbents.

• Lower prices are observed on routes where bandwidths demand and hence supply is abundant.

• The capacities existing in various markets have resulted in the creation of 'hubs' (e.g. Hong Kong, US, UK) and 'spokes' (e.g. Thailand, Indonesia, Brazil). The prices between hub to hub will be lower than hub to spoke or spoke to spoke.

• Prices also different according to routes.

• The methodology in the Consultation Paper is incorrect because it takes both capital recovery of 28% and asset life of 18 years
• Costs differ for owned and consortium cables, both for prevailing costs and for incremental costs.

• There is little flexibility for changing prices for consortium cables. • Comparison with international prices is not correct because these prices reflect bankruptcy and write down of assets.

Appendix 2 of Annexure A Factors Constraining Competition

Limited Number of Players

In India, the international long distance (ILD) segment was opened to competition in 2002. Videsh Sanchar Nigam Ltd. (VSNL) is the incumbent operator with landing station facilities at Mumbai, Cochin and Chennai. The other ILDOs who also supply submarine cable bandwidth services are Bharti Infotel and Reliance Infocomm. Bharti Infotel owns a landing station facility at Chennai. As of now, Reliance Infocomm has not yet established their own cable landing facilities. VSNL is likely to maintain its dominance in the IPLC market for some more time. Thus, the prevalent market structure in IPLC in India is such that there are only three active players and of them only two have landing facilities. It is gathered that in many countries the number of players is large and most of the operators are Non-Facility based operators. At present, resale of capacity is not permitted in India because the focus has been on building additional capacity. The table below shows the number of bandwidth providers in each location (including resellers):

Location	Number of bandwidth providers
London	33
USA-NY	32
Germany	32
France	24
South Korea	14
India	3

Source: *ERNST & YOUNG*/NRA websites

Access to Facilities

Access to submarine cable landing stations is considered an essential input for many telecom services. Any unnecessary access restrictions tend to limit operator's competitive scope to provide international telecom services. Thus the submarine cable landing stations are critical telecom infrastructure and efforts should be made to ensure that they do not become bottlenecks to telecom service provision. Access barriers constrain the competitiveness of telecom operators and are detrimental to healthy growth of the telecom market. The Authority has received a number of complaints that competition is being restricted due to constraints on access to facilities.

VSNL's continued control of cable landing stations and associated facilities are said to constitute bottlenecks, which allow the incumbent to stall or delayentry (or efficient operations) by other operators. Access problems are faced not only by the underlying cable operators but also by operators who have acquired capacity in a cable system and wish to access the capacity at the landing station. Discussions with industry sources suggest that establishing a cable landing station facility in India not only requires a huge amount of investment but is also a time consuming process involving various clearances including security clearance, etc. Thus, the control of access to the cable landing stations make it possible for the supplier of the access facility to impose constraints which are in the nature of non-price factors affecting the competition.

The Authoritynoted that there is a need to enhance competition in the IPLC market in India and to promote competition certain other measures are required to be taken. Towards this end a separate consultation process has been initiated by the Authority with the issue of Consultation paper No. 5 of 2005.

Appendix 3 of Annexure A Comparison of Indian IPLC tariffs with Benchmarks

i) **Comparison with List Prices**

1. The tariffs prevalent in India for IPLCs were compared with international benchmarks, and with the cost based estimates arrived at using cost data available in the separated accounts of VSNL. Through intensive interaction with domestic and international experts, the Authority examinedvarious aspects of International lease prices for bandwidth including international benchmarking exercises, trends in the cost of cable construction for sub-marine network, market structures in

various	countries	where	prices	are	competitive,	the	regulatory

environment governing the IPLC sector etc.

2. Owing to various factors, the international market for Bandwidth has steadily witnessed a deflationary spiral for more than five years. For purposes of comparing price trends across regions, STM-1 lease prices are said to be the most useful common denominator. In what follows, a comparison is made of the trends in the lease price of STM-1 across regions. It has been found that in the Trans-Atlantic region, the median STM-1 price had plummeted 70% in 2000, 65% in 2001, 26% each in 2002 and 2003 and 25% in 2004. In the Trans-Pacific region, the median price of an STM-1 in a representative route fell 56% in 2003 and 40% in 2002. In the Europe-Asia region, the median STM-1 circuit prices fell by approximately 42% in 2003, which is comparable to the decline witnessed in the previous year. Median STM-1 lease prices in Asia fell by 50-60% in 2003 (source: PRIMETRICA, INC.2004, Vol.I: submarine networks). The report of PRIMETRICA, 2005 has given more evidence of further decline in IPLC prices in the year 2004 across many regions and routes. As against this backdrop, lease price for STM-1 originating from India, has declined only by about 12.5% in terms of Compounded Annual Growth Rate (CAGR) (from India to USA) during the

period 2002 to 2005 (till June, 2005). The corresponding percentage decline in the lease price of DS-3 and E1 capacities originating from India was 12.5% and 15.7% (from India to USA) respectively. A comparison of the above with the Indian prices shows that the extent of decline in the lease price of international capacity of services in India is substantially less than the extent of decline witnessed in other parts of the world.

3. A review was also made of the trends in the underlying cost of providing the IPLC service and it was found that the cost of cable construction and other associated activities for submarine network have declined significantly mainly on account of technological advances and increased competition among equipment suppliers. For instance, upgrading cables has been found to be a cost effective way to stay competitive in the market. Technological advances, such as new modulation techniques, etc. allow older cables to boost their capacities beyond their initial design capacities. Thus, upgradations are a key aspect of cable system because they allow the operator to very cheaply add capacity instead of constructing a new cable. This is evident from the fact that the cost of construction of submarine cable in 2003 was a little over US$ 1 billion ascompared to US$ 12 billion in 2001 (source: PRIMETRICA, INC.2004, Vol.I submarine networks). This is reflected not only in the lease prices of bandwidth but also in the IRU prices (Indefeasible Right of Use) in the international market.

ii) **Comparison with Actual Prices, i.e. List Prices Corrected for Discounts**

4. The Authority considered it necessary to compare the market prices (IPLC lease rental) in other countries with that of IPLC half circuit tariffs in India. This type of information is typically very difficult to source and usually only list price is available, which is often significantly

higher than the actual market price. For this purpose, TRAI conducted thorough research and information on market prices from international experts was obtained. Tables 1, 2 and 3 below give a comparison of IPLC lease rentals reported (by international experts)to have prevailed during December 2004 in select Asian countries with that of the tariffs prevalent for IPLC in India for the farthest destination i.e. the USA. Subsequent to this, reduction was offered by VSNL in June 2005, amounting to 10% in IPLC E1 tariff for India-USA from the then existing levels. Further reduction in IPLC tariff applicable in Pacific route on Tata-Indicom India-Singapore cable system was made by VSNL w.e.f. 15th August, 2005 (see Table No.4, 5, 6 and 7 given below). This reduction was also not considered to be adequate given the market conditions both in India and abroad.

Table No.1 - International comparison of IPLC (Half-Circuit) E1 price

Countries	Existing price (US$ Thousands)
Japan-USA	23
South Korea-USA	23
Hong Kong-USA	24
Singapore-USA	33
India-USA	39

Table No.2 - International comparison of IPLC (Half-Circuit) DS-3 price

Countries	Existing price (US$ Thousands)
Japan-USA	99
South Korea-USA	102
Hong Kong-USA	124
Singapore-USA	174
India-USA	656

Table No.3 - International comparison of IPLC (Half-Circuit) STM-1

price

Countries	Existing price (US$ Thousands)
Japan-USA	191
South Korea-USA	229
Hong Kong-USA	269
Singapore-USA*	346
India-USA	1931

*	E-1 tariffs of Singapore are high on account of their low tariffs of
DS-3 and STM-1.	
Note:1)	In other countries also, price multiples for DS-3 and STM-1
are much lower than in India.	
2)	Comparison pertains to December, 2004.
3)	Maximum discount on volume offered by VSNL taken into
account in arriving at India-USA price. Source: For International Data *ERNST&YOUNG/* Telegeography	

Table No.4 - Trends in IPLC (Half Circuit) Lease rentals in India –

VSNL

(Exchange rates as prevalent during the relevant period have been applied)

Year	Annual Lease Rentals					
	E-1 (2 Mbps)		DS-3 (45 Mbps)		STM-1 Mbps) (155	
	Rs. in lakhs	US $ (‘000)	Rs. in lakhs	US $ (‘000)	Rs. in lakhs	US $ (‘000)
2002*	26	55	471	990	1365	2,868
2003#	30.8	67	471	1,027	1365	2,974
1.1.04#	23.7	52	445	980	1235	2,720
1.4.04#	21.3	49	401	913	1112	2,533
2005(till May.05)#	20.2	46	361	820	1000	2,273
June,05#	18.2	41	307	698	800	1,818

Note: Discounts offered have not been taken into account, as they are dependent upon various criteria.

* Tariff for IPLC services irrespective of the destination.

Tariff applicable for Restorable Category and for the farthest destination from India

Table No.5 - Recently filed tariffs of VSNL for IPLC (Half Circuit)*

(India-US)	**Rs. in lakhs**	**US $ (‘000)**
E-1	11	25
DS-3	114	259
STM-1	330	750
(India-Singapore)		
E-1	10	22
DS-3	106	241
STM-1	310	705

Note :- These tariffs are applicable only on Tata Indicom India Singapore

Cable system through the **Pacific route.**

* Applicable w.e.f. 15th August, 2005.

Table No.6 - Existing IPLC(Half Circuit) Tariff – Bharti Infotel

Capacity	**Annual lease rental**	
	Rs. In lakhs	**US $ (‘000)**
E-1	10	22
DS-3	176	399
STM-1	419	951

Note: 1. 2.	IPLC services of Bharti Infotel are for Non-Restorable category only (as reported).
3.	The above tariff is for farthest destination from India. Discounts offered have not been taken into account, as they are dependent upon various criteria.
4.	Exchange rate applied: US$=Rs.44.

Table No.7 - Existing IPLC(Half Circuit) Tariff – Reliance Infocomm

Capacity	**Annual lease rental**	
	Rs. In lakhs	**US $ (‘000)**
E-1	(Full circuit tariff – Rs.70 lakhs)	(Full circuit tariff 159
DS-3	427	972
STM-1	1238	2815

Note: 1. Above Tariff is applicable to all destinations.
2. Discounts offered have not been taken into account.

5. The international benchmark analysis suggests that prices for Indian IPLCs are substantially higher than in comparative markets especially for higher bandwidth circuits. It is therefore evident that international bandwidth is not competitively priced in India when compared with many countries in Asia, some of which are India’s competitors in global Business Processing Operations business. These prices are an integral part of the costs of broadband and thus should be specially considered in any strategy to remove constraints and boost broadband in India, in particular rural India. Price regulation becomes important in the above context, based on costs and reasonable profits.

6. The evidence indicated above shows that the actual Indian IPLC prices are high in comparison to international benchmarks, which suggests lack of effective competition in the market for IPLCs in India. This has been confirmed in a recent study conducted by an independent consulting agency (Gartner, Inc 2004, ‘Market Focus: International Bandwidth Pricing Trends, Asia-Pacific, 2004’). The conclusion of the Gartner study in regard to international bandwidth markets in Asia-Pacific is reproduced as under:-
‘*The most-competitive markets for international bandwidth are Hong Kong, Singapore, Japan, Taiwan and South Korea. The least-competitive markets are Indonesia, India and Malaysia.’*

Appendix 4 of Annexure A Methodology/Calculations of IPLC pricing

There were a number of costing approaches available to the Authority, but it was decided to adopt that approach which would reduce market shock and ensure a smooth transition. This approach was Fully Allocated Historical Cost. The other options were:

a. Weighed Average of Historical Cost of operators

b. Full Replacement Cost of cable system

c. Pricing based on recent acquisition costs in global markets d. Various versions of forward-looking costs, such as Forward Looking Long-Run Incremental Costs (FLLRIC). Most of the regulators internationally use this approach, leading to much lower tariffs.

2. It is noteworthy that the cost based tariffs determined by the Authority are not based on the extremely low levels of investments/cost of acquisitions of submarine cable systems by the ILDOs in India because this would imply a fraction of the prevailing investment per E1. Using these costs would result in a drastic reduction in the cost based price of IPLC and would go against the Authority's attempt to fix cost based ceiling tariffs without causing major shock to the market during the transition period.

3. Onenew entrant has provided data on the IRU lease rentals paid by them for leasing cable on a long term basis. Another new entrant has provided data on investments made in cable landing facility and IRU lease rentals paid by it.Based on these data, cost estimates were derived for E1 capacity. These estimates, also give a very low price as compared to the cost estimates based on historical cost in respect of investments in older cable systems of the incumbent. As stated earlier, the Authority decided to manage the transition smoothly without a major

shock to the market particularly to the incumbent and thus, the cost estimates of new entrants were not considered appropriate at this stage for fixing the ceiling tariff.

4. It is noted that VSNL has built a new cable system between Chennai and Singapore and a landing station at Chennai in the year 2004. This cable system is already in operations. The cost estimates of providing IPLC services through this new cable system set up by VSNL were derived based on the cost data provided by them. A range of capacity utilization was considered for arriving at cost estimates in terms of E1 capacity taking relatively low capacity utilization that is shown by the incumbent in its submissions to theAuthority onthis matter,and it was found by the Authority that these too show a cost based tariff much lower than that derived from VSNL's separated accounts for its older cable systems. For the reasons already mentioned above, the Authority is not relying at all on these relatively lower costs also, even in terms of a weighted average cost for VSNL, and thus a substantial buffer is provided in the cost based tariff.

5. It is further noted that the most detailed information is from the separated accounts of the incumbent, and the cost based tariff estimate has been derived after detailed examination and analysis of the data. As mentioned above, estimates based on the other data have also been made and they provide a useful background for our analysis and cost based tariffs derived from the separated accounts of the incumbent. The estimates based on alternative cost information are lower, and as a regulatory policy it would have been valid for the Authority to use such information for determining its tariff ceiling. The Authority has not used these alternative lower cost estimates at all in order to avoid major shocks to the system and to maintain a reasonable buffer in the specified ceiling.

6. The method used for calculating cost by the Authority based on VSNL's data is as follows:

• Cost data as given in Separated Accounts under Accounting Separation Regulation and Annual Accounts for year 2003-04 was used in respect of VSNL's IPLC activities. These were allocated in various costing categories

• The values of Opex, Capex and Number of E-1's considered were first arrived at, based on this data and the capacity reported to have been utilized by VSNL.

• The fully allocated cost per E-1 was arrived at by taking the results from the above information.

• The price ratio for capacities was then fixed as constant based on various factors and data examined during the consultation process (for details see Section-III).

• Then, an iterative process was used to ensure full cost recovery occurred to VSNL, using the inputs of the fully allocated cost per E-1 and the price ratio set. To illustrate, average cost per E-1 was derived for a given ratio of E-1, DS-3 and STM-1 circuits utilised by VSNL. To ensure full recovery at that price level per E-1, the higher capacities would be required to have a price ratio of 1:21:63, which is equivalent to the number of E-1 circuits in higher capacities. But, as explained above, price ratio for capacities was fixed as constant (1:8:23) based on various factors and data examined during the consultation process. Using an iterative method, it therefore had to be ensured that there would be full cost recovery given this pricing ratio. The price of Rs. 13 lakhs per E-1 circuit was determined using this method and was also tested in many different scenarios of capacity utilised and ratio of circuits utilised and it

was ensured that there is a comfortable margin for full cost recovery in all these scenarios.

• Furthermore, the total capacity utilized and the share of various capacities was varied (considering recent shifts in the market) to ensure that full cost recovery occurred in all instances.

• Price was then set based on various scenarios of market dynamics and iterations, again ensuring full cost recovery for VSNL.

• Further, the costs for various other operators and cable systems were analyzed for comparative purposes.

• The ceiling tariffs fixed are still higher than international benchmarks, leaving a scope for further reduction (see Table No. 8 below).

Table No 8 - International comparison of IPLC price (Asian Region) E-1 prices and price multiples

	(1)	**(2)**	**(3)**	**(4)**
Country	E 1 price US$'000	DS-3 price US$ Millions	STM-1 price US$ Millions	Ratio of Columns (1):(2):(3)
Japan	23	0.10	0.2	1:4:8
South Korea	23	0.10	0.2	1:4:8
Hong Kong	24	0.12	0.3	1:5:11
Singapore*	33	0.17	0.3	1:5:11

India (ceiling fixed) @ Rs.	**29.55**	**0.24**	**0.68**	**1:8:23**

*	*Source of International data: ERNST & YOUNG/Telegeography* Note :-US $=Rs.44 Singapore's E1 price is high inter-alia on account of low multiple for DS-3 and

STM-1

7. Finally, the buffers allowed during the costing exercise, over and above the already allowed profit margin through return on capital (which

is the same value as claimed by VSNL as their WACC in Separated Accounts). These have been discussed in the main text of the Explanatory Memorandum. This discussion, therefore demonstrates that there has been complete transparency in the methodology, source of data used, and the analysis conducted by the Authority in setting the tariffs for IPLC.

Appendix 5 of Annexure A.

Countrywide Regulatory and Competitive environment governing IPLC

Country	**Regulation**
Australia	National and International leased lines were under a CPI-X% price cap control between 1992 and 2001. This was subsequently removed when the market for international leased lines was determined to be competitive.
China	All leased line rates set by the government.
Hong Kong	The carrier license regime for providing fixed telecom network services (FTNS) came into effect in April 2001, and imposed price ceilings on dominant operators. REACH was the only dominant operator. On March 2002, OFTA declared that REACH was no longer dominant and removed the price ceiling.
Ireland	ComReg currently believes that the domestic market for IPLCs is competitive and proposes to withdraw all obligations on Eircom, which currently include cost orientation, and non-discriminatory access to competitors.
Japan	Japan defines operators as Type I or Type II. Type I operators were subject to price ceilings, and any tariff changes needed to be approved by the regulator before implementation. All regulations were abolished in April 2004 as the regulator determined that the market for DPLCs and IPLCs was now competitive.
Singapore	In Singapore, dominant licensees have to file tariffs with the regulator for approval. Singtel is considered a dominant provider of IPLCs and therefore has to file any tariff amendments with the IDA, the IDA will assess as to whether these tariffs are inline with those observed in other jurisdictions, check whether they are discriminatory, and whether they are cost based. Furthermore, in 2001 the IDA ruled that alternative operators could co-locate their equipment at SingTel's landing station. In April 2002 this was amended to require SingTel to provide connection to alternative operators. The IDA's approach is to impose interconnection rights, then allowing the market to set the retail tariff.
South Korea	In the International leased line market there are 14 license holders – the market for IPLCs is considered competitive.
UK	Market considered competitive - no regulation.
USA	Market considered competitive - no regulation.

Source: *ERNST & YOUNG*

Telecom Regulatory Authority of India
Notification

New Delhi, the 16th September 2005

No. 310-3(1)/2003-Eco. In exercise of the powers conferred upon it under sub-section (2) of the section 11 read with section 11(1)(b)(i) of the Telecom Regulatory Authority of India Act, 1997, the Telecom Regulatory Authority of India, hereby further amends the Telecommunication Tariff Order, 1999 as under, namely:-

1. Short title, extent and commencement:

(i) This Order shall be called " The Telecommunication Tariff (Fortieth Amendment) Order, 2005" (7 of 2005).

2. In the Telecommunication Tariff (Thirty Ninth Amendment) Order dated 8th

September 2005, in Schedule X against Item (1) Date of implementation, the words

"from a date to be notified separately" shall substitute the existing figures

'16.09.2005' under the heading Tariff.

General

In case of any doubt with regard to the interpretation of any provision of this Order, the decision of the Authority shall be final.

This order contains at Annexure –A, an Explanatory Memorandum, which explains the reasons for this amendment to the Telecommunication Tariff Order, 1999.

By Order,

(M.Kannan)
Advisor (Economic)

Annexure –A

Explanatory Memorandum

1. The Authority had notified the Telecommunication Tariff (39th Amendment) Order on 8th September 2005. M/s Videsh Sanchar Nigam Limited has challenged this tariff order in Hon'ble Telecom Disputes Settlement and Appellate Tribunal (TDSAT) on 12th September 2005 vide Appeal No. 10/2005.

2. The said appeal come up for hearing before the TDSAT on 14th September 2005. The tribunal vide its order dated 14.09.2005 ordered that the impugned notification be kept in abeyance till a decision in the case is given by the Tribunal, and hence, this order.

Telecom Regulatory Authority of India
Notification

New Delhi, the 29th November 2005

No. 310-3(1)/2003-Eco.

In exercise of the powers conferred upon it under sub-section(2) of the section 11 read with section 11(1)(b)(i) of the Telecom Regulatory Authority of India Act, 1997, the Telecom Regulatory Authority of India, hereby further amends the Telecommunication Tariff Order, 1999 as under, namely:-

1. Short title, extent and commencement:

(i) This Order shall be called " The Telecommunication Tariff (Forty First Amendment) Order, 2005" (9 of 2005).

2. In Schedule X of the Telecommunication Tariff Order, 1999 the figures "29-11-2005" shall substitute the words "from a date to be notified separately" against the column '(1) Date of implementation.'

3. General

In case of any doubt with regard to the interpretation of any provision of this Order, the decision of the Authority shall be final.

This order contains at Annexure –A, an Explanatory Memorandum, which explains the reasons for this amendment to the Telecommunication Tariff Order, 1999.

[M.Kannan]
Advisor (Economic)

Foot Note:
1. Schedule X inserted in the Telecommunication Tariff Order, 1999 vide notification No.310-3(1)/2003-Eco dated 08.09.2005.

2. The figures '16.09.2005' against the column '(1) Date of implementation' substituted by the words 'from a date to be notified separately' vide notification No.310-3(1)/2003-Eco dated 16.09.2005.

Annexure –A

Explanatory Memorandum

1. The Authority had notified the Telecommunication Tariff (39th Amendment) Order on 8th September 2005. M/s Videsh Sanchar Nigam Limited challenged this tariff order in Hon'ble Telecom Disputes Settlement and Appellate Tribunal (TDSAT) on 12th September 2005 vide Appeal No. 10/2005.

2. The said appeal came up for hearing before the TDSAT on 14th September 2005. The tribunal vide its order dated 14.09.2005 ordered that the impugned notification be kept in abeyance till a decision in the case is given by the Tribunal and the Authority had notified another Tariff Order vide 40th Amendment to TTO, 1999 to this effect.

3. The Hon'ble TDSAT after hearing the arguments of both the Parties, vide its order dated 28.11.05 dismissed the appeal filed by VSNL and directed that the Notification be brought into effect immediately by TRAI so that the benefit of the Notification to the consumer is not delayed further. Hence this Order is issued to give effect to Tariff Order for IPLC as specified by TRAI vide 39th Amendment to TTO dated 8.9.2005. These tariffs will take effect from 29.11.2005.

Telecom Regulatory Authority of India

Notification

New Delhi, the 7th day of March, 2006

No. 301-34/2005- Eco. — In exercise of the powers conferred upon it under sub-section (2) of section 11 read with section 11(1)(b)(i) of the Telecom Regulatory Authority of India Act, 1997, the Telecom Regulatory Authority of India (TRAI) hereby further amends the Telecommunication Tariff Order, 1999 as under, namely: -

1. Short title, extent and commencement: -

(i) This Order shall be called "The Telecommunication Tariff (Forty Second Amendment) Order, 2006" (1 of 2006).

2.1 Under Section III, in clause 7 (Reporting Requirement) of the Telecommunication Tariff Order, 1999, hereinafter referred to as TTO, sub-clause (i) and the contents thereof shall be substituted by the following: -

"(i) All service providers shall comply with the reporting requirement in respect of tariffs specified for the first time under this Order and also all subsequent changes;

PROVIDED that in respect of tariff plans offered by a telecom access provider to bulk customers, such as corporates, small and medium enterprises, institutions, etc., either in response to a tender process or as a result of negotiations between the access provider and such bulk customer, the reporting requirement as defined in sub-clause (l) of clause 2 shall not apply.

PROVIDED FURTHER that in respect of such tariff plans for bulk customers, all service providers shall, within SEVEN days after the close of every Quarter, consisting of three months, furnish brief details about the number of plans and the bulk customers availing them along with a certification, for information and record of the Authority, to the effect that all tariff plans for bulk customers implemented during the preceding Quarter are consistent with the regulatory principles in all respects which, inter-alia include IUC compliance, Non-discrimination and Non-predation."

2.2 Under Section III, in Clause 7 (Reporting Requirement) of the TTO, the contents of sub-clause (viii) thereof shall be substituted by the following: -

“ (viii) At any given point of time, not more than twenty five tariff plans shall be on offer by a service provider. This includes both post paid and pre paid tariff plans. This ceiling of twenty five tariff plans shall not be applicable

to tariff plans offered by Internet Service Providers and the tariff plans offered by telecom access providers to bulk customers.”

3. General: -

In case of any doubt with regard to the interpretation of any provisions of this Order, the decision of the Authority shall be final.

This Order contains at Annexure A an Explanatory Memorandum which explains the reasons for this amendment to the TTO.

By Order

(Rakesh Kacker)
Acting Secretary-cum-Advisor(B&CS)

Annexure-A

EXPLANATORY MEMORANDUM

As per the existing provisions of TTO, all tariffs are required to be filed with the Authority for information and record within 7 days from the date of launch. Further, at any given point of time not more than 25 plans shall be on offer by a service provider. This includes both post paid and pre paid tariff plans.

2. Some Service providers had requested the Authority to keep the tariff plans offered to Corporates and SMEs (Small and Medium Enterprises) outside the purview of the existing ceiling (25) on number of tariff plans and the reporting requirement on the ground that SMEs and Corporates are a category of high profile subscribers who get the best bargain from the service providers.

3. After detailed deliberations and considering the responses received from Telecom access providers and consumer organizations in the limited consultation process, the Authority decided to relax the reporting requirement and ceiling on the number of tariff plans in respect of tariff schemes offered to a bulk customer in response to a tender process or as a result of negotiations between the access provider and such bulk customer. Such tariff plans are in a distinct segment and are unlikely to affect tariff plans offered to individual customers. Excluding such tariff plans from the normal reporting requirement shall have the additional benefit of allowing the Authority to focus more on monitoring tariffs for individual customers, a category that deserves greater attention. With this amendment to the TTO, the requirement of reporting tariff within seven days after implementation shall no longer be applicable in respect of tariff plans offered by access providers to such bulk customers. However, the operators will have to report to the Authority within seven days after close of every Quarter, consisting of three months, brief details about the number of plans and the bulk customers availing them along with a certification to the effect that tariff plans offered to bulk customers during the preceding Quarter are consistent with the regulatory principles laid down by the Authority from time to time.

4. The tariff plans for bulk customers will be outside the purview of current ceiling (25) on the number of tariff plans. However, it may be noted that the aforesaid relaxations will not apply in respect of tariffs offered to individual customers as a part of a group, institution or organization, unless it is offered in response to a tender process or as a result of negotiations between the access provider and the bulk customer and the bills in respect of the plans are in the name of such bulk customer and are actually paid by such bulk customer.

5. The tariff plans offered by Internet Service providers will continue to be exempted from the ceiling on number of tariff plans as conveyed by the Authority earlier vide letter No.301-6/2002-Econ dated 19.09.2002.

Telecom Regulatory Authority of India

Notification

New Delhi, the 21st day of March, 2006

No. 301-2/2006- Eco. — In exercise of the powers conferred upon it under sub-section (2) of section 11 read with section 11(1)(b)(i) of the Telecom Regulatory Authority of India Act, 1997, the Telecom Regulatory Authority of India (TRAI) hereby further amends the Telecommunication Tariff Order, 1999 as under, namely: -

1. Short title, extent and commencement: -

(i) This Order shall be called “The Telecommunication Tariff (Forty third Amendment) Order, 2006” (3 of 2006).

2 Under Section III, in clause 6 (Flexibility and Packages) of the Telecommunication Tariff Order, 1999, hereinafter referred to as TTO, the contents of sub-clauses (v) to (vii) thereof shall be substituted by the following: -

“(v) A tariff plan once offered by an Access Provider shall be available to a subscriber for a minimum period of SIX MONTHS from the date of enrolment of the subscriber to that tariff plan. However, any tariff plan presented, marketed or offered as valid for any prescribed period exceeding six months or as having lifetime or unlimited validity in lieu of an upfront payment shall continue to be available to the subscriber for the duration of the period as prescribed in the plan and in the case of lifetime or unlimited validity plans, as long as the Service Provider is permitted to provide such telecom service under the current license or renewed license. In the case of plans with lifetime validity or unlimited validity, the service provider shall also inform the subscribers of the month and year of expiry of his current license.

(vi) The subscriber in the said tariff plan shall be free to choose any other tariff plan, even during the said SIX MONTHS period or the specified validity period. All requests for change of plan shall be accepted and implemented immediately or from the start of next billing cycle.

(vii) For any tariff plan, the Access Provider shall be free to reduce tariffs at any time. However, no tariff item in a tariff plan shall be increased by the access provider -
(a) In respect of tariff plans with prescribed periods of validity of more than six months including tariff plans with lifetime or unlimited validity and also involving an upfront payment to be made by the subscriber towards such validity period, during the entire period of validity specified in the tariff plan; (b) In respect of other tariff plans, within six months from the date of enrolment of the subscriber; and,
(c) In the case of recharge coupons with a validity of more than six months under any tariff plan, during the entire period of validity of such recharge coupon.

3. General: -

In case of any doubt with regard to the interpretation of any provisions of this Order, the decision of the Authority shall be final.

This Order contains at Annexure A an Explanatory Memorandum which explains the reasons for this amendment to the TTO.

By Order

(M. Kannan)
Advisor(Eco)

Annexure-A

EXPLANATORY MEMORANDUM

In the month of December 2005/January 2006 most of the mobile operators launched tariff schemes with lifetime validity. These schemes entitled the subscribers to receive incoming calls for an indefinite period.

2. The Authority had undertaken a consultation process, which has since been concluded. The Consumer Organizations have emphasized the need for clarity on the term 'lifetime validity' since there is lot of confusion in the minds of subscribers. The Service Providers are almost unanimous in their view that 'lifetime' cannot exceed beyond the license period. However, few operators have suggested that the services under lifetime validity schemes can be extended beyond the current term provided the licenses are renewed.

3. The Authority has noted that no service provider has explicitly conveyed to the subscribers the specific year by which their current license expires. Many of the operators have also not given any indication to the effect that the lifetime schemes would be limited to their current license period. The impression in the minds of the common subscriber is that the scheme would have indefinite/unlimited validity without any restriction in terms of time. In order to maintain transparency for the subscribers it is necessary for the Service Providers to indicate the month and year of expiry of current license in all their promotional literature/advertisements.

4. The concept of lifetime validity may mean that there is no restriction in terms of time during which the talk time could be utilized and also that the subscriber would continue to get incoming calls for an indefinite period i.e. lifetime. Since these schemes are declared and marketed as having lifetime validity, and an upfront payment is taken from the subscriber on this ground, it is mandatory for the service providers to continue to extend the validity as long as they have the permission to provide telecom service under the current license or

renewed license. This amendment to the TTO seeks to bring clarity to the obligation of the service providers to continue to provide such validity to subscribers of lifetime tariff schemes. In this context, the Authority recalled its Direction dated 16.9.2005 wherein it mandated all telecom service providers that no tariff plan shall be offered, presented, marketed and advertised in a manner that is likely to mislead the subscribers. The Authority continues to hold the view that titles of tariff plans which are of misleading nature or having the potential to mislead the subscribers will be considered as lacking in transparency. Further, the Authority also mandates that any tariff plan with a specified validity period shall continue to be available to the subscriber during the entire promised validity period.

5. As per the Telecommunication Tariff (31st Amendment) Order, 2004 notified on 7th July, 2004, no tariff item in a plan shall be increased at least for a period of six months from the date of enrolment of the subscriber to that plan. This amendment order also reiterates the right of a subscriber to choose any tariff plan at any time. These provisions are applicable for normal tariff plans offered by an operator. Because of the fact that operators have subsequently introduced tariff plans with specified longer period of validity including life time validity / unlimited validity, etc., it has become necessary to protect the interest of consumers against any hike in the tariff items during the period of validity of such plans particularly considering that such plans involve an upfront payment by the subscribers in lieu of longer period of validity. Since these schemes involve an upfront payment, the right of the subscriber to move to any other plan of his choice gets restricted to the extent that he has to forfeit the upfront payment made, unless appropriate exit options are provided. In this situation it is essential that the interests of subscribers are not adversely affected by any action of the service provider while the subscriber remains under any such tariff scheme.

6. One industry association has represented to the Authority that the provisions of TTO (31st Amendment) provides that the service providers are only required to ensure that no tariff item in a plan shall be increased at least for a period of six months from the enrolment of the subscriber to that plan. Therefore, they are of the view that it would be incorrect, improper and undesirable on the part of the Authority to suggest that any tariff plan once introduced by the service providers can never be varied in any aspect. This industry association has urged the Authority to refrain from modifying the TTO (31st Amendment).

7. The Authority has considered the opinion of the industry association and is of the view that the life time tariff plans with its declared features were offered by various operators taking into account various factors. Further, it is important to realize that the cost of providing telecommunication services is on the decline and thus the apprehensions raised in this regard of a possible hike in cost of providing services in future are untenable. The Authority is also of the view that in event of the apprehensions pointed out by the industry association becoming true, the provisions of this Amendment can be reviewed.

8. The provisions of TTO envisages that any subscriber (including subscribers of lifetime packages) can move to any other plan on offer without having to pay migration charges. However, since the packages implemented by the operators do not provide for refund of the upfront payment in cases of exit, the flexibility available for the subscriber of such schemes to freely choose any plan gets restricted. Such restriction on flexibility for subscribers to freely choose any other plan offer also exists in cases where subscriber makes an upfront payment for a longer validity. The forfeiture of the upfront payment while moving to other plans can in some sense be interpreted as a barrier to exit. Subscribers of lifetime tariff packages and other schemes having longer validity deserve protection beyond the six months period envisaged in 31st Amendment for the reason that they make an upfront payment on the understanding of some basic considerations, which include the facility of

incoming calls for an indefinite period, the call charges and other features presented to him at the time of subscription. The Authority is, therefore, of the view that there is a need to protect the interest of subscribers in case the tariff and other declared features of the tariff plans with longer validity period including lifetime plans are changed to the disadvantage of the subscribers during the promised validity period.

TELECOM REGULATORY AUTHORITY OF INDIA

THE TELECOMMUNICATION TARIFF (FORTY FOURTH AMENDMENT) ORDER, 2007

No.1 of 2007

NOTIFICATION

New Delhi, the 24th January, 2007

No. 301-34/2006- Eco. — In exercise of the powers conferred upon it under sub-section (2) of section 11, read with sub-clause (i) of clause (b) of sub-section (1) of the said section, of the Telecom Regulatory Authority of India Act, 1997(24 of 1997), the Telecom Regulatory Authority of India hereby makes the following Order further to amend the Telecommunication Tariff Order, 1999, namely: -

1. .(1) This Order may be called the Telecommunication Tariff (Forty fourth Amendment) Order, 2007.

(2) This Order shall come into force on the 15th day of February, 2007.

2. In the Schedule II to the Telecommunication Tariff Order, 1999, under item (14), for sub-item (14.a) and entries relating thereto, the following sub-items and entries relating thereto shall be substituted, namely:-

Schedule II
Cellular Mobile telecom Services (CMTS)

ITEM	TARIFF
"(14.a) Regional and National Roaming:	
(14.a.i) Refundable Security Deposit	Forbearance
(14.a.ii) Entry Fee (One time charge)	Nil
(14.a.iii) Monthly Access Charge for Regional or National Roaming	Nil
(14.a.iv) Composite charge including Public Switched Telecom Network (PSTN) charges for incoming call while Regional or National Roaming	Ceiling of Rs.1.75 per minute
(14.a.v) Composite charge including Public Switched Telecom Network (PSTN) charges for outgoing local call while Regional or National Roaming	Ceiling of Rs.1.40 per minute
(14.a.vi) Composite charge including Public Switched Telecom Network (PSTN) charges for Outgoing long distance (inter circle) call while Regional or National Roaming	Ceiling of Rs.2.40 per minute
(14.a.vii) Public Switched Telecom Network (PSTN) charge while Regional or National Roaming	Included in item (14.a.iv, v and vi) above
(14.a.viii) Surcharge while Regional or National Roaming	Nil
(14.a.ix) Incoming Short Message Services (SMS) while roaming	Nil
(14.a.x) Outgoing Short Message Services (SMS) while roaming	Forbearance
(14.ab) International Roaming:	Forbearance
(14.ac) Any other matter related to Roaming but not falling under sub-items(14.a) and (14.ab) above.	Forbearance.".

(M. Kannan)
Advisor (Eco.)

Note.1. – The Telecommunication Tariff Order, 1999 was published in the Gazette of India, Extraordinary, Part III, Section 4 under notification no.99/3 dated 9th March, 1999, and subsequently amended as given below:-

Amendment No.	**Notification No. and Date**
1st	301-4/99-TRAI (ECON) dated 30.3.1999
2nd	301-4/99-TRAI(Econ) dated 31.5.1999
3rd	301-4/99-TRAI(Econ) dated 31.5.1999
4th	301-4/99-TRAI(Econ) dated 28.7.1999
5th	301-4/99-TRAI(Econ) dated 17.9.1999
6th	301-4/99-TRAI(Econ) dated 30.9.1999
7th	301-8/2000-TRAI(Econ) dated 30.3.2000
8th	301-8/2000-TRAI(Econ) dated 31.7.2000
9th	301-8/2000-TRAI(Econ) dated 28.8.2000

10th	306-1/99-TRAI(Econ) dated 9.11.2000
11th	310-1(5)/TRAI-2000 dated 25.1.2001
12th	301-9/2000-TRAI(Econ) dated 25.1.2001
13th	303-4/TRAI-2001 dated 1.5.2001
14th	306-2/TRAI-2001 dated 24.5.2001
15th	310-1(5)/TRAI-2000 dated 20.7.2001
16th	310-5(17)/2001-TRAI(Econ) dated 14.8.2001
17th	301/2/2002-TRAI(Econ) dated 22.1.2002
18th	303/3/2002-TRAI(Econ) dated 30.1.2002
19th	303/3/2002-TRAI(Econ) dated 28.2.2002
20th	312-7/2001-TRAI(Econ) 14.3.2002
21st	301-6/2002-TRAI(Econ) dated 13.6.2002
22nd	312-5/2002-TRAI(Eco) dated 4.7.2002
23rd	303/8/2002-TRAI(Econ) dated 6.9.2002
24th	306-2/2003-Econ dated 24.1.2003
25th	306-2/2003-Econ dated 12.3.2003
26th	306-2/2003-Econ dated 27.3.2003
27th	303/6/2003-TRAI(Econ) dated 25.4.2003
28th	301-51/2003-Econ dated 5.11.2003
29th	301-56/2003-Econ dated 3.12.2003
30th	301-4/2004(Econ) dated 16.1.2004
31st	301-2/2004-Eco dated 7.7.2004
32nd	301-37/2004-Eco dated 7.10.2004
33rd	301-31/2004-Eco dated 8.12.2004
34th	310-3(1)/2003-Eco dated 11.3.2005
35th	310-3(1)/2003-Eco dated 31.3.2005
36th	312-7/2003-Eco dated 21.4.2005
37th	312-7/2003-Eco dated 2.5.2005
38th	312-7/2003-Eco dated 2.6.2005
39th	310-3(1)/2003-Eco dated 8.9.2005
40th	310-3(1)/2003-Eco dated 16.9.2005
41st	310-3(1)/2003-Eco dated 29.11.2005
42nd	301-34/2005-Eco dated 7.3.2006
43rd	301-2/2006-Eco dated 21.3.2006

Note 2. – The Explanatory Memorandum explains the objects and

reasons for the said amendments.

EXPLANATORY MEMORANDUM

Introduction & Background

1. Tariffs applicable for National Roaming Service are regulated in the form of ceiling tariffs which were fixed by the Telecom Regulatory Authority of India (Authority) under clause 14(a) of Schedule II of Telecommunications Tariff Order (TTO), 1999 (hereafter referred to as the TTO, 1999) as amended by The Telecommunication Tariff (Eighteenth Amendment) Order, 2002 (hereafter referred to as the 18th Amendment to TTO). The various elements of charge for roaming mandated by the Authority through the said order are (a) monthly rental for national roaming at Rs.100 (ceiling), (b) roaming airtime charge of Rs.3.00 per minute (ceiling) and (c) a surcharge at 15% on airtime component (ceiling) and Public Switched Telecom Network (PSTN) charges as applicable from time to time to the fixed network.

Tariffs for international roaming services are under forbearance.

2. Representations received by the Authority from time to time from consumers indicate that despite intense competition in voice telephony in general in the cellular mobile services, competition does not appear to be adequate in the roaming services market even now. The Authority also found that there are justifiable grounds for a review of the tariff structure applicable for roaming services which had been fixed five years back, i.e. in the year 2002. With a view to revisit the tariffs applicable for roaming services, the Authority obtained cost estimates in respect of providing roaming services by cellular mobile service providers. The Authority has also noted a number of significant developments that have taken place during the last four years which inter alia include (i) fixation of cost based Interconnection Usage Charges (IUC), (ii) periodical review of that regime resulting in reduction of carriage charges, (iii) regime change with respect to Access Deficit Charges (ADC), (iv) reduction in the applicable license fee payable by the operators on the Adjusted Gross Revenue (AGR), (v)

the explosive growth of subscriber base and (vi) the resultant growth in minutes of usage. These factors have implications for tariffs for roaming services. The Authority after analyzing the cost of providing roaming services, prevailing roaming tariff structure and the level of competition for the service and taking into consideration the views of stakeholders has decided to revise the existing ceiling tariff for roaming service. While arriving at the ceiling tariff in the Order, the Authority has considered the inputs received during the consultation process and during the meetings with the stakeholders.

Gist of views of Stakeholders:-

3. The Consultation Paper (No.16/2006 dated 24.11.2006) issued by the Authority on “Review of Ceiling Tariffs for Roaming Services” sought the views of stakeholders on various aspects of roaming tariff and also suggestions for enhancing competition in roaming services market. The Consultation Paper had examined in great detail, the currently prevalent roaming tariffs, charging pattern adopted by mobile service providers and outlined the need for review of roaming tariffs with evidence. The Consultation Paper had thus established inadequacy of competion in roaming services and made a case for review of ceiling tariff fixed in the year 2002. The methodology of cost estimation, the data on costs used by the Authority and its consistency, results of cost estimation, summary of calculation of costs for the roaming service, have been given in the Consultation Paper. The relevant portions of the Consultation Paper on these aspects are given in Appendix-1 to this Explanatory Memorandum. The Authority found no reason to change the methodology of cost estimation after the consultation process.

4. The stakeholders were to submit written comments by the 14th December 2006. On the request of some stakeholders, the date for submission of written comments was extended till the 28th December, 2006. Written comments were received from Cellular Operators

Association of India (COAI), Association of Unified Telecom Service

Providers	of	India	(AUSPI),	few	service	providers,	consumer

organizations and individuals. Gist of comments received from stakeholders by the extended date of submission of comments i.e. 28.12.2006 was put out in TRAI’s website. Open House Discussions were held on 2.1.2007 in Delhi with the stakeholders. One more opportunity was given by the Authority for another round of discussions with the association of service providers, namely COAI/ AUSPI and also with BSNL/MTNL on 11.1.2007 and a consumer organisation representing cellular phone users on 12.1.2007. These stakeholders had expressed views on various aspects of review of roaming tariff. These comments are briefly discussed below:

5. On the issue of Authority specifying a composite ceiling of tariff for national roaming services, the associations representing the industry have advocated the approach of forbearance in the roaming tariff. In their view, the forbearance principle has been very successful in the past and the overall tariffs for mobile services in India have come down over a period of time. Further, they argued that, since various Value Added Services are offered as a package, it would be inappropriate to have the charges for an individual service as cost based. While some of the services may be offered below cost so as to attract the specific class of users, tariff for some of the other services under the package may be above cost. In case the Authority feels that it is absolutely necessary to fix the ceiling charges, the operators have expressed preference to the present system of fixing ceiling charges for roaming service plus PSTN charges. Two mobile service providers have favoured reduction in the roaming tariff fixed by the Authority in 2002. The consumer organizations and the other individual consumers have supported the view that Authority should prescribe ceiling roaming tariff. According to them the prevailing roaming tariff is on a higher side and there is a coordinated pricing strategy among GSM operators. Since the competition is not found to

be adequate in roaming services segment, the intervention of the Authority is necessary.

6. All the operators and their associations have opposed the idea of adopting the “Home’ Pricing Rule” for roaming tariff. According to them Home Pricing should not be made mandatory for roaming services provided by an operator to the subscribers of inter-network as there are costs involved in providing seamless roaming services. The operators have also reiterated their stand of adopting forbearance to roaming tariff. The reaction of consumers and consumer organizations was mixed. While some have supported the Home Pricing Rule others have not recommended the same.

7. The present tariff framework allows 15% surcharge on roaming airtime. The consumers and their organizations have strongly opposed to allowing surcharge in any form for roaming service. Some operators and their associations have not specifically commented on the issue of surcharge, since according to them the principle of forbearance should be applied to tariff for roaming service. Those operators who responded on the issue of surcharge, want the same to be continued at the same level. The AUSPI even while recommending forbearance in roaming tariff, feels that there should be no surcharge on national roaming tariffs in any form.

8. On the issue of charge for SMS, the consumers and consumer organizations generally are against any additional SMS charges other than the one applicable in the Home network usage. Operators on the other hand feel that delivery of SMS while roaming costs more and therefore the usage charge have to be higher as compared to the charges for the SMS originated in the home network. However, no operator has demonstrated the actual costs of SMS while in the Home Net work and additional cost incurred for delivering a SMS while roaming.

9. In addition to the comments submitted on issues directly related to roaming tariff, stakeholders have made several suggestions for enhancing the competition in roaming services in the country. These suggestions include enhancing transparency on roaming tariff, mandating roaming arrangement among operators and introduction of number

portability. The operators, however, are of the view that competition in the Indian telecom market including the roaming segment is sufficient.

Examination of key issues raised in the Consultation Process: 10. In what follows, key issues raised by various stakeholders in the consultation process have been addressed by the Authority. For the sake of clarity, the points raised by the mobile service providers/their associations are given in italics followed by the views of the Authority on that point.

11. First, the grounds on which service providers/association of service providers have objected to revising the ceiling tariff applicable for roaming services as elucidated in the Consultation Paper have been examined in the following paragraphs.

Issue No.1: 'Approach of Forbearance to be extended to roaming also':
"The approach of forbearance has been successful in the Indian telecom market which is clearly evident from this fact that since then, the customer tariffs have shown a consistently declining trend".

In this matter, the Authority recalls that forbearance was introduced in tariffs for voice telephony (except for rural fixed line and roaming in cellular) in India only after the Authority was convinced that the market for telecom services in general had become sufficiently competitive. When forces of market are considered inadequate,

forbearance would result in the consumers having to pay unjustifiably higher prices. In this regard, the following observations made in a recent publication entitled 'Communications Law in India (Legal

aspects	of	Telecom,	Broadcasting	and	Cable	Services)'	are

noteworthy:-

"TRAI has generally adhered to the standard of effective competition when deciding whether to forbear from regulating tariffs. Applying this standard, the Authority withdrew from active regulation of tariffs for international and national long distance services citing 'intense competition' in the market for these services. As a general rule, TRAI exercises its regulatory discretion in determining whether to forbear from regulating tariffs. But the Authority's discretion in this matter is neither absolute nor beyond reproach." The Author of the book referred to in the preceding paragraph has also cited one occasion where Telecom Disputes Settlement Appellate Tribunal (TDSAT) did not approve of the Authority's decision relating to one case of forbearance where service providers took advantage of the decision to increase their tariffs.1

11.1 In the views of the Authority, the roaming services market is not yet matured enough to warrant forbearance, as competition is considered to be ineffective. Moreover, representations received by the Authority reveal that even the tariff offerings and the manner in which subscribers are charged for availing roaming services are not transparent. The Authority has noted in this context, a point made by one consumer association which is reproduced below:-
"The coordinated pricing mechanism is well evidenced and is clearly documented in the TRAI's Consultation Paper. The industry

1*Vikram Raghavan, 'Communications Law in India' [Legal Aspects of Telecom, Broadcasting and Cable Services], Lexis Nexis Butterworths, New Delhi, 2007, para H of Chapter19*.

has read the same as cartelization; it just cannot be the case that each operator in the private sector has to offer the same tariffs. Pre-paid subscribers account for close to 90% of all mobile subscribers, there has been no attempt from the operators' side to provide any kind of tariff rationalization/relief for this huge segment of Cellular Users. On the contrary the entire set of operators (except for public sector undertaking operators) has been consistently practicing a coordinated tariff approach.".

11.2 The point being made repeatedly by the mobile service providers and their associations is the one which relates to declining tariff for access services in general. It would be appropriate to keep the following relevant factors in view while examining the claim of the operators that the tariff has been declining in general without the intervention of Authority and therefore cellular roaming tariff should also be forborne, namely:-
(a)Decline in the tariff for access service is generally noticed and it has been acknowledged by the Authority in the past. It is well acknowledged by now that key policy/regulatory initiatives have

been	responsible	for	unprecedented	growth	of

telecommunication sector in India. Growth in the subscriber base coupled with growth in the minutes of usage in the voice telephony resulted in steep decline in the cost of provision of services. Added to this, is the decline in the equipment prices and the manner in which expansion of capacity is financed currently (more details on this are discussed in the later part of this Memorandum).

(b)Findings of the study paper2 on lifetime tariff schemes supposedly targeted at low and marginal usage subscribers, reveal that these schemes yielded higher Revenue Per Minute

2*Study paper No. 3/2006 dated 19/12/06 on ,"Analysis of Tariff Schemes with Lifetime Validity," Telecom Regulatory Authority of India, NewDelhi*

(RPM) to mobile service providers than the RPM under normal plans prevailing in the market.

(c)One major change in the tariff offerings of mobile service providers in the recent past is the launch of micro prepaid cards which has lower denomination value thereby targeting the lower and marginal segment of users. Performance of this product in the market as has been analyzed with empirical evidence by Morgan Stanley Research3 reveals that the overall revenue realization per minute under these packages has risen by 34% and their analysis further points to the fact that Earning Before Interest, Taxes, Depreciation and Amortisation (EBITDA) margins on micro prepaid is higher by 19% than the traditional prepaid package.

11.3 It is, therefore, clear that tariff schemes launched by cellular mobile service providers targeting low-end subscribers have yielded higher margins than the normal tariff plans.

11.4 It has been noted by one of the stakeholders that the telecom service providers have been given forbearance for almost all tariff areas. In such segments, particularly, certain value added services which include ring tones, wallpapers, games, text based info services, voice based info services and caller ring back tones, tariffs have been reported to be quite high and it does not appear that such tariffs have any relation to cost. A recent estimate by an investment research group4 places the market estimation of the above mentioned value added services to reach Rs.75 billion in 2010 at a CAGR of 66% during FY 2006-10**. Cellular Operators Association of India (COAI)** in collaboration with ***PriceWaterhouseCoopers*** (*PWC*) in their report5

3 MORGAN STANLEY RESEARCH ASIA/PACIFIC dated 10-01-07, on, "India Telecommunications Ringing Louder"
4 Citigroup Asia-Pacific/India Telecom Services on Indian Wireless dated 8.11.2006 5 Cellular Operators Association of India/Pricewaterhouse Coopers, Indian GSM Cellular Benchmarking Study 2005, April 2006, New Delhi.

published in April 2006 (hereinafter to be referred as Benchmark Study of COAI) on Indian GSM Cellular industry have acknowledged that the VAS (excluding roaming service) as a percentage of net service revenue has increased from 6% in 2002 to 12% in 2005.

11.5 In fact, the Authority has noted in the Consultation Paper No.16/2006 that the service providers do not appear to have passed on many benefits arising out of certain policy/regulatory decisions which they have received in recent years, such as reduction in carriage charges, change in the ADC regime and reduction in license fee, etc.

11.6 Therefore, to say that without the intervention of the Authority, forbearance has resulted in reduction in tariffs is untenable. Further, as the foregoing analysis proves conclusively that in many segments which are under forbearance, tariffs are not low. This has also been supported by Citigroup research report6 when it said that, "the present Value Added Service (VAS) charges are quite high. For example, a polyphonic ring tone or caller ring back tone cost Rs.10. Decline in prices would boost usage and further VAS penetration." On the contrary, it has been acknowledged by many investment research groups that the regulatory/policy initiatives induced changes brought in the declining tariff environment in telecom services in India.

Issue No.2: 'Roaming Segment is a miniscule of total Mobile Services market':
'The number of subscribers using roaming service are a very small percentage of the total subscriber base and therefore the roaming minutes of usage are insignificant in comparison to the total minutes of usage. Hence, the roaming segment is a minuscule of the total mobile service segment.'

6 Ibid, page 4

11.7 The Authority has noted the above argument and is of the view that the basis relied upon by the mobile service providers for seeking forbearance in roaming tariff is not justifiable for the following reasons, namely:-
(a)The Authority had sought to revisit the roaming tariff after watching the market developments for quite some time and after coming to the conclusion that the market for roaming services segment lacks sufficient competition to allow for the free play of market forces.

(b)In matters relating to deciding whether tariff regulation is required in a particular segment or not, the basis for such a decision is not whether the segment is small or big, but whether competition is sufficient or insufficient. In this case, it has been established by the Authority in the Consultation Paper and in the analysis contained in this order that the prices for roaming services are not competitively determined. To quote from the Consultation Paper7:-
"While competition is considered to be adequate in mobile telephony services in India, the same is not true of roaming services segment of the mobile telephony.

Evidence available with Authority on subscriber's tariff for roaming services reveal that there appears to be a coordinated arrangement in pricing of roaming services among the private GSM service providers. Tariffs applicable for roaming services are not only uniform among these operators for various types of roaming calls but are also similar / identical for various distance slabs as well. Further, in many instances in the past, changes

in	**roaming**	**tariff**	**had**	**been**	**effected**	**almost**

simultaneously.".

7 Consultation Paper No.6/2206 dated 24.11.06 on, "Review of Ceiling Tariffs for Roaming Services", TRAI, New Delhi, Para 3.6

11.8 The Authority in this context noted one of the written submissions of a consumer association which has stated that **'It is because of coordinated pricing, restricted competition and collective failure of service providers that the market size of roaming has not been allowed to grow.'.** In this context, the Authority considers it necessary to recall the significance of elasticity of demand in the telecommunications sector while considering price fixation as stated in its Consultation Paper8 on Framework and Proposals on Telecom Pricing issued on 9th September, 1998. **The significance of elasticity of demand is that it shows the extent to which any price reduction results in rise in the demand for the service whose price is reduced and *vice versa*. In that analysis of the impact of elasticity of demand, the Authority had concluded that long distance call segment demand has greater elasticity implying thereby, with the reduction in prices, there would be substantial increase in the demand for the services.** Considering the general growth momentum seen in the Indian economy and the growth in the telecom services in particular, it is the view of many stakeholders that the market potential for roaming services is much larger than the one witnessed till now and therefore, with the reduction in general roaming prices applicable to subscribers, the size of the roaming market is likely to go up substantially resulting in overall revenue growth of service providers.

Issue No.3: 'Incidence of Roaming is insignificant':
'The roaming tariff is not a significant issue while subscriber decides as to which operator he should opt for. For an ordinary subscriber, the incidence of roaming is so insignificant that roaming charges do not get reflected in his buying decision. On the other hand, the high end customers who use roaming extensively make their

8 Consultation PaperNo.98/3 dated 9.9.1998 on Telecom Pricing – Framework and Proposals, TRAI, New Delhi, para IV – 1(b).

decision mostly based on quality of service rather than tariff. Under these circumstances, a significant competition in roaming charges alone should not be expected.'.

11.9 The above statement of a service provider goes to prove conclusively that neither they want competition in the market nor do they expect the regulator to promote competition in the market. Moreover, the statement that roaming tariff is not a significant issue in the choice of the service provider by a subscriber is not supported with any empirical evidence. It is reiterated that price regulation is considered relevant when market forces are insufficient to prevent the exercise of market power. Consumers cannot be expected to pay prices for services that are unjustifiably higher than the cost of providing such services, irrespective of the fact whether the incidence of roaming is significant or not. The Authority is of the view that reduction of the roaming charges on the basis of cost orientation would further promote inter-State trade, commerce and movement of people throughout the territory of India which would strengthen the unity and integrity of the nation.

4. 'Roaming facility is a Value Added Service':
"National roaming facility is a value added service which meets the requirement of a particular segment ……and also does not come under the mandate of basic connectivity to be offered by an operator."

11.10 The Authority has noted this point of view of one of the industry associations and has considered this not to be a relevant argument for not regulating the tariffs of roaming services. In this context one of the consumer associations has appealed to the Authority stating that, "the march of technology has created a dynamic situation in the market, i.e. all those products that are termed as premium on their launch become non-premium within very

short span of time". The Authority is, therefore, of the view that, if roaming services are made affordable, the benefits of technology can be reaped by common man, but when tariffs are kept high having no relation to cost, the service will be availed only by a select few.

Issue No.5: 'Prevalent Roaming Tariffs are below the ceiling': *'Even though the Authority has fixed the ceiling of Rs.3 per minute (excluding PSTN charges as applicable), the operators are generally charging Rs.1.99 per minute from subscribers of other network and much lower charges of Rs.1 per minute from their own subscribers while roaming in their own network outside the home network.'*

11.11 The above argument of the mobile operators has been examined and it is found that it is factually incorrect to claim that the roaming airtime charge is Rs.1.99 per minute for off-network roaming. The Consultation Paper has made this point quite clear in Chapter 3 under Need for Review of Roaming Tariffs. Table No.2 of the Consultation Paper has analysed the trends in roaming charges since February 2002 and the structure of the composite roaming charges applicable for the subscriber. The key conclusion of that analysis contained in the Consultation Paper (para 3.3) is reproduced below:-

"Trends in the composite roaming charges levied by private GSM operators since February 2002 would indicate clearly that all reductions that had taken place till February 2005 were mainly on account of reduction in the PSTN charges mandated by the Authority from time to time. Service providers did not at any point of time reduce the roaming airtime charge or the surcharge on roaming airtime. They have always been operating at the ceiling fixed. The only exception being the reduction of Re.1 per minute in the roaming airtime charge made by them in May

2005. Even this reduction has been almost nullified by the operators when they reported Rs.3.99 per minute as the applicable composite tariff for the distance slab of 500 kms and above."

Further, the Authority has expressed its concern in the Consultation Paper that reduction in the cost of providing roaming services does not appear to have been passed on fully by service providers to customers. The relevant para of the Consultation Paper is reproduced below:-

"Reduction in the cost of providing roaming services including reduction on account of access deficit charge payable by operators on account of movement to revenue share regime of ADC payment does not appear to have been passed on fully by service providers to customers. Similarly, reduction in carriage charge effected by the Authority in its recent determination of IUC regulation dated 23.2.2006 does not appear to have been fully reflected in the retail tariffs applicable for long distance calls and roaming services. Further, the reduction in annual license fee payable by NLDOs from 15% of Adjusted Gross Revenue (AGR) to 6% of AGR effected by the Government, which is one of the major opex items of costs has not been passed on to the consumers by the operators. Some operators have in fact hiked the tariffs applicable for roaming services during recent months which suggests that roaming services market is not sufficiently competitive."

11.12 The lower charges of Re.1 per minute applicable for roaming in on-network argument of the mobile operators is not acceptable for the following reasons, namely:-

(a)First, the monthly rentals applicable for availing this 'lower charges' are much higher than the monthly rentals applicable in most commonly found tariff plans in the market.

(b)Secondly, the subscribers forgo the flexibility of using the network of other service providers while roaming because subscribers who access other networks while roaming have to pay the higher roaming charges.

(c)Currently, mobile service providers who have offered lower roaming charge on on-network as explained above have restricted such tariff plans only to post-paid platform and is not available to prepaid subscribers who form a very large proportion of the total mobile subscriber base.

Issue No.6: 'Roaming Tariffs should not be seen in isolation': *'It would be unfair for the Authority to only view the roaming tariffs in isolation while disregarding the large bulk of the service being provided at below cost tariffs and the long term viability of the operators.'*

'The charges for each individual service under a package are not necessarily cost based. While some of the services may be offered below cost so as to attract specific class of users, tariff for some of the other services under the package may be above cost.'

11.13 The argument that the Authority should not view the roaming tariffs in isolation leaving aside large bulk of the service being provided based on tariffs that are below cost and financial viability of the sector etc. has been examined by the Authority and this argument of the mobile service providers is not found acceptable for the following reasons, namely:-

(i)	Neither	the	service	providers	nor	the	associations

representing the service providers have demonstrated to the Authority, how some services that they offer are below their costs and what is that quantum of revenue from services like roaming which is compensating services that are offered below costs.

(ii) Evidence available indicates that the cost of providing services in telecommunication sector in general and in mobile telephony in particular has been declining over a period of time. In the report of Morgan Stanley Research, Asia Pacific dated 10.1.2007, this point has been explained with evidence which is reproduced below:

"The Indian operators have had several advantages since they started building their networks in the last five years.

(a)Capex prices have fallen as equipment vendors worldwide have lowered prices in the past 4-5 years. (b)India has had the further advantage of needing only cheaper 2G infrastructure, when the rest of the world has been moving to 3G.

(c)The Indian Government has given additional spectrum to the operators crossing a threshold subscriber base-

further	**lowering**	**incremental**	**capex.**	**The**	**more**

spectrum given by the Government, the lower the capex per erlang.

(d)Regular reductions in customs duties on telecom equipment and handsets by the Government have decreased the cost of setting up a network and increased the affordability of the services.

(e)Telecom equipment for 2G GSM equipment have

declined,	**especially**	**with**	**superior**	**technologies**

surfacing like Adaptive Multi Rate Systems and India becoming perhaps the world's biggest 2G GSM consumer.

(f)Sharing of networks amongst operators incrementally lowers their capex per subscriber base."9

9*Ibid, PP 21-22*

11.14 It is evident from the above that there are a number of factors that have been responsible for driving down the costs of providing telecom services in general. Evidence published by the Authority in the Study Paper10 on Tariff schemes with Lifetime validity goes to prove that service providers have been getting a reasonable Average Revenue Per User (ARPU) from the scheme despite the fact the scheme was primarily targeted towards low usage and marginal customers. The scheme has kept the tariff levels at Rs.2 per minute for local calls and Rs.3 per minute for domestic long distance calls, which are much above the call charges prevailing in the market under other

plans. Further, the study has revealed that revenue per minute (RPM) for lifetime tariff schemes is Re.0.80 which is higher as compared to the RPM of Re.0.77 for the full mobility service as a whole. It is noteworthy that even a tariff scheme such as this which was launched mainly to cater to low income users yielded a higher margin incrementally for the operators.

11.15 Thus schemes like lifetime validity and micro prepaid cards launched by mobile service providers, targeting low and marginal subscribers have in fact enhanced the margins of the service providers, let alone these schemes getting subsidised by the service providers.

Issue No.7: 'Indian Telecom Sector is lagging behind':

"On certain financial parameters Indian telecom sector is lagging behind in comparison to emerging telecom markets, whereas huge investment is required in coming years."

11.16 In support of this point of view, COAI has in its written submission to the Authority taken up certain parameters like Revenue Per Minute (RPM), ARPU, EBITDA margins, Return on Capital Employed (RoCE), capex and cash flow of operators etc. for

10*Ibid*

comparison overtime and across certain countries. The argument of the industry association in this regard has been examined based on evidence and the Authority has come to the conclusion that revision of ceiling tariff for roaming services will not impact the cellular industry adversely. The basis for this view of the Authority in this matter are given below:-

(a)Significant developments have taken place in the last year which the analysis of the cellular industry association has not taken into account. In fact, reports of number of investment research firms have viewed the Indian wireless sector as an attractive investment for regional and global investors. These are explained with accurate references in the following paragraphs.

(b)On the issue of RPM in India, the industry association has submitted certain data as part of its written submissions to the Authority as an evidence of falling call charges. As stated earlier, the Authority does not disagree with the fact that tariffs for telecom services have fallen over a period of time. However, it is necessary to clarify a conceptual issue in the kind of temporal comparisons made by COAI. The RPM data that has been used in the submission to the Authority has taken into account total minutes of usage i.e. outgoing and incoming which does not reflect call charges particularly in countries like India where Calling Party Pays (CPP) regime is in place.

(c)Subscriber growth and higher minutes of use per subscriber (MOU) witnessed during the period June 2003 to March 2006 have more than compensated for the decline in tariffs (RPM).

This has been acknowledged in the report of Macquarie Research Equities which is reproduced below:-

"India's average revenue per minute may be one of the lowest in the world at about 2 Cents per minute, but it has definitely not been a value destroyer for Indian operators.

Average usage has gone up to over 400 minutes per month

and has more than compensated the operators for the fall in tariffs. As a result, the decline in ARPU has been benign."11 (d)The report of the Benchmarking Study of COAI/PWC itself has acknowledged the growth of EBITDA margins as percentage of net service revenue from 15 in 2000 to 44 in 2005.12 The report of Merrill Lynch, September 2006 has also documented that the average EBITDA margin for the country in the wireless sector has risen from 26.9% in 2001 to 36.2% in the second quarter of 2006. Further, in the same report, comparison of EBITDA margins across several countries shows that the margin in Indian wireless sector is higher than what is available in countries like Hong Kong, South Africa, Austria, Brazil,

Argentina,	Columbia,	Finland,	Israel,	Japan,	Korea,

Netherlands, Peru, UK and US.13

(e)Evidence is available to say that the growth in EBITDA margins will be sustained. The report of *Ernst & Young* has concluded in their study of India Telecom that they do not see the EBITDA margins falling despite fall in ARPU and increasing cost of acquisition and retention as the sheer volumes would ensure EBITDA sustenance.14

(f)For the year ending March 2006, report of Morgan Stanley15 has estimated that for the two major mobile operators, EBITDA would grow 71% and 80% year on year (YoY) and the net profits for them are expected to grow at 88% and 154% YoY. It is further stated in the same report that such EBITDA estimates stem from higher net adds and higher ARPUs. Therefore, they are of the view that the Indian wireless sector is an attractive investment for regional and global investors. Incidentally, it may be mentioned that as per the report cited above, the weighted

11*Macquarie Research Equities, Report on India Telecoms dated 27.11.2006, page 13.*

12 *Ibid page 27.*

13*Merrill Lynch, Global Wireless Matrix 2Q06, dated 19th September 2006 page 59* 14*Ernst & Young, From Emerging to Surging, India Telecom 2010, December 2006, page 25* 15*Ibid, Page 1*

average cost of capital (WACC) calculated for the two major private players is 10.7% and 12.14 percent respectively. The cost calculations for fixation of roaming tariff in this exercise undertaken by the Authority has taken into account 14% WACC.

(g)Return on capital employed (ROCE) for the Indian telecoms in the wireless sector has been calculated by Morgan Stanley Research in their report dated 10.1.07 for the incremental consumer at various levels of incremental capex per subscriber which is the scientific method of analyzing ROCE. This ranges from 28% to 31% depending upon the incremental capex which is by no means low return.16

(h)On the issue of capex requirement for future expansion, it is true that additional capital expenditure will be needed for the sector with the growth but the incremental capex are bound to be lower. It is also a matter of fact that the model for capex deployment has undergone a sea change in the sense that the service providers are now outsourcing the same on managed capacity and managed services model. Under this type of model the vendors initially provide credit on the capex to the operators until the consumer joined the network thus greatly moderating the capex requirement for the operator.

(i)Comparison of these parameters across emerging markets is beset with a number of complexities and thus may not lead to appropriate conclusions. Countries differ widely in terms of purchasing power/income levels, stage of development of the

economy,	structure	of	the	economy,	demographic	and

occupational pattern, annual rates of inflation, legal/regulatory framework, banking systems and practices, monetary/credit policy of the banking system, accounting systems and costing standards and other socio-cultural factors. All these factors

16*Ibid, Exhibit 21, PP21*

have a bearing on the parameters chosen for comparison by the industry association.

(j)After taking into account all these evidences discussed above, the Authority is of the view that the analysis of the COAI are at the best self-serving selective inferences. The mobile service providers have themselves accepted in their written submissions that, "**the roaming revenue forms very small part of the total revenue of an operator.**" Thus, there is no evidence to say categorically that revision of the existing ceiling tariffs applicable for roaming services by the Authority on the grounds of insufficient competition would impact the mobile operator's profitability and viability of the sector.

Objects and Reasons of Amendments:
In addition to the foregoing paragraphs, the objects and reasons of the amendments made are as under:-

I Ceiling Tariff for various elements of roaming
Based on the analysis of various elements of cost and revenue data, the views of stakeholders received in writing and in the course of discussions, the prevailing tariff for calls originated in home networks, and other relevant factors, the Authority has decided to refix ceiling tariff for various elements as specified in this Order. In order to enhance transparency for the subscribers and for the detailed reasons discussed above, the Authority has decided to fix composite roaming charges as ceiling instead of fixing monthly access charges and call charges separately. The prevailing tariff order permits the operators to have PSTN charges in addition to the roaming airtime charge. The Authority feels it would be transparent and more convenient for subscribers if a ceiling call charges are fixed inclusive of the PSTN component. Therefore, the call charges specified in this tariff order are all inclusive of and it is not permissible to levy charges for origination, carriage, termination, ADC, surcharge or any other charges in

addition to the ceiling call charges specified in this order for various types of calls. The major components of roaming tariff are briefly discussed herein below.

Security Deposit and one time entry fee.

Clause 14(a), Schedule II of TTO, 1999 as amended by 18th Amendment to TTO dated 30th January, 2002 had specified forbearance in respect of security deposit and nil charges as entry fee. There is no change proposed to these components in this Tariff Order.

II Underlying principles in Roaming Tariff Structure
Cost orientation to the tariff structure, transparency, simplicity and flexibility to operators have been the underlying principles that guided the Authority in evolving the framework for roaming tariffs mandated in this order. Flexibility is facilitated by continuing to keep the roaming tariffs as a ceiling. Service providers have been given the freedom to offer different rates for different slabs of distances and also differential tariffs for roaming in the on-network and network of other service providers (off-network) within the overall ceiling fixed. In this Order, the Authority has moved away from the two part charging regime i.e. a monthly fixed charge for access to the roaming facility and airtime charge that depend on usage, to a usage based composite roaming tariff that takes into account the following:-
(a)All the incremental costs arising out of roaming services covering capital expenditure (CAPEX)
(b)All the incremental costs arising out of roaming services covering operating expenditure (OPEX) and
(c)Applicable Interconnect Usage Charges (i.e. origination, carriage and termination) and Access Deficit Charges.

III No Two part charging regime
Composite roaming tariff structure was proposed by the Authority in its Consultation Paper No.16/2006 dated 24.11.2006 based on grounds of transparency and fairness for the consumer.

11.17 After detailed analysis of data on costs, traffic pattern and the number of subscribers availing roaming facility across mobile operators whose data was made available and considered for analysis, the Authority has come to the conclusion that the cost estimates are realistic and reflective of the resources utilized only when the roaming tariffs are fixed in a composite manner. It would be appropriate in this context to recall the detailed explanation of the Authority in the Consultation Paper in this aspect:-
"Separate estimates for determination of monthly rental and roaming call charges do not appear to be realistic in the present context on account of the asymmetrical distribution of In-roaming Minutes of Usage and the subscriber base availing roaming facility across operators. Data available indicates that the total number of in-roamers into the network of an operator in a particular service area is several times that of the number of subscribers who have availed roaming facility on payment of monthly rentals in the same service area of the same operator. If monthly rental has to be determined purely based on the number of subscribers with roaming facility, then the cost will be disproportionately loaded on such roaming subscription resulting in high rental amount. Such a situation would be iniquitous and thus unfair as it does not distinguish between subscribers availing one-off roaming usage and other frequent roamers. In fact, the two part cost determination, one covering the capex recovery through monthly rental and another for meeting the opex recovery through usage charges is throwing up results indicating the anomaly described here. On the contrary, incremental cost estimates covering both capex and opex together for operators have

yielded robust results providing reasonable range of costs. For this purpose the recovery of capex and the opex were added for each of the licensee and an incremental cost of roaming call per minute was derived.".

11.18 A composite roaming tariff structure does not mean that capital costs associated with access to roaming facility has been left out or not taken into account. Far from that. The Authority has clearly stated in its Consultation Paper (para 5.5) that, 'the capital cost component has also been subsumed in the incremental cost estimates attributable to roaming and thus no category of costs has been left out.' What a composite tariff for roaming means is that there shall be a roaming tariff based on usage i.e. separately for incoming call, local outgoing call and inter-circle outgoing call while roaming on a per minute basis without the consumer having to pay any fixed monthly charges in the form of rental or otherwise. It is reiterated that costs associated with the access to roaming facility is already part of the incremental cost arising out of provision of roaming services. Further, there shall be no additional PSTN charge (later clarified by the Authority as IUC charges) allowed to be charged from the roaming subscribers as they are part of the composite roaming tariff (more discussion on this later).

11.19 In the discussions held by the Authority with the mobile service providers and their associations during the consultative process, a point was made by them that signaling charges are incurred on a per subscriber basis for providing roaming facility which is of recurring nature and therefore the two part regime containing, inter alia, rental should continue to exist in the roaming tariff structure. The Authority has found this argument of one of the mobile service providers to be untenable for the following reasons, namely:-

(a)Discussions with the industry sources reveal that by and large, mobile service providers have their own signaling system and do not depend on the incumbent operator for such a facility any more and thus monthly payment on that account on a per subscriber basis has almost ceased to exist.

(b)It is common knowledge that a mobile service provider who is either leasing capacity or setting up its own capacity for carrying long distance calls including for roaming will not have to separately incur signaling charges payable to another operator as it existed several years ago. Carriage charges determined by the Authority at Re.0.65 per minute have been fully allowed in arriving at the incremental cost arising out of provision of roaming services.

(c)In any case, even conceding that one or two service providers are incurring expenditure on account of signaling charges, the amount reported to have been incurred by them in their data submissions to the Authority (pertaining to FY 2003-04) has been included totally without any deductions for purposes of arriving at cost estimates on account of provision of roaming services.

(d)The service providers associations who had met the Authority in a meeting held on 11.01.07, eventually conceded that on the cost estimates or the basis of the cost estimates arrived at by the Authority which are shown in the Consultation Paper are correct. Their contention was on the ground that forbearance in mobile tariffs in general had led to declining tariff environment and therefore Authority should desist from continuing with any regulation of roaming tariffs in isolation. Examination of this issue is contained in an earlier section of this Explanatory Memorandum viz. paras 11.1 to 11.7.

11.20 In this context, the Authority also recalls its Directive dated 16.6.2004 wherein it had to mandate the mobile service providers to

inform the subscriber through SMS whenever they roam into another license area that they would be charged for the roaming facility *only if the subscriber chooses to either make or receive a call while roaming.* It was further mandated that any fixed charges for roaming such as roaming rental should not be charged unless roaming is activated i.e. a call is either made or received by a customer while roaming (Directive No.101-3/2003-MN (Pt.II) dated 16.6.2004 on auto roaming services to all prepaid subscribers). Despite such a directive, complaints continued to be received by the Authority from prepaid subscribers for being charged roaming rental/some fixed charge even though they do not want to avail the roaming service.

11.21 Keeping in view the above factors, the Authority has decided that there shall be no monthly access charges for roaming in the name of rental or any other fixed charges for accessing roaming facility in any form other than the per minute usage charges of roaming whether it is prepaid or postpaid. The Authority also clarifies that schemes involving combination of any fixed charges for accessing roaming facility and nil or lower charges for usage and similar other plans combining roaming charges with tariffs for content services, etc. shall not be permitted as there is every possibility of the tariff determination for roaming services getting circumvented giving rise to serious problems for monitoring regulated tariffs.

IV Composite Roaming call charges

The Authority as explained in the Consultation Paper and further amplified in the foregoing paragraphs of this Explanatory Memorandum has decided to fix ceiling on tariffs for roaming calls on a per minute basis and that tariff is all inclusive. Paras 5.6 to 5.10 of the Consultation Paper contain detailed discussions on the routing of various types of calls while roaming, the network resources utilized and the underlying cost elements.

V Incoming call while roaming

The following components of cost category are relevant for estimating the cost arising out of enabling the roamer in the visiting network to receive an incoming call whether it is local or inter circle, namely:-

(a)Carriage

(b)Termination

(c)Access Deficit Charges

(d)Incremental cost for roaming services

11.22 Carriage charge is taken to be Re.0.65 per minute which is the ceiling carriage charge specified by the Authority in its Interconnection Usage Charges (IUC) determination as currently applicable. Since roaming tariff is also fixed as a ceiling, the Authority has given full provision by taking Re.0.65 per minute as the applicable call charge irrespective of the distance slab involved in the roaming. Termination charge of Re.0.30 per minute is also the one which is the currently applicable as per the IUC determination of the Authority. With the change of regime in ADC, access providers are required to pay 1.5% of their AGR to BSNL and it has been estimated that at the best, per minute ADC shall not exceed Re.0.05. A brief indication of the composition of currently prevalent roaming charges is given in the Consultation Paper in Chapter 3 in which ADC component of Re.0.05 per minute is also shown. Thus, these three elements put together would amount to Re.1 per minute.

11.23 The Authority then examined the incremental per minute cost estimates for roaming service as discussed in the Consultation Paper in paras 4.8 to 4.10. From the range of cost estimates shown in that Table which is also given in the Appendix-1 to this Note at the end of this Explanatory Memorandum, the Authority has decided to

adopt the maximum of the cost estimates available for the 17 licensees. While adopting this cost estimate of Re.0.76 (rounded off to 0.75) per minute, the Authority is guided by the following, namely:- (a)The lowest and highest cost estimate of Re.0.07 and 1.09 respectively are clear outliers and they need to be excluded from consideration.

(b)The Authority is fixing roaming tariff as ceiling and by this it seeks to provide flexibility to operators to offer tariffs in a competitive manner.

(c)The Authority also seeks to permit some additional margin in its choice of the available range of cost estimates.

The sum of all the above categories of cost elements comes to Rs.1.75 per minute. Accordingly, the Authority has decided to fix Rs.1.75 per minute as all inclusive roaming tariff for an incoming call (local or inter circle). This works out to a reduction of around 56% from the maximum tariff applicable for the maximum distance slab as prevalent in the market for receiving an incoming call while roaming.

VI Roaming tariff for an outgoing call – Local

11.24 The following components of cost category are relevant for estimating the cost arising out of enabling the roamer in the visiting network to make an outgoing local call, namely:-

(a)Origination – Re.0.30

(b)Termination – Re.0.30

(c)Access Deficit Charges – Re.0.05

(d)Incremental cost for roaming services – Re.0.75

11.25 Although origination is forborne, the Authority in its first cost based IUC determination had fixed origination charge as the same as that of termination i.e. Re.0.30 per minute. Accordingly, origination charge of Re.0.30 is taken into account. The sum total of all these components of cost categories given above for a local

outgoing call while roaming comes to Rs.1.40 per minute. The Authority has therefore decided to fix ceiling roaming tariff on an outgoing local call at Rs.1.40 per minute which will be applicable on all such local calls irrespective of the terminating networks. This works out to a reduction of around 55% from the maximum tariff available in GSM services for making a local outgoing call while roaming.

VII Outgoing call while roaming – Inter-Circle (national long distance calls)

11.26 The following components of cost category are relevant for estimating the cost arising out of enabling the roamer in the visiting network to make an outgoing inter circle call, namely:-

(a)Origination – Re.0.30

(b)Carriage – Re.0.65

(c)Termination – Re.0.30

(d)Access Deficit Charges – Re.0.05

(e)Incremental cost for roaming services – Re.0.75

11.27 The sum totals of all these components of cost categories given above for an outgoing inter circle call while roaming comes to Rs.2.05 per minute. While the Authority is fully conscious of the fact that the sum of all relevant cost categories comes to Rs.2.05 per minute for an inter-circle outgoing call while roaming, in deciding the roaming tariffs for this call category, the Authority has kept in view the range of prevalent tariffs applicable for the long distance calls terminating in different networks. Thus taking into account these market realities and the cost estimates at Rs.2.05 per minutes, the Authority has decided to fix ceiling roaming tariff on an outgoing inter circle call at Rs.2.40 per minute which will be applicable on all such calls irrespective of the distance slabs and terminating networks. This works out to a reduction of around 40% from the maximum tariff

applicable for the maximum distance slab as prevalent in the market for making an outgoing inter circle call while roaming.

VIII SMS while Roaming

11.28 The Authority has examined the viewpoints of various stakeholders on the issue posed for consultation i.e. whether the outgoing SMS while roaming should attract any tariff other than the one applicable in the home network usage. Currently, private GSM operators levy Rs.3.45 as SMS charges while roaming. These are significantly higher than the charges for SMS applicable in the home network. The consumers have represented to the Authority that high SMS charges are burdensome to them and in fact they have demanded to the Authority to fix tariffs for SMS based on cost. After examination of the various viewpoints and on the basis of evidence available with the Authority, it has come to the conclusion that there appears to be no case for any additional tariff for a short message service while roaming (whether for incoming or outgoing) over and above what is payable by the subscriber for a similar service in the home network.

11.29 The rationale behind this conclusion of the Authority is given below:-

(a)All the cost items (capital and operating) associated with the provision of roaming services have already been taken into account in arriving at the cost estimates of roaming calls.

(b)The Authority recalls its decision dated 21.8.2006 regarding IUC for SMS wherein it was stated that, there is no supplementary cost for the terminating and transiting traffic. Primary resources utilised for SMS are necessary provision for handling the signalling for the voice traffic and are used for SMS only during the period when it is not used for voice traffic signalling or any other service. As such, there is no cost justification for

permitting additional levy on the roamer either for an incoming or outgoing SMS.

11.30 The Authority then examined different offers of tariffs in the market for SMS in the home network and concluded that there is a divergent offers relating to tariff applicable for SMS both as part of tariff plans and in the form of Top-up packs. The Authority then weighed the merits and demerits of linking the tariffs for SMS while roaming to the tariff applicable for SMS in the home network usage to a subscriber and has decided not to mandate applying home tariffs for SMS while roaming for the time being. Since the other option of fixing a cost oriented SMS was not open to consultation, the Authority preferred to forbear in fixing tariffs for outgoing SMS while roaming. The analysis of prevailing tariffs for voice calls and SMS while roaming reveals that by and large tariffs for SMS are below the call charges. With the revision of roaming tariffs for calls, the Authority expects that the mobile service providers would voluntarily reduce the charges applicable for SMS while roaming. While the Authority is not inclined to fix for the time being tariff for SMS while roaming, it may revisit the subject in case there are competition issues and more importantly where interests of consumers are adversely affected. However, the Authority would continue to monitor the market developments relating to tariffs applicable for SMS while roaming and intervene if circumstances so warrant and so required. In this context, the Authority recalls its decision dated the 21st August, 2006 on Interconnection Usage Charges for Short Message Service which is as under:-

'The Authority is concerned with the high and increasing premium SMS charges. It must be acknowledged that the subscriber does not often make his choice on the basis of SMS rates. Moreover, the awareness at the subscriber level is low as the charges are not so transparent. The subscriber in many respects is captive to operator. He is denied the real choice as

he would be loath to changing operators just on account of SMS rates. Also the bundling of service may not highlight the tariff of an individual service. While the Authority refrains from making any Regulation at this stage it reserves the right to revisit the subject in case there are competition issues in the retail market and more importantly where the consumers interest are adversely affected."17

IX Non-applicability of surcharge

11.31 In the existing regime, a surcharge on airtime component of 15% is specified under clause 14(a), Schedule II of TTO, 1999 as inserted by 18th Amendment to TTO dated 30th January, 2002. The Authority has examined the comments of various stakeholders in this matter and also the other evidence available and based on which, it has been decided not to allow any surcharge on the roaming charges. This is justified on the grounds that the IUC regulation that exists now provides for mobile termination charge based on cost and the home network gets termination charge in respect of calls forwarded to its roaming subscribers which was not available when surcharge was specified under under clause 14(a), Schedule II of TTO, 1999 as inserted by 18th Amendment to TTO dated 30th January, 2002. Specification of cost based IUC would render the rationale for envisaging the surcharge redundant. The industry associations made two points in favour of retaining the surcharge. One, provision of roaming services involves usage of additional network elements/costs such as inter operator signaling, exchange of TAP files, inter operator settlements costs and bad debts. Second, they claimed that there is also a significant value addition for the customer who avails of this service. Both these points have been examined, and the Authority is of the view that when all costs relevant for provision of roaming services, have been taken into account, there exists no justification for

17*Decision of the Telecom Regulatory Authority of India dated 21st August, 2006 on Interconnection Usage Charges for Short Message Service, para 11.*

levy of surcharge. On the point of bad debts, the Authority has noted that in cellular mobile telephony, more than 80% of the subscribers are in prepaid platform where the money is collected in advance by the service providers and there is no merit in the said point. Generally, it is seen that service providers also obtain security deposits from the post paid subscribers for providing such services and credit limits are fixed by the service providers for each post paid subscriber depending upon various criteria including the profile of the user. Secondly, surcharge has no relationship with value addition as claimed. Thirdly, surcharge in any tariff structure cannot allowed to be a permanent feature.

X PSTN Charges

11.32 In the structure of roaming tariffs as mandated by clause 14(a), Schedule II of TTO, 1999 as inserted by 18th Amendment to TTO dated 30th January, 2002, there is a provision for PSTN charges applicable from time to time to the fixed network in addition to the roaming airtime charge. Subsequently, after the Telecommunication Interconnect Usage Charges Regulation 2003, the interpretation of what constitutes PSTN charge has undergone a change. This decision was communicated by the Authority in 2004 to all stakeholders.18 Thus, as per the currently applicable interpretation, PSTN charges has been replaced with IUC charges i.e. carriage and termination and ADC. Since the cost estimates derived by the Authority include all components of IUC charges and ADC and a composite tariff thereof has been determined for roaming services separately for each type of call, there should be no charges in the name of PSTN.

11.33 **Accordingly, the Authority has decided the following tariff structure for various scenarios of call and SMS while roaming:-**

18 TRAI Letter No.310-7(28)/2004-Eco. dated 14.5.2004 addressed to all mobile service operators/unified access service providers/COAI/ABTO.

(a) For incoming call – ceiling of Rs.1.75 per minute. (b) For outgoing call (local) – ceiling of Rs.1.40 per minute.

(c) For inter-circle call – ceiling of Rs.2.40 per minute.

(d) Monthly access charge (rental) for roaming – Nil. (e) PSTN charges – Nil.

(f) Surcharge – Nil.

(g) For incoming SMS while roaming – Nil.

(h) For outgoing SMS while roaming – Forbearance.

11.34 Thus, the revised roaming tariff fixed by the Authority by this Order to the TTO, 1999 is all inclusive and is in the nature of a composite tariff. Since the tariffs applicable are fixed as ceilings, the service providers have the freedom to offer any tariffs below the respective ceilings. It is also important to note that the Authority has not permitted any other version of roaming tariff offers in which there is scope for breach of ceilings fixed. The mobile service providers are required to restructure their roaming tariffs consistent with this Order and implement the same on 15th February, 2007 and report to the Authority as per the reporting requirement. The Authority would closely monitor the developments in the market, and revisit this issue at an appropriate time and even consider leaving roaming tariff to be driven by the market forces if perceptible competition evolves in the market.

Appendix 1 to the Explanatory Memorandum Extracts from Consultation Paper No: 16/2006

Currently prevalent Roaming Tariffs, charging pattern and its Analysis

2.1 Tariffs for national roaming services are in two parts – one being the monthly rental and the other being the call charges while roaming.

Roaming Rental

2.2 Currently service providers generally levy a monthly rental of about Rs.50 for providing access to National Roaming Services as against the ceiling rental of Rs.100/- per month fixed by the Authority in the year 2002.

Roaming Call Charges

2.3 Charging pattern adopted by service providers for national roaming calls currently is in the form of composite tariffs which is all inclusive i.e. roaming air time charge, IUC/ADC, surcharge. Roaming tariffs currently prevalent can be better appreciated if the following possible call scenarios are kept in view:
a) For outgoing local call while roaming
b) For outgoing inter-circle call while roaming
c) For incoming call while roaming
(b) and (c) above are further classified into different distance slabs. Table No.1 below gives the currently prevalent roaming call charges as offered by various operators in respect of general tariff packages both in prepaid and postpaid platforms.

Table No.1
Currently prevalent Composite Roaming Call Charges [Rs. per minute]

Distance slabs	Private GSM service providers	BSNL (GSM)
Outgoing call while Roaming		
Local	2.89 - 3.09	1.50
Inter-Circle		
0-50 Kms	3.09	2.40
51-200 Kms	3.54	2.40
201-500 Kms	3.79	2.40
Above 500 Kms	3.99	2.40
Incoming call while Roaming		
0-50 Kms	3.09	2.00
51-200 Kms	3.54	2.00

201-500 Kms	3.79	2.00
Above 500 Kms	3.99	2.00

Note: Major GSM/CDMA operators are offering plans with a monthly rental (ranging from Rs.299 to Rs.490) for roaming customers. In these plans, roaming tariff is Re.

1 per minute for roaming in their respective network.

Local Outgoing call while Roaming

2.4 The private GSM operators levy tariff ranging from Rs.2.89 to Rs.3.09 per minute for a local call while roaming. There is no distinction in roaming call charges between prepaid and postpaid subscribers in as far as the private GSM operators are concerned. BSNL (GSM) charges Rs.1.50 per minute for a local outgoing call while roaming. This tariff is common both for prepaid and postpaid roaming subscribers. In lifetime plan, BSNL levies a higher tariff of Rs.2/- per minute for a local call while roaming.

2.5 In the case of two CDMA operators offering full mobile services i.e. Tata Teleservices and Reliance Communications, roaming call charges for local outgoing calls are different depending upon whether the subscriber is in prepaid or postpaid platform. For postpaid subscribers, roaming call charges for local outgoing calls levied by CDMA operators are the same as the applicable tariffs for home

network usage. In the case of prepaid subscribers, the applicable tariffs generally range from Re.1 to Rs.3.00 per minute. However, in few long term validity plans, roaming tariffs for local calls are more than this range.

Inter-Circle Outgoing Call while Roaming

2.6 Private GSM operators offer a distance based roaming tariffs applicable for inter-circle calls. It ranges from Rs.3.09 per minute for a distance slab of 0-50 kms to Rs.3.99 per minute for a distance slab of above 500 kms.

2.7 BSNL (GSM) offers its roaming subscribers a distance neutral roaming tariff applicable for inter-circle calls at the rate of Rs.2.40 per minute. For lifetime plan subscribers, the applicable tariff is Rs.3/- per minute.

2.8 In the case of private CDMA operators they levy a distance neutral inter-circle tariff that ranges from Rs.1.00 to Rs.3.99 per minute while roaming. The applicable inter-circle roaming tariff for postpaid subscribers is linked to the home network tariff plans.

Incoming Call while Roaming

2.9 Depending upon the distance slabs, charges for an incoming call while roaming vary from Rs.3.09 to Rs.3.99 per minute among the private GSM operators. BSNL (GSM) levies a uniform tariff of Rs.2.00 per minute for all incoming calls while roaming except for lifetime plan subscribers at Rs.3 per minute. Private CDMA operators levy a distance neutral inter-circle incoming roaming tariff that ranges from Rs.1.00 to Rs.3.99 per minute.

Special Tariff Packages

2.10Service providers have offered special tariff packages where roaming tariffs are much less when subscribers roam on their networks. However, such tariff packages attract higher monthly rent of Rs.300 and above. These packages offer a uniform tariff at Re.1.00 per minute for all types of roaming calls including incoming calls *provided* the subscribers choose to roam on their *own* network.

SMS Charges while Roaming

2.11Private GSM operators levy Rs.3.45 as charges for outgoing SMS while roaming. BSNL (GSM) levies a tariff ranging from Re.0.80 to Re.1.00 per message from the roaming subscriber. As far as the CDMA operators are concerned, the charges applicable for an outgoing SMS while roaming would be the same as per the home tariff plan. For lifetime plan subscribers of BSNL, SMS costs Rs.2/- per SMS while roaming.

Analysis

2.12The analysis of the existing charging pattern of the service providers and the currently prevalent tariffs for roaming reveals the following:-
a) The roaming tariff structure as prevalent in the market is complex and thus there is considerable scope for making it more transparent to the consumer.

b) There is not only a uniformity seen in the charging pattern adopted by private GSM operators but there is also uniformity in the level of roaming tariffs. Current charging pattern amongst them reveals that they adopt a distance based charging for roaming calls including incoming calls while roaming. This is an evidence of a coordinated pricing arrangement among these operators.

c) Full mobile services using CDMA technology are offered by two operators viz. Tata Teleservices and Reliance Communications. The roaming tariff structure in CDMA mobile services is linked to home network tariff plans in respect of postpaid subscribers. For prepaid customers, roaming tariffs are not linked to the home tariffs.

d) Off late, CDMA operators have hiked tariff applicable for roaming services and in few cases their tariffs exceed that of private GSM operators. Charging pattern of CDMA operators in respect of roaming calls varies from prepaid to postpaid.

Need for Review of Roaming Tariffs

3.1 For quite some time now, stakeholders have been representing to the Authority that tariffs applicable for availing roaming services are on the higher side. The roaming tariffs fixed by the Authority in 2002 was based on the incremental cost of providing roaming services as it existed four years ago and since then substantial reduction is reported to have taken place in such costs. Reduction in tariffs for roaming services is not commensurate with the reduction in the underlying costs of providing services.

3.2 Table No.2 gives the trends in composite roaming charges (with break-up) as levied by private GSM operators from time to time since February 2002 when the ceiling fixed by the Authority came into effect.

Table No.2
Trends in Composite Roaming Charges
(Rs. per minute)

Time Period	**Roaming Airtime Charge**	**Surcharge**	**PSTN Charge (applicable for >500 kms**	**Composite Roaming Charges**

			distance slab)	**for the subscriber**
February 2002 (ceiling as per 18th Amendment)	3.00	15%	9.6	13.05
March 2003 (reduction in PSTN charges)	3.00	15%	4.8	8.25
May 2004 (change in interpretation of applicable PSTN charges	3.00	15%	2.2	5.65
February 2005 (reduction in ADC)	3.00	15%	1.7	5.15
May 2005	1.99	15%	1.7	3.99
Currently prevalent tariffs**	2.99		1.0*	3.99

* Re.1/- is arrived at by summing up maximum carriage charge of Re.0.65, termination charge of Re.0.30 and approx. ADC component of Re.0.05 per minute.

** Pvt. GSM service providers report Rs.3.99 composite roaming tariffs as applicable for distance slab of 500 kms and above.

3.3 Trends in the composite roaming charges levied by private GSM operators since February 2002 would indicate clearly that all reductions that had taken place till February 2005 were mainly on account of reduction in the PSTN charges mandated by the Authority from time to time. Service providers did not at any point of time reduce the roaming airtime charge or the surcharge on roaming airtime. They have always been operating at the ceiling fixed. The only exception being the reduction of Re.1 per minute in the roaming airtime charge made by them in May 2005. Even this reduction has been almost nullified by the operators when they reported Rs.3.99 per

minute as the applicable composite tariff for the distance slab of 500 kms and above (see last row of Table No.2)

3.4 Reduction in the cost of providing roaming services including reduction on account of access deficit charge payable by operators on account of movement to revenue share regime of ADC payment does not appear to have been passed on fully by service providers to customers. Similarly, reduction in carriage charge effected by the Authority in its recent determination of IUC regulation dated 23.2.2006 does not appear to have been fully reflected in the retail tariffs applicable for long distance calls and roaming services. Further, the reduction in annual license fee payable by NLDOs from 15% of Adjusted Gross Revenue (AGR) to 6% of AGR effected by the Government, which is one of the major opex items of costs has not been passed on to the consumers by the operators. Some operators have in fact hiked the tariffs applicable for roaming services during recent months which suggests that roaming services market is not sufficiently competitive. Barring few service providers, generally every operator levies a higher tariff for SMS while roaming, which does not appear to reflect the cost of providing such a service.

3.5 The Authority from time to time has attempted to stimulate competition in the market by enhancing consumer transparency through various directions and advisories issued to operators mandating them to publish tariff inter-alia roaming tariffs in their websites and through other means. However, imposition of such regulatory obligations does not appear to have had any salutary effect on the subscriber tariff for national roaming services in the market. This is mainly on account of the market not being sufficiently competitive in respect of roaming services.

Analysis of the State of competition in roaming services segment 3.6 While competition is considered to be adequate in mobile telephony services in India, the same is not true of roaming services segment of the mobile telephony. ***Evidence available with Authority on subscriber's tariff for roaming services reveal that there appears to be a coordinated arrangement in pricing of roaming services among the private GSM service providers.*** Tariffs applicable for roaming services are not only uniform among these operators for various types of roaming calls but are also similar / identical for various distance slabs as well. Further, in many instances in the past, changes in roaming tariff had been effected almost simultaneously.

3.7 CDMA mobile operators admittedly have contributed to the enhanced level of competition in mobile telephony in a big way. However, as far as roaming services is concerned, the competition is not considered effective enough due to the fact that the roaming service available to the subscriber of CDMA network is limited to the CDMA network of the same operator. Over a period of time, CDMA service providers have also started levying comparable roaming tariffs as that of the private GSM operators.

3.8 The ceiling tariffs fixed vide 18th Amendment to TTO dated 30.1.2002 is outdated in the sense that significant developments have taken place since then in the market, all of which have implications for tariffs to the consumers. Notable among them being the decline in the cost of provision of service owing to explosive growth of subscriber base and the minutes of usage reported by mobile operators in general. Data reported to the Authority for select operators shows that the number of subscribers with roaming facility has increased manifold during the period from 2001 to 2004. For the same period, the roaming minutes of usage has registered steep increase as per the

data reported to the Authority. Another significant development since the time the roaming tariff was fixed in 2002 pertains to the introduction of cost-based IUC regime in 2003 which inter-alia includes specification of termination charges at Re.0.30 per minute and introduction of calling party pays (CPP) regime. Further, the cost based IUC regime is being revised from time to time since 2003. One other major development having implications for consumer tariffs including roaming services is the change of regime of the ADC payment from per minute call basis to a revenue share regime. As discussed in the earlier paragraphs, reduction in the cost of provision of services does not appear to have been fully reflected in the roaming tariffs applicable to subscribers.

3.9 Price regulation is considered relevant when market forces are insufficient to prevent the exercise of market power. The considerations that were responsible for regulatory intervention in the market by imposing tariff regulations in roaming services are not only relevant today but have also become more important for reasons discussed in the foregoing paragraphs. Consumers cannot be expected to pay prices for services that are unjustifiably higher than the cost of providing such services and also with no prospects of any internal correction.

3.10One of the operators with significant market share conveyed its scheme for additional revenue share over and above the prescribed termination charge for terminating the roaming calls (national and international) in its network and sought a provision for entering into commercial agreements with other operators on reciprocal basis. The

Authority after going through a consultation process on this issue gave its ruling vide its letter dated 11.9.2006 (copy at Annexure-2) wherein it reiterated that there was no justification for a revenue sharing arrangement among operators in respect of roaming calls including international ones. Nevertheless, the Authority reiterated its

concern about high roaming tariffs levied by service providers and indicated that it would in the near future consider issuing a Consultation Paper to review the present roaming tariff regime.

3.11A further cause of user and consumer concern is that roamers pay charges for receiving mobile calls while they are roaming contrary to the calling party pays (CPP) principle. This observation is relevant in the Indian context because the "service area" in India is based on circle basis, unlike many countries in the world where the entire country is one service area.

Methodology of Cost Estimation

Methodology proposed for determination of Roaming Tariffs 4.1 The 18th Amendment to TTO adopted an incremental cost approach while deciding the tariff regime applicable for national roaming. Only the directly attributable incremental costs associated with roaming facility was taken into consideration. The approach proposed to be adopted by the Authority for determination of costs in this exercise will also be the same. It is proposed to consider the same set of elements of capital costs and operating costs that had been taken into account by the Authority while determining the roaming tariffs in 2002.

Data Consistency and Verification

4.2 The Authority vide its letter No.301-27/2004-Eco. dated 29.6.2004 informed all the cellular mobile service providers and their industry associations about its intention to review roaming tariffs which were specified in January 2002. Accordingly, it sought revenue and cost data in respect of roaming services as per standard format (Annexure-3) from the service providers. Data on cost of providing roaming services was received from operators for two years (FY 2002-03 and 2003-04) in respect of 25 licensees across the country covering metro and non-metro circles. Examination of the data received from

operators shows that data in respect of few licensees was not amenable for analysis of cost for a number of reasons like inconsistencies in respect of data for certain parameters, absence of any specific basis of apportionment, etc. and thus these had to be excluded from analysis.

Capital Expenditure (capex) Recovery

4.3 Two factors are considered when calculating the required annual return to the licensee for estimating the cost of providing the service over and above the recovery of operational expenditure. These are recovery of depreciation on assets and return on capital employed (ROCE) which is also known as weighted average cost of capital (WACC). Since capital assets are in the form of equipment, there is a need to devise a mechanism for recovery of the capex over a period of time, besides providing for opex (discussions on this follow later). Towards this end, an annual depreciation rate of 10% has been assumed for capex recovery of capital assets. This is derived from straight line depreciation calculations on the life of capital assets of ten years. Suggestions by industry sources indicate that the depreciation period for equipments which are considered as capital assets in this service could be longer than considered above, thereby reducing the annual return required. However, in general, depreciation calculated at 10 years life period could be taken as reasonable basis for calculation. The second part of capex recovery is setting the value for ROCE, which will be applied to the total capital expenditure amount claimed by the licensees and is treated as the required annual return on the capital invested and employed. A WACC of 14% has been adopted for this exercise based on the data submitted by the operators. This is almost the same WACC as was adopted by the Authority in the recent past tariff determinations. In this exercise, the Authority has allowed reasonable rate of return on net capital invested in various network elements to provide the roaming services as at the end of March 2006. To arrive at the net capital investment, the accumulated depreciation from the original

capital investment in various network elements has been deducted as per their base years.

Operational Expenditure (opex)

4.4 All the items of operational costs claimed by operators as operational expenditure required to be incurred for providing the facility of roaming services that are consistent with the heads of expenditure that had been allowed by the Authority in its previous determination in the year 2002 have been included in the estimation of costs.

4.5 Based on the data on total capital expenditure attributable to roaming facility as claimed by service providers, capex recovery for FY 2006-07 was arrived at by applying cost of capital at 14% per annum after adjusting for applicable depreciation as described above. Separately, opex recovery was effected based on data in respect of annually recurring operating expenditure and the roaming minutes of usage as provided by the operators. To this cost, license fee and spectrum charges at 10% were also added as these are annually payable charges and form part of the costs. It is noteworthy that license fee and spectrum charges considered for purposes of cost calculation in the roaming tariff determination of 2002 was 15% of AGR.

4.6 The analysis of data on costs in respect of various operators in respect of the two part costing exercise reveals that it may be necessary to derive the incremental cost arising out of roaming services covering both capex and opex. The necessity of deriving incremental cost of a roaming call in this manner is discussed in the following paragraph.

4.7 Separate estimates for determination of monthly rental and roaming call charges do not appear to be realistic in the present

context on account of the asymmetrical distribution of In-roaming Minutes of Usage and the subscriber base availing roaming facility across operators. Data available indicates that the total number of in-roamers into the network of an operator in a particular service area is several times that of the number of subscribers who have availed roaming facility on payment of monthly rentals in the same service area of the same operator. If monthly rental has to be determined purely based on the number of subscribers with roaming facility, then the cost will be disproportionately loaded on such roaming subscription resulting in high rental amount. Such a situation would be iniquitous and thus unfair as it does not distinguish between subscribers availing one-off roaming usage and other frequent roamers. In fact, the two part cost determination, one covering the capex recovery through monthly rental and another for meeting the opex recovery through usage charges is throwing up results indicating the anomaly described here. On the contrary, incremental cost estimates covering both capex and opex together for operators have yielded robust results providing reasonable range of costs.

4.8 For this purpose the recovery of capex and the opex were added for each of the licensee and an incremental cost of roaming call per minute was derived. Table No.4 below gives the summary position of incremental cost estimates of a roaming call per minute for each of the licensee.

Table No.4

Summary of Calculations of Incremental Cost Estimates for Roaming Service for the FY 2006-07

(Re. per minute)

Service Provider	**Base Year**

	FY 2002-03	FY 2003-04
Licensee – 1	**0.92**	**0.76**
Licensee – 2	**0.56**	**0.26**
Licensee – 3	**0.26**	**0.24**
Licensee – 4	**0.38**	**0.25**
Licensee – 5	**0.69**	**0.48**
Licensee – 6	**0.41**	**0.42**
Licensee – 7	**1.18**	**NA**
Licensee – 8	**0.22**	**0.33**
Licensee – 9	**NA**	**0.07**
Licensee – 10	**1.12**	**0.62**
Licensee – 11	**NA**	**0.48**
Licensee – 12	**0.64**	**0.24**
Licensee – 13	**0.66**	**0.37**
Licensee – 14	**3.30**	**1.09**
Licensee – 15	**0.31**	**0.19**
Licensee – 16	**NA**	**0.27**
Licensee – 17	**0.35**	**0.23**

Results of cost estimation

4.9 The lowest of the cost estimates is Re.0.07 per minute and the highest of the cost estimates is placed at Re.1.09 per minute. These are obviously outliers as is evident from Table No.4. Range of cost estimates fall between Re.0.19 to Re.0.62 per minute barring one estimate at Re.0.76 per minute shown against Licensee 1. Seven out of seventeen licensees cost estimates show that it is hovering around

Re.0.25 per minute. Cost estimates in respect of five licensees fall within the range of Re.0.30 to 0.50 per minute. As stated earlier, two estimates are clear outliers i.e. Rs.1.09 and 0.07 per minute and two other estimates at Re.0.76 and 0.62 per minute are also outside the two commonly found range of cost estimates.

4.10The Authority has also noted that between the two years for which cost estimates have been worked out based on the cost data of the operators, there has been a substantial decline of costs in the second year (see Table No.4). Extent of decline in the cost per minute for a roaming call within a period of one year ranges from 5% to as high as 67%. Explosive growth of subscriber base coupled with increase in usage of subscribers shall in the views of the Authority justifiably accelerate the decline in the cost of providing roaming services. Further, the Authority also notes that the traffic data (roaming MOU) considered for the analysis for purposes of roaming tariff review in this exercise pertains to the FY 2003-04 and the likely implementation period of the revised roaming tariff structure would begin in the fourth quarter of 2006-07. To that extent, the estimates of incremental cost derived contains a buffer element.

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TELECOM REGULATORY AUTHORITY OF INDIA

THE TELECOMMUNICATION TARIFF (FORTY- FIFTH AMENDMENT) ORDER, 2007

No. 2 of 2007

NOTIFICATION

New Delhi, the 5th June, 2007

No. 301-18/2007- Eco. — In exercise of the powers conferred upon it under sub-section (2) of section 11, read with sub-clause (i) of clause (b) of sub-section (1) of the said section, of the Telecom Regulatory Authority of India Act, 1997(24 of 1997), the Telecom Regulatory Authority of India hereby makes the following Order further to amend the Telecommunication Tariff Order, 1999, namely: -

1. (1) This Order may be called the Telecommunication Tariff (Forty fifth Amendment) Order, 2007.

(2) It shall come into force on the 5th day of June, 2007.

2.In the Telecommunication Tariff Order, 1999, in clause 3, for the word and figures “Schedules I to X”, the word and figures “Schedules I to XI” shall be substituted.

3. After Schedule X to the Telecommunication Tariff Order, 1999 , the following Schedule shall be inserted, namely:-

“SCHEDULE XI

(See clause 3)

Tariff for unsolicited commercial communication referred to in clause(b)of sub-regulation (3) of regulation 16 of the Telecom Unsolicited Commercial Communications Regulations, 2007(4 of 2007).

ITEM	TARIFF
1.Unsolicited commercial communication made from Basic Services (Other than ISDN)	Rs.500/- for each unsolicited commercial communication referred against item 1.
2.Unsolicited commercial communication made from Cellular Mobile Telecom Service (CMTS)]	Rs.500/- for each unsolicited commercial communication referred against item 2.”.

[Sadhana Dikshit]

Pr.Advisor (FA & IFA& Eco)

Note.1. – The Telecommunication Tariff Order, 1999 was published in the Gazette of India, Extraordinary, Part III, Section 4 under notification no.99/3 dated 9th March, 1999, and subsequently amended as given below:-

Amendment No.	Notification No. and Date
1st	301-4/99-TRAI (Econ) dated 30.3.1999
2nd	301-4/99-TRAI(Econ) dated 31.5.1999
3rd	301-4/99-TRAI(Econ) dated 31.5.1999
4th	301-4/99-TRAI(Econ) dated 28.7.1999
5th	301-4/99-TRAI(Econ) dated 17.9.1999
6th	301-4/99-TRAI(Econ) dated 30.9.1999
7th	301-8/2000-TRAI(Econ) dated 30.3.2000
8th	301-8/2000-TRAI(Econ) dated 31.7.2000
9th	301-8/2000-TRAI(Econ) dated 28.8.2000
10th	306-1/99-TRAI(Econ) dated 9.11.2000
11th	310-1(5)/TRAI-2000 dated 25.1.2001
12th	301-9/2000-TRAI(Econ) dated 25.1.2001
13th	303-4/TRAI-2001 dated 1.5.2001
14th	306-2/TRAI-2001 dated 24.5.2001
15th	310-1(5)/TRAI-2000 dated 20.7.2001
16th	310-5(17)/2001-TRAI(Econ) dated 14.8.2001
17th	301/2/2002-TRAI(Econ) dated 22.1.2002
18th	303/3/2002-TRAI(Econ) dated 30.1.2002
19th	303/3/2002-TRAI(Econ) dated 28.2.2002
20th	312-7/2001-TRAI(Econ) 14.3.2002
21st	301-6/2002-TRAI(Econ) dated 13.6.2002
22nd	312-5/2002-TRAI(Eco) dated 4.7.2002

23rd	303/8/2002-TRAI(Econ) dated 6.9.2002
24th	306-2/2003-Econ dated 24.1.2003
25th	306-2/2003-Econ dated 12.3.2003
26th	306-2/2003-Econ dated 27.3.2003
27th	303/6/2003-TRAI(Econ) dated 25.4.2003
28th	301-51/2003-Econ dated 5.11.2003
29th	301-56/2003-Econ dated 3.12.2003
30th	301-4/2004(Econ) dated 16.1.2004
31st	301-2/2004-Eco dated 7.7.2004
32nd	301-37/2004-Eco dated 7.10.2004
33rd	301-31/2004-Eco dated 8.12.2004
34th	310-3(1)/2003-Eco dated 11.3.2005
35th	310-3(1)/2003-Eco dated 31.3.2005
36th	312-7/2003-Eco dated 21.4.2005
37th	312-7/2003-Eco dated 2.5.2005
38th	312-7/2003-Eco dated 2.6.2005
39th	310-3(1)/2003-Eco dated 8.9.2005
40th	310-3(1)/2003-Eco dated 16.9.2005
41st	310-3(1)/2003-Eco dated 29.11.2005
42nd	301-34/2005-Eco dated 7.3.2006
43rd	301-2/2006-Eco dated 21.3.2006
44th	301-34/2006-Eco dated 24.1.2007

Note 2. – The Explanatory Memorandum explains the objects and reasons for the Telecommunication Tariff (Forty fifth Amendment) Order, 2007.

Explanatory Memorandum

The Telecom Regulatory Authority of India has made the Telecom Unsolicited Commercial Communications Regulations, 2007 on 5th June, 2007 to regulate the Unsolicited Commercial Communications made for carrying on the telemarketing activities. The telemarketing activities, as per known practice prevailing in India, *inter alia,* include making of Unsolicited Commercial Communications to the subscribers who have not given explicit prior consent to the calling party for making calls for such

activities. A large number of subscribers are of the opinion that such unsolicited commercial communications are inconvenient and a nuisance as they encroach upon their time and often interfere with their activities at the time when such calls are made besides disturbing their privacy. The Telecom Regulatory Authority of India had, therefore, initiated on 20/11/2006 a consultation process to seek the views of all stakeholders for a comprehensive solution to prevent receiving of the unsolicited commercial communications by the subscribers who do not wish to do so and to address their grievance in this regard.

2. The Telecom Unsolicited Commercial Communications Regulations, 2007 issued, after the consultation process, on 5th June, 2007, provides for setting up of a National Do Not Call Register wherein the subscribers, who do not wish to receive the unsolicited commercial communications, can register their telephone numbers for not receiving the unsolicited commercial communications, thereby facilitating such subscribers to maintain their privacy and avoid the inconvenience caused to them due to such calls. The clause (b) of sub-regulation (3) of aforesaid regulation 16 requires that a service provider shall charge, tariff at such rate, from the sender of any unsolicited commercial communication, which is specified under the Telecommunication Tariff Order, 1999. The Telecommunication Tariff (Forty fifth Amendment) Order, 2007 specifies the tariffs for such unsolicited commercial communications to be charged from the sender by the Access Service Providers, in pursuance of the said clause 16 of the Telecom Unsolicited Commercial Communications Regulations, 2007.

3. The Authority expects that notifying higher rate of tariff (i.e. at Rs.500/-for each such communications) for unsolicited commercial communications would protect the interest of consumers and service providers and facilitate orderly growth of the telecom sector.

TELECOM REGULATORY AUTHORITY OF INDIA

NOTIFICATION

New Delhi, the 24th January, 2008

THE TELECOMMUNICATION TARIFF (FORTY-SIXTH AMENDMENT) ORDER, 2008

(No. 1 of 2008).

No. 301-36/2007-Eco. --- In exercise of the powers conferred upon the Telecom Regulatory Authority of India under sub-section (2) of section 11, read with sub-clause (i) of clause (b) of sub-section (1) of the said section, of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), the Telecom Regulatory Authority of India (TRAI) hereby makes the following order further to amend the Telecommunication Tariff Order, 1999, namely:-

1. (1) This Order shall be called the Telecommunication Tariff (Forty- sixth Amendment) Order, 2008.

2. In Schedule I to the Telecommunication Tariff Order, 1999 (hereinafter referred to as the principal Tariff Order), for items 10 and 11 and entries relating thereto, the following items and entries relating thereto shall be substituted, namely :-

Schedule – I

Basic Services (Other than ISDN)

ITEM	**TARIFF**
"10. Tariff for itemized bills in respect of long distance calls	NIL
10A. Tariff for provision of hard copy of the bill or printed copy of the bill to the customer	NIL
11. Other matters relevant to tariff including billing cycle	Forbearance

3. In Schedule II to the principal Tariff Order, after item 7 and entries relating thereto, the following item and entry relating thereto shall be inserted, namely:-

Schedule II

Cellular Mobile Telecom Service (CMTS)

ITEM	**TARIFF**
"7A Tariff for provision of hard copy of the bill or printed copy of the bill to the customer	NIL

[M. Kannan]
Advisor (Economic)
Telecom Regulatory Authority of India

Note.1. – The Telecommunication Tariff Order, 1999 was published in the Gazette of India, Extraordinary, Part III, Section 4 under notification no.99/3 dated the 9th March, 1999, and subsequently amended by the following notifications, namely:-

Amendment No.	**Notification No. and Date**
1st	301-4/99-TRAI (Econ) dated 30.3.1999
2nd	301-4/99-TRAI(Econ) dated 31.5.1999
3rd	301-4/99-TRAI(Econ) dated 31.5.1999
4th	301-4/99-TRAI(Econ) dated 28.7.1999
5th	301-4/99-TRAI(Econ) dated 17.9.1999
6th	301-4/99-TRAI(Econ) dated 30.9.1999
7th	301-8/2000-TRAI(Econ) dated 30.3.2000
8th	301-8/2000-TRAI(Econ) dated 31.7.2000
9th	301-8/2000-TRAI(Econ) dated 28.8.2000
10th	306-1/99-TRAI(Econ) dated 9.11.2000
11th	310-1(5)/TRAI-2000 dated 25.1.2001
12th	301-9/2000-TRAI(Econ) dated 25.1.2001
13th	303-4/TRAI-2001 dated 1.5.2001
14th	306-2/TRAI-2001 dated 24.5.2001

15th	310-1(5)/TRAI-2000 dated 20.7.2001
16th	310-5(17)/2001-TRAI(Eco.) dated 14.8.2001
17th	301/2/2002-TRAI(Econ) dated 22.1.2002
18th	303/3/2002-TRAI(Econ) dated 30.1.2002
19th	303/3/2002-TRAI(Econ) dated 28.2.2002
20th	312-7/2001-TRAI(Econ) 14.3.2002
21st	301-6/2002-TRAI(Econ) dated 13.6.2002
22nd	312-5/2002-TRAI(Eco) dated 4.7.2002
23rd	303/8/2002-TRAI(Econ) dated 6.9.2002
24th	306-2/2003-Econ dated 24.1.2003
25th	306-2/2003-Econ dated 12.3.2003
26th	306-2/2003-Econ dated 27.3.2003
27th	303/6/2003-TRAI(Econ) dated 25.4.2003
28th	301-51/2003-Econ dated 5.11.2003
29th	301-56/2003-Econ dated 3.12.2003
30th	301-4/2004(Econ) dated 16.1.2004
31st	301-2/2004-Eco dated 7.7.2004
32nd	301-37/2004-Eco dated 7.10.2004
33rd	301-31/2004-Eco dated 8.12.2004
34th	310-3(1)/2003-Eco dated 11.3.2005
35th	310-3(1)/2003-Eco dated 31.3.2005
36th	312-7/2003-Eco dated 21.4.2005
37th	312-7/2003-Eco dated 2.5.2005
38th	312-7/2003-Eco dated 2.6.2005
39th	310-3(1)/2003-Eco dated 8.9.2005
40th	310-3(1)/2003-Eco dated 16.9.2005
41st	310-3(1)/2003-Eco dated 29.11.2005
42nd	301-34/2005-Eco dated 7.3.2006
43rd	301-2/2006-Eco dated 21.3.2006
44th	301-34/2006-Eco dated 24.1.2007
45th	301-18/2007-Eco dated 5th June, 2007.

Note 2. – The Explanatory Memorandum explains the objects and reasons

for the Telecommunication Tariff (Forty – sixth Amendment) Order, 2008.

Explanatory Memorandum

It has come to the notice of the Telecom Regulatory Authority of India (TRAI) that a mobile service provider has offered a post-paid tariff plan in which the subscribers are being given bills through SMS or email. The hard copy of the bill is available to the subscribers only on payment of a fixed amount as determined by the operator.

2. The Authority has examined the issue keeping in view the provisions in the Indian Telegraph Rules, 1951, licence agreements for Cellular Mobile Telecom Service (CMTS), Unified Access Service, National Long Distance (NLD) and International Long Distance (ILD) services relating to billing and customer service.

3. Under the provisions of the Indian Telegraph Rules, 1951, the charges for calls in message rate and measured rate system shall become payable on presentation of a bill. It also stipulates that, any notice, bill or demand from the Telegraph authority for any fee or charges due from a subscriber may be served by delivery to the subscriber, or by sending it by post to the address of the subscriber or by leaving it at the premises or upon which the apparatus is installed. Rule 439 of the Indian Telegraph Rules, 1951 reads as under:-

"439. Charges when payable
Charges for calls in message rate or measured rate system shall become payable on presentation of a bill therefor. The periods for which bill shall be prepared and the dates by which they shall be payable shall be fixed by the Telegraph Authority."

Rule 442 of the Indian Telegraph Rules, 1951 reads as under:-

"442. Service of notice and bills
Any notice, bill or demand from the Telegraph Authority for any fee or charges due from a subscriber may be served by delivery to the subscriber, or by sending it by post to the address of the subscriber or by leaving it at the premises in or upon which the apparatus is installed."

Besides, CMTS licence agreement (Condition 7 in Part I of Schedule II) and the Unified Access Service license agreement (Clause 30.4) also, *inter-alia*, stipulate that it shall be the responsibility of the licensee to issue or cause to be issued bills to its subscribers for use of the service. As per these licensing conditions, the billing system of the licensee shall be able to generate the billing information, in adequate details, to ensure satisfaction to the customer about the genuineness of the bill. The licence agreements for these services also mandate that the directions of TRAI, from time to time, in this regard shall apply.

4. Taking note of the above position, the Authority initiated a consultation process on the 1st January, 2008 by circulating a draft Tariff Amendment Order, alongwith a background note and a press release, inviting comments of stakeholders on the proposal for amending the Telecommunication Tariff Order to incorporate an explicit provision for providing bill in hard copy free of cost to all post paid subscribers.

5. Various stakeholders including Service Providers, Consumer Organizations and Associations of Service Providers had responded to this consultation process with written comments. Stakeholders have in general overwhelmingly welcomed the proposal of the Authority for mandating provision of hard copy / printed copy of the summary bill to the post paid consumers free of cost. All Service Providers who have responded to the consultation process, have stated that they were already giving hard copy of the bill free of cost to their post-paid customers. Some of the Service Providers and the Associations of Service Providers have suggested that the amendment should also provide clarity as regards the provision of printed copies of the itemized bills for local calls and Short Message Service (SMS) to consumers. They have suggested that the tariff amendment order may clarify that itemized bills for local calls and SMS are to be provided to the consumers at some cost and that the charges for such itemized bills for local calls and SMS should be kept under forbearance. Some of them have also suggested that even after getting bills in electronic form, if a customer insists for a hard copy of the bill, then it should be at a cost. It has also been suggested that, considering the convenience of electronic bills to a large section of subscribers, hard copy of bills should not be mandated and choice of receiving bills, hard copy or soft copy, should be left to the subscribers.

6. Consumers and Consumer Organisations have generally commented in favour of the proposal of the Authority by stating that such a move would go a long way in educating and informing laymen – consumers to know the details of their bills. One Industry Association has submitted that, as regards the low end post-paid customers (having bill amount of say Rs.100/-), SMS

and e-mail should be considered as valid way for informing the customers of the dues payable by them.

Analysis:-

7. The bill represents the true extent of the service actually provided by the service provider and also the details about the service and conditions, which are available to the subscribers.

8. Some of the purposes of issuing or obtaining the telephone bills through hard copy, *inter-alia*, are to ----

a) understand and satisfy oneself about the genuineness of the bill; b) facilitate making of payment;
c) verify the charges incurred by the consumer;
d) monitor usage or expenditure by consumer.

9. Recently, TRAI has undertaken a detailed study on the presentation of the bills to the consumers and after a limited consultation, issued a Direction vide No. 303-4/2007-QoS, dated the 4th May, 2007 specifying various guidelines as to how the bill should be presented to the consumers. It was mandated that bill must contain certain useful information to the consumers in addition to the amount of the bill. The Authority had also issued the Telecom Consumers Protection and Redressal of Grievances Regulations, 2007 dated 4th May 2007 in which the Authority has envisaged provision of usage details even to the pre-paid mobile users.

10. The Authority in its Direction vide F.No. 303-4/2007-QoS dated the 4th May, 2007 has specified a number of information, which are useful to the consumers, to be captured in the bill. Such information cannot be easily, conveniently and comprehensively captured in short message service (SMS) and bill sent through SMS would not give sufficient clarity. Most of the consumers who own a phone may not be having access to computer and internet to obtain the bill through e-mail. Access to e-mail is normally not available to the persons who are in the low-income category. It is, therefore, in the interest of the consumers that the service providers give the bills in an understandable form to their consumers. It would, therefore, not be consumer friendly to permit service providers to levy extra charges for providing hard copy of the bill.

11. The Authority has noted that the service providers of other sectors such as Electricity Corporations, Water Utilities services, and Financial Institutions, etc., are not charging any amount for providing the hard copy of the bill.

12. For any services, the subscribers have the right to know and verify the charges levied by the service providers without any exception. Thus, provision of a fixed sum for providing hard copy of the bill is anti-customer. In the views of the Authority, a classification of low end subscribers based on monetary value suggested by the Industry Association is likely to be termed as arbitrary as usage and bill values are relative in nature. Further, 'low-end' customers are the ones who cannot generally afford to have access to computer / internet and, therefore, it is this category of customers who needs protection.

13. The Authority after careful consideration of the provisions relating to billing in the Indian Telegraph Rules, 1951, license agreements for Cellular, Unified Access, NLD and ILD licenses and also the views expressed by stakeholders is of the view that it is necessary to mandate the service providers to provide hard copy of the bill to its post-paid subscribers free of cost. However, if any customer opts for receipt of the bill through e-mail, instead of hard copy, the service providers can supply the same after

obtaining explicit consent from the consumers. In all other cases, the service provider must ensure that the bills are generated and delivered to the consumers in printed form free of cost.

14. It is clarified that it has already been mandated to provide itemized bill in respect of long distance calls free of cost on request. As regards the suggestion of the service providers that the Tariff Amendment Order may clarify that itemized bills for local calls and SMS are to be provided to the consumers at some cost and that the charges for such itemized bills for local calls and SMS should be kept under forbearance, it is clarified that the existing provisions of telecommunication tariff order are clear that itemized bills in respect of long distance calls are to be provided to the subscribers free of cost. However, the issue of providing itemized bills in respect of local calls and SMS remains already under forbearance. The requirement now being mandated is only in respect of the basic / summary bill and the itemized bill in respect of long distance calls are to be provided to subscriber free of cost. This being the position the Authority does not deem it necessary to provide for any specific provision in the tariff order for itemized bill for local calls / SMS.

15.	This	amendment	to	the	principal	Tariff	Order	by	the
Telecommunication		Tariff	(Forty-sixth		Amendment)		Order,		2008

incorporates the decision of the Authority that the telecom customers must

get the bill in a printed paper form without any extra charge from them.

TELECOM REGULATORY AUTHORITY OF INDIA

THE TELECOMMUNICATION TARIFF (FORTY- SEVENTH AMENDMENT) ORDER, 2008

No. 2 of 2008

NOTIFICATION

New Delhi, the 17th March, 2008

No. 301-14/2008- Eco. — In exercise of the powers conferred upon it under sub-section (2) of section 11, read with sub-clause (i) of clause (b) of sub-section (1) of the said section, of the Telecom Regulatory Authority of India Act, 1997(24 of 1997), the Telecom Regulatory Authority of India hereby makes the following Order further to amend the Telecommunication Tariff Order, 1999, namely: -

1. (1) This Order may be called the Telecommunication Tariff (Forty-seventh Amendment) Order, 2008.

(2) It shall come into force on the seventeenth day of March, 2008.

2. In Schedule XI to the Telecommunication Tariff Order, 1999,--

(a) for the tariff specified against item 1, the following tariff shall be substituted against that item, namely:-

TARIFF
“Rs.500 for every first unsolicited commercial communication and Rs.1000 for every subsequent unsolicited commercial communication, referred against item 1”;

(b) for the tariff specified against item 2, the following tariff shall be substituted against that item, namely:-

TARIFF
“Rs.500 for every first unsolicited commercial communication and Rs.1000 for every subsequent unsolicited commercial communication, referred against item 2.”

[M. Kannan]
Advisor (Eco)

Note.1. – The Telecommunication Tariff Order, 1999 was published in the Gazette of India, Extraordinary, Part III, Section 4 under notification no.99/3 dated 9th March, 1999, and subsequently amended as given below:-

Amendment No.	Notification No. and Date
1st	301-4/99-TRAI (Econ) dated 30.3.1999
2nd	301-4/99-TRAI(Econ) dated 31.5.1999
3rd	301-4/99-TRAI(Econ) dated 31.5.1999
4th	301-4/99-TRAI(Econ) dated 28.7.1999
5th	301-4/99-TRAI(Econ) dated 17.9.1999
6th	301-4/99-TRAI(Econ) dated 30.9.1999
7th	301-8/2000-TRAI(Econ) dated 30.3.2000
8th	301-8/2000-TRAI(Econ) dated 31.7.2000

9th	301-8/2000-TRAI(Econ) dated 28.8.2000
10th	306-1/99-TRAI(Econ) dated 9.11.2000
11th	310-1(5)/TRAI-2000 dated 25.1.2001
12th	301-9/2000-TRAI(Econ) dated 25.1.2001
13th	303-4/TRAI-2001 dated 1.5.2001
14th	306-2/TRAI-2001 dated 24.5.2001
15th	310-1(5)/TRAI-2000 dated 20.7.2001
16th	310-5(17)/2001-TRAI(Econ) dated 14.8.2001
17th	301/2/2002-TRAI(Econ) dated 22.1.2002
18th	303/3/2002-TRAI(Econ) dated 30.1.2002
19th	303/3/2002-TRAI(Econ) dated 28.2.2002
20th	312-7/2001-TRAI(Econ) 14.3.2002
21st	301-6/2002-TRAI(Econ) dated 13.6.2002

22nd	312-5/2002-TRAI(Eco) dated 4.7.2002
23rd	303/8/2002-TRAI(Econ) dated 6.9.2002
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29th	301-56/2003-Econ dated 3.12.2003
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32nd	301-37/2004-Eco dated 7.10.2004
33rd	301-31/2004-Eco dated 8.12.2004
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th 44	301-34/2006-Eco dated 24.1.2007
45th	301-18/2007-Eco. dated 5.6.2007
46th	301-36/2007-Eco. dated 24.1.2008

Note 2. – The Explanatory Memorandum explains the objects and reasons for the

Telecommunication Tariff (Forty- seventh Amendment) Order, 2008.

EXPLANATORY MEMORANDUM TO THE TELECOMMUNICATION TARIFF (FORTY SEVENTH AMENDMENT) ORDER, 2008

Background:

The Telecom Regulatory Authority of India (the Authority) had made the "Telecom Unsolicited Commercial Communications Regulation, 2007 (4 of 2007)" on the 5th June, 2007 for curbing the unwanted telemarketing calls and thereby reduce the nuisance and inconvenience to the subscribers of basic telephone or cellular mobile telephone services from the unsolicited tele-marketing calls/messages.

2. The Authority has set up the National Do Not Call (NDNC) Registry which is operational since October 2007. The NDNC is being operated and maintained by the National Informatics Centre (NIC), in the Ministry of Communications and Information Technology. The tele-marketers are required to verify their calling telephone numbers' list with the NDNC Registry before making tele-marketing calls. The subscribers can get their telephone numbers listed in NDNC through their respective service providers. The respective service providers shall upload the telephone number to the NDNC within thirty days of receipt.

3. All tele-marketers are required to get themselves registered with the Ministry of Communications and Information Technology (Department of Telecommunication). On line registration facility is available in the NDNC Registry.

4. The Authority, Cellular Operators Association of India (COAI) and Association of Unified Telecom Services of India (AUSPI) have advertised in the leading National dailies, the procedure for registering in NDNC. The details of call center number/short message service (SMS) numbers on which the registration can be done are available on the websites of respective service provider. The same can also be accessed from the website www.ndncregistry.gov.in. The Department of Telecommunications has also allotted a special four digit code "1909" to enable easy access to the consumers to register their number in NDNC.

5. The Authority also held a series of meetings with the service providers to ensure effective implementation of the "Telecom Unsolicited Commercial Communications Regulation, 2007 (4 of 2007)".

6. Till date, more than 8.3 million phone users have registered for 'Do Not Call' in NDNC Registry. About 13600 telemarketers have got themselves registered with the

Ministry	of	Communications	and	Information	Technology	(Department	of

Telecommunication).The NDNC is being accessed daily by around 600 tele-marketers for scrubbing their calling list. Out of approximately 1522 million numbers uploaded by the telemarketers for scrubbing, 1411 million numbers were cleared by NDNC for calling.

7. The Authority has received several complaints with regard to the harassment of the consumers even after the notification of the Telecom Unsolicited Commercial Communications Regulations, 2007 (4 of 2007).

8. As already stated in paragraph 7 of the Explanatory Memorandum to the Telecom Unsolicited Commercial Communications Regulations, 2007 (4 of 2007), the telemarketing calls have engaged the attention of our Parliament, the Hon'ble Supreme Court of India, the Hon' High Court of Delhi, the Reserve Bank of India, and the State Commission (Consumer) of Delhi. Besides there have also been a number of consumer complaints made to the Authority about telemarketing calls. The situation is still much below the desired level and non-compliance of the Telecom Unsolicited Commercial Communications Regulations, 2007 (4 of 2007) continues as there is no provision for effective financial sanctions.

9. In order to discourage the registered telemarketers also from sending Unsolicited Commercial Communications , the Telecommunication Tariff Order, 1999 is also being amended by the Telecommunication Tariff (Forty- seventh Amendment) Order, 2008 so as to provide that five hundred rupees shall be payable as tariff for each unsolicited commercial communication [made from Basic Services (Other than ISDN**)** and Cellular Mobile Telecom Service (CMTS)]for every first unsolicited commercial communication and rupees one thousand shall be payable as tariff for every subsequent unsolicited commercial communication.

10. The Authority expects that notifying higher rate of tariff of rupees five hundred for every first unsolicited commercial communication and rupees one thousand for every subsequent unsolicited commercial communication would protect the interest of consumers and service providers and facilitate orderly growth of telecom sector.

11. Apart from the above higher tariff payable by the telemarketers for sending Unsolicited Commercial Communications, and in order to discourage the service providers also from sending Unsolicited Commercial Communications , the Telecom Unsolicited Commercial Communications Regulations, 2007 (4 of 2007) are also being amended by the Telecom Unsolicited Commercial Communications (Amendment) Regulations, 2008] so as to provide payment of certain amounts by way of financial disincentives specified therein payable by such service provider which violate certain provisions of said regulations. The object of the Telecommunication Tariff (Forty seventh Amendment) Order, 2008 and the Telecom Unsolicited Commercial Communications (Amendment) Regulations, 2008 is to improve the effectiveness and compliance of the said regulations.

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TELECOM REGULATORY AUTHORITY OF INDIA

THE TELECOMMUNICATION TARIFF (FORTY-EIGHTH AMENDMENT)

ORDER, 2008

(3 OF 2008)

NOTIFICATION

New Delhi, the 1st day of September, 2008

No. 301-31/2007-Eco. — In exercise of the powers conferred upon it under sub-section (2) of section 11, read with sub-clause (i) of clause (b) of sub-section (1) of the said section, of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), the Telecom Regulatory Authority of India

hereby	makes	the	following	Order	further	to	amend	the

Telecommunication Tariff Order, 1999, namely: -

1. (1)This Order may be called the Telecommunication Tariff (Forty-eighth Amendment) Order, 2008.

(2) This Order shall come into force with effect from the 15th day of September 2008.

2. In clause 6 of the Telecommunication Tariff Order, 1999 (hereinafter referred to as the principal Tariff Order), after sub-clause (vii), the following sub-clauses shall be inserted, namely:-

"(viii) Where the terms and conditions of any tariff plan with lifetime validity or unlimited validity include any condition or stipulation which requires any subscriber to recharge for any specified minimum amount within specified time periods or intervals during such validity so as to keep the said tariff plan valid, such specified time period or interval, shall, in no case, be less than six months:

(ix) In cases of straight tariff reductions where the declared intention of the operator is to extend the benefit to all subscribers without any attached liabilities, there shall not be any pre-condition of explicit positive action on the part of subscribers. Exercise of an option by the subscriber is relevant only when such options lead to any liability or adverse conditions on his part.".

3. In Schedule II relating to Cellular Mobile Telecom Service (CMTS) to the principal Tariff Order, --------

(a) under the heading "TARIFF", in the entries occurring against the item "(4) Installation charge", for the words "offered by a service provider.", the following words shall be substituted, namely:-

"offered by a service provider and no up-front payment or recurring charges or fee or any such amount by whatever name or description, shall be levied from a subscriber of an existing life-time validity plan or unlimited validity plan (hereafter referred to as existing tariff plan) if such subscriber opts for migration to a new life-time validity or unlimited validity plan with lower entry fee.";

(b) under the heading "TARIFF", in the entries occurring against the item "(6) Tariff for pre-paid service", in the proviso, after clause (e), the following clause shall be inserted, namely:-

"(f) no amount, whether as fixed fee or otherwise other than---

(i) applicable taxes; and

(ii) a nominal fee, not exceeding two rupees towards administrative costs or expenses for each recharge under any tariff plan, shall be levied on any recharge exclusively meant for provision of talk time value.".

[M. Kannan]
Advisor (Economic)

Note.1. – The Telecommunication Tariff Order, 1999 was published in the Gazette of India, Extraordinary, Part III, Section 4 under notification no.99/3 dated 9th March, 1999, and subsequently amended as given below:-

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46th	301-36/2007-Eco. dated 24.1.2008
47th	301-14/2008- Eco. dated 17.3.2008

Note 2. – The Explanatory Memorandum explains the objects and reasons for the Telecommunication Tariff (Forty-eighth Amendment) Order,

EXPLANATORY MEMORANDUM

The Authority had considered the issue of consumer transparency arising out of multiplicity of tariff offers in the access market in the year 2004 by issuing a consultation paper titled "Limiting the number of tariff plans offered by access service providers". That process resulted in issue of 31st Amendment to TTO in July, 2004 which contained the land mark provision of providing protection to consumers from tariff hikes for a period of six months. The Authority, thereafter had issued several other regulatory mandates in the interest of consumers, which included 43rd Amendment to TTO, that guaranteed extended protection for customers enrolled into longer validity plans including lifetime plans. Despite several such measures taken by the Authority there is a feeling among consumers that various offers being made by the access service providers are not transparent and consumer friendly. The Authority continues to receive complaints from consumers and consumer organizations which inter-alia highlight transparency issues.

2. The Authority, therefore, decided to have a re-look at the regulatory framework relating to transparency in the matter of tariff offers through the well established process of public consultation. A consultation process was initiated by the Authority in this direction with the issue of consultation paper on 29th January 2008. Open House discussions were held in Ahmedabad and Jaipur. In this consultation paper titled "Issues arising out Plethora of Tariff Offers in Access Service Provision" the following issues were posed for consultation:-
a) Is there a need to further reduce the limit of the number of tariff plans on offer from the existing cap of 25 and if so what should be the number? Justify your answer. If not, give reasons?

b) What should be the service segments for application of the proposed cap?

c) Is there a need to regulate the structure and the number of add-on packs and also counting them as tariff plans for the purpose of the cap on number of plans on offer? If yes, give specific suggestion.

d) How to treat value added service in this scenario?

e) Should a minimum validity period of 6 months specified for tariff plans by the provisions of 31st amendment to TTO needs to be reviewed?

f) Should the tariff plans offered for subscription for a limited period but available for the customer as a regular plan be also counted as tariff plans for the purpose of application of the cap?

g) Is there a need to regulate or restrict the promotional offers and if so what should be the measures?

h) What further measures should be advisable to improve the transparency in the tariff offers?

3. The issues posed for consultation in the Paper can be broadly categorized into the following four sets of issues:-
A) The need to reduce the cap on tariff plans.

B) Review of the protection period of six months guaranteed by the 31st Amendment to TTO.

C) Review of number and structure of tariffs offered as add-on packs/Value Added Service/Promotional tariffs and
D) Further measures required to promote transparency in tariff offers.

4. The Authority had received written submissions from various stakeholders. These are available in the website of TRAI. Feedback was also obtained from the open house discussions held in the month of March, 2008 in Ahmedabad and Jaipur. This amendment order to TTO

seeks to convey and formalise the decisions of the Authority on culmination of a multistage Consultation Process

Issues and the decision of the Authority in the first stage of Consultation

A]Is there a need to further reduce the limit of the number of tariff plans on offer from the existing cap of 25 ?

5. On the issue of reducing the existing limit of 25 plans on offer, three kinds of responses were received, (i) that capping of tariff plan was not necessary at all (ii) that the capping should be continued at the existing level and (iii) that cap on tariff plan should be reduced further. The reasons forwarded by stakeholders who favoured either no cap or no further reduction in the existing cap are listed below:-
• Internationally, regulators do not regulate number of tariff plans.

• If Service Providers ignore varied customer requirements, it is

likely	that	prospective	customer	segments	will	remain

untapped.

• There is no confusion amongst subscribers while selecting a tariff plan in case he or she is aware of the usage pattern.

• Limiting number of plans will only limit the choice available with the subscribers.

• Reducing the cap would only stifle competition and large section of subscribers would not be able to get a plan which is best suited to their needs.

• Another 5 to 6 new operators are likely to enter the market.

The existing operators will have to launch new tariff plans to match the offers of the new entrants.

• It will result in limiting competition in the market and lack of option for the customer.

• Counter productive to the free market forces.

• Restriction bound to hurt some of the consumers who would no longer be able to avail tariff plans suited to their usage pattern. • Consumer interest cannot be achieved through cap.

• Consumer benefits from greater choice.

• Cap will limit the ability of Service Providers to effectively compete.

6. The Stakeholders who were in favour of further reducing the cap from the existing level of 25 submitted the following points in support of their view point:-
• Consumers always get confused with large number of plans.

• Enable customer to identify ideal tariff package.

• Effectively eliminate tariff cartel of mobile SPs.

• TRAI in its own findings has stated that about 75 per cent of the customers in both pre-paid and post-paid have opted for only 5-6 tariff plans.

• Lack of transparency in the offers.

• Number of plans will further increase with new operators.

7. The majority view among the service providers as well as consumers / consumer organisations was that limiting the number of tariff plans will only limit the choice available for the customer and will not serve any purpose. The service providers submitted certain arguments against limiting the tariff offers/plans in the market on the ground that such a move could stifle the competitive activity in the market. Even certain consumer organizations in their written submissions to the Authority and during the Open House Discussions

suggested that reduction of number of tariff plans would not be the appropriate option as that would limit the choice to consumers and thus they advocated continuation of the existing limit of 25 tariff plans. The general view emerged from the consultation process was that if the tariff plans are made simple without any ambiguity and hidden charges, then the number of plans may not create problems for the consumers.

8. The Authority noted that the number of options available in the matter of price plans is a genuine outcome of competitive activity in the market and any intervention in that may be against the policy of fostering competition. ***The Authority after considering the various view points expressed by the stakeholders and assessing the prevailing market conditions has decided not to change the current cap on the number of tariff plans that can be offered by access service providers, i.e. 25.*** This in other words means that the existing provision of 21st Amendment to TTO will continue to be applicable in this matter.

9. At any given point of time not more than 25 tariff plans shall be on offer by an Access service provider. This includes both post paid and pre paid tariff plans. For the purpose of monitoring the cap of 25 tariff plans on offer, any package on offer for enrollment / acquisition of customers into the network and having one or more of the following features, shall be counted as tariff plan:

i) ii) iii) iv) v) vi) vii) viii)	Title Rental/Fixed Fee Billing Cycle/Validity Free Call Allowance/Talk time Local Call STD ISD SMS

ix) National roaming

In order to have a better monitoring mechanism for service providers and Authority as well as to facilitate enhanced transparency, it is decided to evolve a unique numbering scheme for each tariff plan. The detailed instructions in this regard are being issued separately.

10. Further it is mandatory for all service providers under the provisions of 21st Amendment of TTO, 1999 to provide the following information at the time of reporting fresh tariff plans :
“Number of tariff plans on offer to subscribers as on (the date of reporting).

- Pre-paid_____ (wherever applicable) - Post Paid_____ (wherever applicable)”

Any new postpaid or prepaid plan for customer acquisition reported to the TRAI without the above information shall be treated as incomplete and will not be taken on record. This is being reiterated for strict compliance.

B]Review of number and structure of tariffs offered as add-on packs/Value Added Service/Promotional tariffs

11. A major issue discussed in the Consultation Paper was the ever increasing number and variety of add-on/top-up packs and promotional offers. While some consumer organisations insisted for regulation of Add-on Packs, certain other consumer organisations supported the point of view that any intervention against the add-on packs might limit benefits of technological development to the consumer. However the authority noted that the packs are optional for the customers and generally beneficial for them too because the subscriber can lower the cost depending on the usage profile. ***The Authority has therefore***

decided not to impose any new regulatory restrictions on the number or structure of tariffs offered as add-on packs etc.

12. On careful consideration of the other issues posed for consultation in the paper and the responses of the stakeholders to them, the Authority arrived at a preliminary finding that the existing provisions of the TTO 1999 require amendments to further enhance transparency in the matter of tariff offers. The issues, the responses on them, its analysis, the findings of the Authority from the first stage of consultation are detailed below.

C] Review of minimum validity period of 6 months specified for tariff plans by the provisions of 31st amendment to TTO:

13. On the issue of reviewing the provisions of 31st Amendment to TTO which provides six months protection to consumers from tariff hikes, the responses from the stakeholders were divided as expected. The service providers and their associations were either in favour of retaining the protection period of six months or abolishing it. On the other hand, the consumers and Consumer organizations representing them submitted to the Authority that the period may be enhanced to twelve months. The points made in favour and against on the issue are as follows:

Major points in favour of having protection period/enhanced protection period:

• There is an urgent demand to fix a minimum validity period of 1 year to bring in more stability in the market with transparency • Frequent changes in tariff plans are not a desirable option for the subscribers.

• The minimum validity period of the tariff plans could be enhanced to 12 months, in order to bring stability and transparency in the market.

• Frequent changes in tariff plans will pose a discomfort or a factor of annoyance to customers.

Major points against having protection period/enhanced protection period:

• Tariffs are offered to the customer on the basis of existing costs and cost projected for a shorter period of time. A time period of six months is a very long time to guarantee a subscriber against the price escalation. Price escalation is to be recognized as fact of life. • It is very tedious for the billing system to track the subscribers on 6 months basis.

• Any such specification of validity would curb the freedom of operators in the market and be an unnecessary impediment in the action of competitive forces. This would in fact be a disincentive for operators to come forward with new offerings.

14 The Authority decided to propose increasing the 6 months period to 12 months and to seek the views of all the stakeholders again in the second stage of consultation. Detailed analysis of the issues raised in this regard and the basis on which the Authority has finally addressed these issues are given in paragraphs 23 to 27 of this explanatory memorandum.

D] Further measures required to promote transparency in tariff offers

15. The Authority has provided customers the right to choose from among various plans on offer and they are also free to migrate from one plan to any other plan on offer. The 4th Amendment to TTO explicitly prohibits the operators from charging any fee in the form of migration fee when the customer moves from one plan to another. However, the Authority found that certain non-tariff barriers are being introduced by the service providers to dilute the customers' right to subscribe or migrate to the plan of his choice. Some such instances that came to the notice of the Authority were:

i. Some service providers had offered and advertised general reduction in tariffs. But the benefit of the reduced tariff was limited to only those customers who could exercise their choice for the reduced tariff by way of sending SMS to predefined number etc.

ii. Initial lifetime plans offered by service providers had an upfront payment in the region of Rs.1000 and the local call rates were Rs.1.99/minute. Recently several service providers launched new Lifetime plans with substantially lower upfront payment ranging from Rs.495 to Rs.195 and with lower local call rates of Rs.1/minute. However some of the service providers did not provide for migration of existing lifetime customers to the new Lifetime schemes though they had paid a higher entry fee than the new customers, thus denying them the benefit of reduced call charges. In some cases it was also found that existing subscribers were being asked to pay a one time charge or a recurring fee by way of special recharges in order to avail lower call charges equivalent to those applicable for new subscribers.

16. Such measures are not in consonance with some of the existing mandates of the Authority. However in order to prevent such anti-consumer measures and to ensure a free and fair migration to the consumers across plans ***the Authority considered it appropriate to incorporate the explicit provisions to the TTO 1999 to the effect that :-***

i. No additional upfront payment or recurring fee by way of recharge etc. shall be levied when a customer in an existing Lifetime scheme opts for migration to a new lifetime scheme with lower entry fee.

ii. In cases of straight tariff reductions where the declared intention of the operator is to extend the benefit to all subscribers without any attached liabilities, there shall not be any pre-condition of explicit positive action on the part of subscribers. Exercise of an option by the subscriber is relevant only when such options lead to any liability or adverse conditions on his part.

17. One of the major acquisition schemes currently available in the market is in the nature of lifetime schemes. Such schemes generally require the customers to make a minimum recharge at specified intervals, normally six months. But the Authority had also received proposals from service providers where the frequency of the recharges was proposed at every 60 days. The Authority is of the view that specifying recharges at such very short intervals will dilute the "lifetime" character of the lifetime plans and make it more or less similar to the normal prepaid plans that require recharges at shorter frequent intervals. ***The Authority held the view that service providers shall not insist on recharges between periods lesser than six months in life time plans.***

18. During the process of consultation, a need was felt to review the structure of various top-up recharges, as it was brought to the notice of the Authority that service providers are deducting certain fixed amount even for recharges exclusively meant for providing talktime to subscribers who are already having validity. Such subscribers had obtained validity by already paying a fixed fee. The Authority felt that levy of a second or subsequent processing fee when the customer buys talktime through talktime top-ups is unjustified. The Authority therefore proposed to have an amendment to the TTO to the effect that no fixed fee other than applicable taxes shall be levied on recharges exclusively meant for provision of talk time value. However, the service providers may charge a nominal fee not exceeding Rs.2/- per top-up towards administrative costs**.** This proposal will effectively mean that a subscriber having validity need not pay more than Rs.2/- as fixed fee other than applicable taxes when he purchases a talktime voucher exclusively meant for augmenting talk time. The Authority, however, decided to go in for a second stage consultation since this issue was not

specifically	posed	in	the	Consultation	Paper	dated	29.1.2008.

Examination of submissions in this regard among other issues is contained in paras 28 to 40 of this Explanatory Memorandum.

SECOND STAGE OF CONSULTATION

19. The Authority undertook the second stage of consultation process by publishing a draft tariff amendment order in the website of TRAI which contained the proposals that were based on the abovementioned initial findings from the first stage of consultation. The draft tariff order was circulated to stakeholders as a Short Consultation Note on 22nd July 2008 seeking their views on proposed amendments to the existing Telecommunications Tariff Order. The consultation note that was placed

on the TRAI website is annexed to this Explanatory Memorandum as Annexure A. The summary of the proposed amendments to the TTO as contained in the Short Consultation Paper are given below:-

i. The minimum protection period available to an access service consumer from hike in any segment of the tariff was proposed to be increased to 12 months from his/her date of enrolment into a tariff plan as against the current regime which provides for 6 months protection. However, lifetime subscribers and subscribers in longer periods of validity will continue to be protected for the lifetime and with respect to the longer periods of validity subscribed to by the consumers.

ii) In cases of straight tariff reductions, where the declared intention of the operator is to extend the benefit to all subscribers without any attached liabilities, there shall not be any pre-condition of explicit positive action on the part of subscribers.

iii) In cases where a subscriber of an existing lifetime validity plan or unlimited validity plan opts for migration to a new lifetime validity or unlimited validity plan, with lower entry fee, the service provider shall not levy any upfront payment or recurring charges or fee for allowing such migration.

iv) No fixed fee other than applicable taxes shall be levied on recharges exclusively meant for provision of talk time value.

However, the service providers can charge a nominal fee not exceeding Rs.2 per top up towards administrative costs.

v) If the terms and conditions of a lifetime plan/plan with unlimited validity include any condition of minimum amount of recharge at specified intervals, such interval shall be minimum six months.

Before expiry of the specified duration for the recharge, in these plans, if any, consumers are to be reminded by the service providers in advance to avoid disconnection by default.

FEEDBACK	**FROM**	**THE**	**SECOND**	**STAGE**	**OF**	**CONULTATION**

PROCESS

20. The consumer organisations in their responses welcomed the proposed amendments. On the other hand, the service providers and their Associations raised certain reservations against some of the proposals contained in the Short Consultation Note. However their main objections were to the proposals to increase the tariff protection period and to cap processing fee on talktime recharges. The summary of the major points made by the operators and their Associations are attached as Annexure-B to this Explanatory Memorandum. While submitting written submissions to the short consultation note, the industry associations, viz. Cellular Operators Associations of India (COAI) and the Association of Unified Telecom Service Providers of India (AUSPI) sought a meeting with the Authority to further explain their concerns on the proposals. The Authority heard them in detail in a meeting held on 14th August 2008.

21. The Service Providers and their Associations made certain general comments on the Amendments proposed to the existing TTO that were put up for the short consultation. The Authority has taken note of these general views expressed by the operators and would like to respond to them before considering the responses to each of the specific amendments and analysing them. Such general views expressed by the Service Providers and their Associations during Short Consultation Process are:
a) Interfering with the tariff plans in an intensely competitive market would curtail the flexibility of operators to address the increasing demands of the subscribers and their specific and ever changing usage requirements.

b) Despite inflationary trend, the telecom prices have continued to be on decline.

c) The concept of tariff forbearance which has been followed by the Authority assumes that the market is highly competitive and hence the micro management of tariff matters is not required and the market force should be allowed to decide the tariffs.

d) The Authority seems to have lost sight of its mandate under the TRAI Act to protect the interests of service providers also alongwith the consumers of the telecom sector.

e) When the Authority has no control over the inflation and rising operating costs, the Authority should not do micromanagement of telecom tariffs.

f) The amendments to the TTO finalized should be carried out prospectively for all new subscribers only, as any change in the terms of existing subscribers could negatively impact the very basis of the plans they are presently on.

22. At the very outset, the Authority would like to make it very clear that it has no intention to interfere with the market forces or to micro manage the tariffs. The Authority agrees with submissions of the operators that the mobile market is competitive. The Authority also acknowledges the fact that the innovative tariff plans offered by the service providers have immensely contributed to the phenomenal growth of mobile services in the country. It is also a fact that there are large number of instances where lack of transparency in tariff offers has adversely affected consumer interest in the past. Further, the urban areas which were the initial focus area of service provision are fast reaching saturation particularly in mobile penetration and the wireless service provision is currently moving into non-urban areas. The

Authority considers that thesubscribers from this newly emerging market in the non-urban areas require further confidence building measures and protection so that the mobile services will acquire acceptance at a faster pace and the success story in the urban areas could be repeated in the non urban areas as well. This has been the objective of the Authority behind the Draft TTO circulated on 22nd July, 2008 and it is in no way to be seen as an effort to micro manage tariff matters or interfere with the market forces. It may also be noted that some of the proposals in the TTO do not mandate any new measures to be adopted by the service providers. They only provide mandatory status

to	some	of	the	currently	prevailing	industry	practices.	The

apprehensions expressed with regard to financial viability of existing tariff plans have also been taken into consideration by the Authority while arriving at the final decision. These aspects have been further explained below where the rationale behind the Authority's decision on the specific issues have been provided.

FINAL	**DECISION**	**OF**	**THE**	**AUTHORITY**	**ON**	**THE**	**PRPOSALS**

CONSIDERED IN THE SECOND STAGE OF CONULTATION AND THE RATIONALE BEHIND THE DECISIONS

Proposal to increase the existing six months protection period as envisaged by the provisions of 31st Amendment to TTO to twelve months as a consumer friendly measure - Analysis of the issues raised by the Operators/Associations and the rationale behind the Authority decision

23. In what follows, key issues raised by various stakeholders in the consultation process have been addressed by the Authority. For the sake of clarity, the points raised by the service providers/their associations are given in italics followed by the views of the Authority on that point.

'Indian market is characterized by intense competition'
"Considering the intense competitive scenario in the mobile sector, the enhancement of the minimum protection period of even six months is not required."

24. In this regard, it is relevant to note that broadly there are two types of marketing strategies of the access service providers viz. acquisition strategy and retention strategy. In the acquisition strategy the aim is to acquire new subscribers to their network whereas in the retention strategy the aim is to retain the existing subscribers in their network.

Every player in the market brings out tariff offers which comprises of strategies to acquire new subscribers and retain existing subscribers. As a result, a very large number of tariff plans are offered in the market leading to utter confusion to potential consumers of the service and existing subscribers of the service providers. For obvious reasons, every new plan contains new features, different tariff levels some of which may be higher than the levels contained in the previous plans and some of which may be lower than the levels contained in the previous plans already subscribed by the consumers. There is a heavy flow constantly of such tariff schemes flooding the market day in and day out. Confusion apart, this does not provide stability and orderly growth in the market. Competitive offers should not result in consumers having to suffer. Feedback received from consumers/organizations representing consumers suggest that there ought to be a minimum period of

protection	for	consumers	from	changes	that	may	become

disadvantageous to them. Basic considerations that influence the choice of consumers while selecting the tariff plans at the time of subscription should remain unchanged for a reasonable period of time for the consumers. To meet this objective, the Authority brought in the 31st Amendment to TTO in 2004 wherein telecom access consumers were

sought to be protected from tariff hike for a minimum period of six months from the date of subscription to a tariff plan/scheme/offer.

25. In this context, the Authority reviewed significant developments that have taken place in the market during the last few years. One of the major developments relates to tariff decline in access provision particularly in wireless service, that has spurred the growth of telecom services in the country. The Authority found merit in the submissions made by service providers that in a competitive market where tariffs are declining it becomes competitively unviable for operators to frequently change tariffs to the disadvantage of the consumer.

26. The Authority further noted that the 43rd Amendment to TTO1 protects consumers who have enrolled into lifetime tariff plans from tariff hikes for the entire validity of the license period. As per this Amendment, any tariff plan presented, marketed or offered as valid for any prescribed period exceeding six months or as having lifetime or unlimited validity in lieu of an upfront payment shall continue to be available to the subscriber for the duration of the period as prescribed in the plan and in the case of lifetime or unlimited validity plans as long as the service provider is permitted to provide such telecom service under the current license or renewed license. Further, the Authority vide its advisory dated 4.6.2007 laid down certain guidelines relating to handset bundled tariff schemes. As per these guidelines, the period during which the handset is locked to the service providers network tantamount to the minimum period of validity of the tariff scheme. The Authority, therefore, interpreted that any lock in period specified by a service provider is part and parcel of the bundled offer and the subscriber availing the offer is entitled to the protection against any tariff hike during the lock in period

to the network. Thus, hike in any item of tariff during the period which a customer is locked to a network would be inconsistent with the provisions of the 43rd Amendment to TTO. Since the launch of lifetime type of tariff plans in the market in late 2005 and early 2006, the Authority has found that the lifetime tariff plans and plans with longer validity plan have become quite popular in the market. Thus, the competition with regard to 'validity' parameter of the prepaid platform in general is on the wane, with the longer validity plans dominating the market. Lifetime type of tariff plans and schemes with longer validity have been found to have imparted stability in the market. The Authority also took note of the submissions of service providers that it becomes very tedious for the billing system to track the subscribers for a long period like twelve months.

27. Therefore, the Authority after taking into account the viewpoints of service providers, consumers and organizations representing them and after making a detailed analysis of various evidences available and considering other measures contained in this order ***has come to the conclusion that the long term interests of the consumers and the sector in general would be best served by retaining the existing***

framework	***governing***	***tariff***	***protection***	***to***	***telecom***	***access***

consumers. Thus the provisions of the 31st and 43rd amendment to TTO 1999 will continue to apply in the matter without any change. **Proposal to disallow levy of processing fee (PF) on talk-time top-ups - Analysis of the issues raised by the Operators/Associations and the rationale behind the Authority decision**

28. This proposal of the Authority was opposed by the industry segment mainly on the following two grounds:
(a) "*The prescribed ceiling will not be sufficient to recover all costs related to recharge vouchers especially if recharge is for*

higher value where the distributor/retailer commission is much higher."
b) "*The basis on which TRAI has worked out the administrative "cost for top up recharge voucher as maximum of Rs. 2/- only is not known."*

29. The Authority considers this issue more as a transparency aspect than a tariff matter. It must be kept in mind that the decision is confined only to category of "talk-time recharges" i.e. the top-up recharges used only for the purpose of augmenting talk-time value. It does not affect any other component of prepaid service. In the Consultation Paper, the last issue that was raised was an open ended issue seeking suggestion on measures to improve transparency in tariff offers. The discussions on this point led to the conclusion that levy of processing fee as a percentage of the talk time voucher value is not a transparent way for working out the effective tariff payable by the consumer and it is unreasonable as well. The argument goes that once a consumer is enrolled into a prepaid plan where his tariffs are defined and validity is bought, thereafter, the consumer has to simply recoup the balance talk time. While doing so, he is simply purchasing the talk time only and nothing else, in which case, he is required to pay only for the value of the talk time in addition to the applicable taxes. Perhaps in the process of selling such talk time top-ups, some reasonable cost towards administering the sale of such talk time voucher may be justifiable. But this cannot be levied and collected on a pro-rata basis with respect to the value of the talk time voucher nor can the levy remain high as is evident in the market at present. From the tariff filings of the wireless access service providers, the Authority has noted the fact that even in non-life time plans, talk time top-ups attract a very high processing fee seemingly having no relation to cost.

30. ***Before arriving at the decision to limit levy of fee in talk time top-ups as notified in this tariff order***, the Authority had a close look at the structure of levy of processing fee in talk time top ups by the various operators. The analysis revealed the following:

• While some service providers levy the processing fee as percentage of the value of the pack, there are others who collect the processing fee at fixed rates.

• Service providers do have different rates of processing fee for different type of plans.

• Some operators increase the level of processing fee with the value of the pack and for some operators, it is inversely proportionate. • The processing fee levied in paper top-ups and e-top ups are different.

• There are some operators with processing fee structure which does not exceed Rs.3/- whereas certain operators even charge processing fee of upto Rs.95. For the same operator and for the same service area, the processing fee varies drastically for minor variation in the value of the top-up.

31. The emerging picture is disheartening to say the least for the reason that there is utter lack of transparency and rationality in the manner in which the processing fee is levied by the service providers. The submission of the operators that tariffs are market driven does not seem to hold good in the matter of levy of processing fee. Apparently the flexibility provided to the operators by the Authority in determination of tariff has been misused considerably by some service providers while levying processing fee from the subscribers. The decision of the Authority in this matter has been forced by such arbitrariness and the Authority intends to ensure a fair deal for the subscribers without causing any

significant loss to those service providers who have a rational structure for processing fee.

32. The Authority is of the view that determination of processing fee by operators should bear proportional relationship and be reasonable. Amount levied by some operators as processing fee is increasing with the value of the Maximum Retail Price of the voucher. When validity has been paid for and tariffs defined in the base plans, there is hardly any justification for such high processing fee. This amounts to abusing the policy of forbearance, especially when the Authority has provided the flexibility to the operators to recover the cost of service provision in a transparent manner.

33. Another point made by some of the service providers is that application of the proposed mandate to disallow processing fee on talk time top-up would affect the viability of already contracted plans. In the case of newer versions of lifetime tariff plans that were launched in the beginning of the current year there was a provision for levy of processing fee for talk time voucher on a pro-rata basis. At that time, the levy of pro rata processing fee on talk time voucher was sought to be justified by the service providers on the ground that the predominant part of the tariff i.e. local call charges was reduced by almost half (to Re.1 per minute) and therefore in a way linked to the tariff reduction. Subsequent developments in the market reveal that local charges have come around to the same level of what was offered in the newer versions of lifetime tariff plans indicating a general decline even for non-lifetime prepaid customers. In fact the recharge conditions stipulated in these offers ensures a minimum of Rs. 200 recharge once in 6 months which has not been disallowed. Thus the industry practice also point towards the fact that provision of full talk time in top-ups is not likely to affect the viability of the tariff offers currently available in the market. Therefore,

the apprehension that the decision to prohibit levy of processing fee on talk-time top ups may affect viability of existing plans is not borne out of facts.

34. Further from the discussions with the industry representatives, it is understood that nearly 80% of recharges today are through e-recharge. The cost of administering such e-recharges is reportedly closer to zero except the commission for the dealer which is negotiated in bulk and for sale of all products of the service provider. Therefore the mandate to limit the levy of processing fee/administrative fee on talk time top up to Rs.2 per top up as ceiling, irrespective of the value of the denomination and irrespective of the pre-paid plan is unlikely to lead to issues of financial viability.

35. One of the submissions of the service providers and their associations with regard to the proposal to cap the processing fee on talk time top up vouchers states that the ceiling of Rs.2 per top up will not be sufficient to recover the administrative costs of the sale of the talk time vouchers. The category of administrative cost relating to recharge vouchers as per their claim include distribution cost, IN maintenance cost, distributor and retailer commission, printing of recharge vouchers and advertisement and publicity cost. The Authority notes that all of these categories of costs as claimed by the service providers are not relevant for administering the sale of talk time top up vouchers for which the ceiling is prescribed at Rs.2 per top up. These categories of costs like advertisement and publicity, IN maintenance cost are certainly not considered as relevant for the purpose. Similarly, distribution cost cannot be different from cost incurred on account of distributor and retailer commission. Printing of recharge vouchers is a relevant item of cost but over a period of time, this mode of recharge, as per industry sources is becoming insignificant. Market intelligence in this regard

reveals that majority of the revenue accruals from the prepaid recharges is achieved through electronic recharges where physical printing of vouchers and its distribution does not exist. Cost recovery in general for administering the sale of top up vouchers has to be seen in totality. Infrastructure deployed for the purpose of maintenance of database and other associated billing systems is indivisible as there are several streams of revenue for the service providers from the sale of different type of products for the same customer, e.g. sale of validity coupons, sale of discounted tariff vouchers, recharge vouchers/coupons combining validity, tariff, etc. and sale of add-on packs, SMS packs, and tariffs for these products are under forbearance. Therefore, the cost recovery on account of total infrastructure facility deployed needs to be seen with respect to the overall cost incurred in provision of service and overall revenue arising out of the sale of all products. In this regard, operating cost of cellular service providers could be the most appropriate parameter for examination. Trends in the operating costs of cellular service provision, a major segment of the industry has been examined based on published data.

Trends in Operating Costs of Cellular Service Provision in India

Year	Operating cost/subscriber/month (Rs.)
2003	288
2004	193
2005	159
2006	146
2007	128

Source: Cellular Operators Association of India2

36. As is evident from the Table above, the reduction in the operating cost per subscriber per month during the last five years alone works out

2 Indian GSM Cellular Benchmarking Study 2007, COAI, May 2008, New Delhi

to 55%. In the last one year alone, operating cost registered a decline of 13%.

37. The Authority also verified the results of this analysis by relating the operating cost with another major parameter i.e. net service revenue.

Trends in the operating costs as percentage of net service revenue

Category of operating cost	**2003**	**2007**	**Percentage decline**

Administrative cost	9%	7%	22%
Personnel cost	9%	5%	44%
Sales and marketing cost	19%	13%	46%
Network operating cost	21%	19%	9.5%

Source: Cellular Operators Association of India3

38. The order of decline in operating cost as proportion to net service revenue is self-evident from the table given above and confirms the results obtained earlier when operating cost trend was studied in an absolute manner. These evidences go to prove that the operating costs are not only declining absolutely but also relatively. Detailed analysis of the reasons for reduction in the cost of providing services in telecommunication sector in general and in mobile telephony in particular over a period of time is comprehensively documented in the Explanatory Memorandum to TTO dated 24.1.20074.

39. Whether we look at the operating cost on a per subscriber basis or whether we look at the operating cost as a percentage of net service

3 Indian GSM Cellular Benchmarking Study 2007, COAI, May 2008, New Delhi 4 The Telecommunication Tariff (44th Amendment) Order, 2007 dated 24.1.2007, Para No.11.13 - 11.16, Gazette of India.

revenue, the trend suggests that there has been a substantial decline in the operating cost in general and in all the identifiable components of the operating costs. Of particular importance is the sales and marketing cost which has registered a decline of about 46% from the period 2003 to 2007. No submissions made before the Authority by the service providers and their association prove the point with evidence that Rs.2 per top up is insufficient to cover the relevant costs. In fact, this issue was discussed with the service providers in separate meetings held with the Authority and no calculation was shown to prove their point that Rs.2 per top up is insufficient to cover the cost of sale of talk time vouchers.

40. While the Authority fully agrees with the views of the operators that flexibility in tariff setting is essential for the growth of the sector as a whole, it firmly believes that transparency cannot be compromised in the tariff offers. Processing fee of the order seen in talk time voucher is certainly a hidden cost. In that respect the Authority's decision to cap the processing fee to a flat administrative cost of Rs 2 (as ceiling) would have the added advantage of facilitating comparison of tariff plans by the consumer to make an informed choice.

DECISION ON LIFETIME PLANS AND TARIFF REDUCTION ETC.

41. The other three proposed provisions to the existing tariff order are basically intended to enhance transparency in the matter of tariff offers. These proposals have met with considerable acceptance within the service providers as the responses of the service providers/their associations reveal.

Decisions relating to lifetime Plans

42. Initial lifetime plans offered by service providers had an upfront payment in the region of Rs.1000 and the local call rates were Rs.1.99/minute. Recently several service providers launched new Lifetime plans with substantially lower upfront payment ranging from Rs.495 to Rs.195 and with lower local call rates of Rs.1/minute. However some of the service providers did not provide for migration of existing lifetime customers to the new Lifetime schemes though they had paid a higher entry fee than the new customers, thus denying them the benefit of reduced call charges. In some cases it was also found that existing subscribers were being asked to pay a one time charge or a recurring fee by way of special recharges in order to avail lower call charges equivalent to those applicable for non-subscribers. Such unfair measures are not in consonance with some of the existing mandates of the Authority which provide for migration of subscribers from one plan to another plan on offer without having to pay any fee in the nature of migration charge. In order to prevent such anti-consumer measures and to ensure a free and fair migration to the consumers across plans the ***Authority considered it appropriate to further clarify the provisions of the TTO 1999 that in cases where a subscriber of an existing lifetime validity plan or unlimited validity plan opts for migration to a new lifetime validity or unlimited validity plan, with lower entry fee, the service provider shall not levy any upfront payment or recurring charges or fee for allowing such migration.***

43. Lifetime schemes in the market generally require the customers to make a minimum recharge at specified intervals, normally six months. But the Authority had also received proposals from service providers where the frequency of the recharges were proposed at every 60 days.

The Authority is of the view that specifying recharges at such very short intervals will dilute the "lifetime" character of the lifetime plans and make it more or less similar to the normal prepaid plans that require recharges at shorter frequent intervals. ***The Authority through this tariff order has decided that service providers shall not insist on recharges between periods lesser than six months in life time plans***.

44. The Authority also noted that in case the customer fails to meet the condition of a minimum recharge after a specified period of time, the connection is liable for deactivation. The customers may forget or fail to keep track of the days of recharging in the intervening period and this may lead to unintentional disconnection by default. In order to minimize the incidences of such disconnection by default, ***the Authority considered it advisable that the service providers should make efforts to remind the customers by way of SMS or customer care call prior to the due date of making such recharge.*** However, this consumer friendly measure does not preclude the subscribers from not honouring their contractual obligation of making recharges at the specified intervals for remaining connected.

Decision relating to Unconditional availability of the benefit of straight tariff reductions to the subscribers

45. Some service providers had offered and advertised general reduction in tariffs. But the benefit of the reduced tariff was limited to only those customers who could exercise their choice for the reduced tariff by way of sending SMS to predefined number etc. The Authority has disallowed such implementation of the declared and publicized lower tariffs after having found that the preconditions attached to offer

are unfair and unreasonable. To prevent occurrences of such unfair means in future the Authority vide this tariff amendment order has mandated that "in cases of straight tariff reductions, where the declared intention of the operator is to extend the benefit to all subscribers without any attached liabilities, there shall not be any pre-condition of explicit positive action on the part of subscribers".

46. All the decisions contained in this order shall be applicable to all customers, new and existing, irrespective of the plans or billing platform and shall be effective from 15th September 2008.

47. During the consultation process the Authority received several suggestions from the stakeholders for further improving the transparency in the matter of tariff offers. The Authority has considered those suggestions and a Direction is issued separately mandating several consumer friendly regulatory measures to enhance and ensure transparency in the matter of tariff offers.

48.	Summary	of	the	features	of	amendments	to	the

Telecommunication Tariff Order made here are given below:-

1) No fixed fee other than applicable taxes shall be levied on recharges exclusively meant for provision of talk time value irrespective of the type of tariff plan and irrespective of the mode of recharge. However, the service providers can charge a

nominal	fee	not	exceeding	Rs.2	per	top	up	towards

administrative costs.

2) In cases of straight tariff reductions, where the declared intention of the operator is to extend the benefit to all subscribers without any attached liabilities, there shall not be any pre-condition of explicit positive action on the part of subscribers.

3) In cases where a subscriber of an existing lifetime validity plan or unlimited validity plan opts for migration to a new lifetime validity or unlimited validity plan, with lower entry fee, the service provider shall not levy any upfront payment or recurring charges or fee for allowing such migration.

4) If the terms and conditions of a lifetime plan/plan with unlimited validity include any condition of minimum amount of recharge at specified intervals, such interval shall be minimum six months. The Authority has also advised the service providers that before expiry of such specified duration for the recharge, consumers are to be reminded by way of SMS or customer care call in advance to avoid disconnection by default.

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Annexure A to the Explanatory Memorandum

Telecom Regulatory Authority of India

Sub: Short Consultation on certain Amendments to Telecommunications Tariff Order, 1999 as a sequel to the consultation process initiated in January, 2008.

Date: 23rd July, 2008

Background

A Consultation process was launched by the Authority with a view to review the regulatory framework relating to transparency in the matter of tariff offers in access service provision, as there is a feeling among consumers that tariff offers being made by the service providers are not transparent and consumer friendly. As part of this process, the Authority issued a Consultation Paper entitled, 'Issues Arising out of Plethora of Tariff Offers in Access Service Provision' in early part of this year. This was followed by Open House Discussions in Ahmedabad and Jaipur.

Based on the feedback received from the stakeholders, the Authority is of the view that the existing provisions of Telecommunications Tariff Order, 1999 need certain amendments to further enhance the transparency in the tariff offers in access service provision. Modifications proposed to be made as Amendments to Telecommunications Tariff Order are summarized below:-

1) The minimum protection period available to an access service consumer from hike in any segment of the tariff is proposed to be increased to 12 months from his/her date of enrolment into a tariff plan as against the current regime which provides for 6 months protection. However, lifetime subscribers and subscribers in longer periods of validity will continue to be protected for the lifetime and with respect to the longer periods of validity subscribed to by the consumers.

2) In cases of straight tariff reductions, where the declared intention of the operator is to extend the benefit to all subscribers without any attached liabilities, there shall not be any pre-condition of explicit positive action on the part of subscribers.

3) In cases where a subscriber of an existing lifetime validity plan or unlimited validity plan opts for migration to a new lifetime validity or unlimited validity plan, with lower entry fee, the service provider shall not levy any upfront payment or recurring charges or fee for allowing such migration.

4) No fixed fee other than applicable taxes shall be levied on recharges exclusively meant for provision of talk time value. However, the service providers can charge a nominal fee not exceeding Rs.2 per top up towards administrative costs.

5) If the terms and conditions of a lifetime plan/plan with unlimited validity include any condition of minimum amount of recharge at specified intervals, such interval shall be minimum six months. Before expiry of the specified duration for the recharge, in these plans, if any, consumers are to be reminded by the service providers in advance to avoid disconnection by default.

The draft Telecommunications Tariff Order Amendment incorporates the provisions to cover the above mentioned aspects in tariff offers.

Stakeholders are requested to offer their views, if any on these proposals of the Authority to amend the Telecommunications Tariff Order.

Written submission in electronic form would be appreciated and the same may be submitted on or before 31st July, 2008.

Full text of the draft Telecommunication Tariff (48th Amendment) Order, 2008 is annexed herewith.

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Annexure B to Explanatory Memorandum

Submissions received from the Operators and their Associations on the proposals contained in the draft TTO put up for short consultation by the TRAI

Proposal 1

The minimum protection period available to an access service consumer from hike in any segment of the tariff is proposed to be increased to 12 months from his/her date of enrolment into a tariff plan as against the current regime which provides for 6 months protection. However, lifetime subscribers and subscribers in longer periods of validity will continue to be protected for the lifetime and with respect to the longer periods of validity subscribed to by the consumers.

COAI

- Indian market is the fastest growing mobile market in the world with about 8-9 million additions per month and is characterized by intense competition.. These tariff plans are a reflection of the competition and interfering with them would curtail the flexibility to address the increasing demands of the subscribers and their specific and ever changing usage requirements.
- The mobile market has significantly matured and given the present level of high competition, we believe that micro management is not required. Hence we respectfully submit that the suggested amendments by the Authority are not desirable and will fail to

address the broader perspective of growth sustenance.

- The price protection is necessary only in a monopolistic environment .In Indian mobile sector there already exists intense competition. There are already 7 to 8 players in every circle and this is going to increase to 10 to 12 players in the near future. We will thus have an intensely competitive scenario were 10 to 12 players in each circle will chase the customers with best price offers. Considering the intense competitive scenario in the mobile sector, the enhancement of the minimum protection period of even 6 months is not required.
- Entry cost for the customers has virtually become zero and hence subscriber can easily move to any other service provider.
- The Authority and the Government are actively working towards

introduction of Mobile Number Portability as a result of which the concern of subscriber loosing the number will be taken care of.

- The subscribers are allowed seamless Migration across tariff plans without any cost.
- The concept of tariff forbearance which has been followed by the Authority assumes that the market is highly competitive and hence the micro management on pricing is not required and the market force should be allowed to decide the tariffs.
- In today's vibrant mobile market where prices are showing a negative trend it becomes competitively unviable for the operators to revise the tariffs frequently to the customer's disadvantage. Increase in minimum protection period from 6 months to 12 months would increase administrative cost for the operators. Even while the Indian economy grapples with the high level of inflation, mobile telecom is the only segment where tariffs have been continuously falling. The sector is facing the immense pressure of continuously absorbing the rising costs – inflation. While all the other services/ infrastructure sectors such as power, gas, water have witnessed a rise in tariffs, mobile telecom is the only services segment where tariffs have been and are still on the decline.
- The earlier time period of six months for raising any tariff component in a tariff plan from the date of enrolment of a subscriber, itself is a stringent requirement, enhancing it to 12 months will not be justifiable.
- The minimum validity period of 6 months specified for tariff plans by the provisions of 31st Amendment may be retained or done away with.

AUSPI/Tata

• The provisions of 31st amendment are impractical as per today's market conditions. Today, new technologies are being introduced everyday and competitors are introducing new tariffs accordingly. The Regulatory regime has seen tremendous revolution. Therefore, in such a dynamic and ever changing tariff environments it is very impractical to comply to this amendment.

• It becomes very tedious for the billing system to track the subscribers on 6 months basis. For example, for a subscriber subscribing to the tariff on 1st Jan means that he will get the benefits of the said tariff till 1st July however for another subscribers subscribing to the same tariff on 30th June needs to get the same benefits till 30th Dec. Therefore, even if the Regulatory regime has changed and it is a loss making tariff, the Service provider needs to offer it to that segment of customers.

• As amply evident from the past, TRAI has modified/amended the IUC regime on the basis of the changes in Indian Telecom industry and international practices. Any such modifications directly affect the tariffs being offered by the operators. This may impact as an increase in subscriber tariffs. Therefore, this increase in tariffs should not tantamount to any violation of TTO amendment since it is not the operator who is responsible for this increase but the changes in regulatory regime have forced this increase in tariffs.

• The Authority may be aware of the high inflationary conditions which is prevailing and likely to prevail in the country. Telecom tariffs are the only exception where rates have been falling. Inputs costs are increasing and as you may be aware, tariffs are offered to the customers on the basis of the existing costs and cost budget for a short period of time.

• The present time period of 6 months itself is a very long time to guarantee a subscriber against price escalation. It will be proper in view of the prevalent price escalation to have no guarantee to the subscriber against price escalation.

• It would be highly unfair to freeze price escalation under the prevailing inflationary conditions in the country.

• The reasons for this proposal of increasing the guarantee period at this not known to us.

• Further, categorizing subscribers on the basis of time of enrolment is discriminatory as it would provide separate tariffs for similarly placed subscribers. The TTO (31st Amendment) provisions imply that subscribers who are on tariff plan for a longer duration would cross-subsidize subscribers who have been recently acquired in last six months on that same tariff plan. The proposed amendment would extend the protection to one year from the present one year and that would require cross subsidization for a longer period of time.

• Price escalation for utilities like gas, water, and electricity when carried out is applicable for all consumers and not restricted to a small group of consumers, recently provided these services. Offering services at lower rate to one set of consumers is discriminatory in terms of Article 14 of the constitution and provisions laid down in the Section 2 k of the TTO'99.

• TTO (43rd Amendment) which specifies life time protection against any increase in price even when input costs go up is highly unfair towards service providers. There is no other sector where regulation specifies that the long tem contract should be immune from any price escalation.

• To increase the period to 12 months to provide as a minimum protection period to the consumer is unexplainable in a regulated segment of tariff and unfair for service providers.

• The minimum protection period as per the provisions of 31st amendment be done away.

• The proposal in this short consultation to increase the minimum protection period need not to be implemented. Even similar provision laid down in TTO (43rd Amendment) may be reviewed

Bharti

Considering the intense competitive scenario in the mobile sector, the enhancement of the minimum protection periodof even 6 months is not required**,** due to the following grounds:-

• The overall economic scenario needs to be considered. If a protection period is to be given to a subscriber, Entry cost for the customers has virtually become zero and hence subscriber can easily move to any other service provider.

• The subscribers are allowed seamless Migration across tariff plans without any cost.

• The concept of tariff forbearance which has been followed by the Authority assumes that the market is highly competitive.

• Even while the Indian economy grapples with the high level of inflation, mobile telecom is the only segment where tariffs have been continuously falling. The sector is facing the immense pressure of continuously absorbing the rising costs – inflation. While all the other services/ infrastructure sectors such as power, gas, water have witnessed a rise in tariffs, mobile telecom is the only services segment where tariffs have been and are still on the decline.

• Moreover, it substantial increase the associated cost. As the different subscriber join the network at different point of time, any increase in minimum protection period increase the network cost as looking at the growth being witnessed by operators, the operator has to incur huge cost to keep such record.

• Theearlier time period of six months for raising any tariff component in a tariff plan from the date of enrolment of a subscriber, itself is a stringent requirement**,** enhancing it to 12 months will not be justifiable.

Vodafone

• Especially in a period like present where inflation has increased, then the subscribers will have to bear a cost of such protection. • No other industry gives such protection. Also in a free market having fierce competition such protection will be a deterrent for subscriber friendly tariffs.

• The Authority must take a stand of principle as to whether it wants to micromanage tariffs in an environment of hyper competition, or leave operators to the mercy of consumer punishment.

• We see a contradiction in policy stance if both conditions of hyper competition in market structure, as well as micromanagement of tariff conditionalities, were to coexist. A taboo against misleading communication is a sine qua non of competitive markets, but it should not be confused with imposed conditionalities, particularly in the newly envisaged environment of mobile number portability.

• The minimum protection period should be removed since it is neither in interest of the subscribers nor the industry. In case of lifetime plans also, the tariffs cannot remain at the same level through out the license period, since in the long run the inflationary principles may come into the play like in cases of all other industries.

• Salient regulatory changes are made in the tariff structures from time to time. However, these cannot be envisaged by the operators while the tariffs of various components are fixed in a tariff plan. In such scenario of regulatory changes the operators in normal course may rightly like to do some adjustments in other components. But, due to the limitation of tariff protection period, the operator is bound to not to change tariffs which results in the operator being forced to give tariffs which were at first place never offered by him. If any component in the complete tariff bouquet is

disturbed by the regulatory change then the minimum protection period condition should not apply.

Reliance

• When TTO'99 was notified, the Authority felt that the provisions like insulating a subscriber against tariff hike for six months would curb the practice of offering new regular tariffs/tariff plans and withdrawing or revising it suddenly. However, today's telecom market is different which is much more competitive and has nearly all distinguishable characteristics of a competitive market. These include, many operators, homogeneous Products, Low-Entry Barriers and high information.

• Since the market is almost perfectly competitive, it is not easily possible for an operator to frequently revise tariffs to the disadvantage of the consumer.

• The telecom prices are consistently registering a negative trend.

Therefore, provisions laid down in TTO(31st Amendment) and TTO (43rd Amendment) are not needed to protect the interest of subscribers.

• Though the price escalation is not happening but even if it is carried out over a period of time, it should be seen as a normal phenomenon.

• Telecom is only exception in the present inflationary times which is not registering any price increase. Notwithstanding the present trend, the telecom services should not be singled out requiring specific provision to insulate subscribers against any price hike under provisions of TTO (31st Amendment) and TTO (43rd Amendment).

• Limiting service providers to hike price even when input costs or regulatory costs increased may not be correct.

• Tariffs are offered to the customers on the basis of existing costs and costs projected over a shorter period of time. A time period of six months to one year is a very long time to insulate a subscriber against the price escalation.

• Such statutory protection are unprecedented nationally and internationally and not available in any other sector.

• Whenever prices of utilities like gas, water, and electricity are increased, it is effective for all consumers irrespectively when the subscriber has started using that facility. Similarly in case of increase in tariff for railways, the rates are effective from one fixed date. The statutory protection against price hike for telecom users is an only exception to this practice. We have noted that price revisions in other sectors are as common or more common than the telecom sector.

• The provision to categorise subscribers on the basis of time of enrolment is discrimination amongst similarly placed subscribers.

As per provisions laid down in above mentioned TTOs, in case of a tariff hike, one set of subscribers will pay a higher cost compared to another set of similarly placed subscribers. In effect the provision means that subscribers who are on tariff plan for a longer duration would cross-subsidise subscribers who have been recently acquired in last six months on that same tariff plan.

• In competitive markets, micro-regulations should be avoided as far as possible. When inflation is at a highest level in last decade, the proposed amendment to increase the protection period from 6 months to one year would be highly unfair towards service providers..

BSNL

• The existing protection period of 6 months available to an access service consumer from hike in any segment of the tariff is sufficient to protect the interest of consumer.

• Since the initial cost has reduced substantially, there is always a threat of churn of subscriber from one operator to other due to increase in tariff. In the present competitive scenario, with decreasing trend in tariff, no access provider may like to increase any tariff components without giving benefit in other tariff items i.e. tariff balancing. As such market forces will take care of the tariff after initial period of 6 months.

BPL Mobile

• TRAI has not given any detailed justification in the consultation paper for making these changes in TTO 99.

• Even though the tariffs are "foreborne" for access services, and the market is highly competitive, the TRAI is resorting to micro management of tariff plans.

• If the operators can reduce the tariff even within one month of the introduction of a tariff plan, why should there be a restriction that it can not be increased for a period of one year.

• With the inflation rate of more than 10%, the operating costs of service providers are rapidly increasing overtime. It may, therefore, not be possible to insulate the telecom subscribers from tariff increase for a period of one year.

• From the various regulations being issued by the Authority with the sole objective of safe guarding the consumer's

interest, the Authority seems to have lost sight of its mandate under the TRAI Act to protect the interests of service providers also alongwith the consumers of the telecom sector.

• When the Authority has no control over the inflation and rising operating costs, the Authority should not do micromanagement of telecom tariffs.

MTNL

• Practically this is not possible to increase tariff in any segment because the subscribes in a regular tariff plans are being enrolled on a continuous basis by way of either new acquisition of the subscriber or migration of existing customers into the tariff plan.

Proposal 2

In cases of straight tariff reductions, where the declared intention of the operator is to extend the benefit to all subscribers without any attached liabilities, there shall not be any pre-condition of explicit positive action on the part of subscribers.

COAI

• We support the view of the Authority that there should not be any pre-condition of explicit positive action or consent on part of the subscribers.

Bharti

• We agree with the Authority's view in this regard.

Vodafone

• In our view this provision will not allow the operators to provide maximum possible reduction in tariffs to subscribers who are price sensitive and /or who are high end users. With the proposed mandate to provide any tariff reduction to all users, the operators may be forced to offer price higher than the one that would have been otherwise offered if this condition is not made applicable. This should meet the criteria of transparency and non-discrimination.

Tata Teleservices

• We agree with the Authority that there should not be any pre-condition of explicit positive action by the subscribers in the case of straight tariff reductions

BSNL

• Where there is no increase in any component of the existing tariff plan the existing customers will automatically enjoy the tariff reduction.

BPL

• We do not think any operator is insisting upon the pre condition of explicit positive action on the part of subscribers in cases of straight tariff reduction across the board. We have no objection to this provision.

Idea

• The imposition of such a limitation will severely limit the operator's ability to offer the best tariffs to medium and heavy users of various services and also upset the commercial construct of many tariff interventions that may be premised on a gradual and non-comprehensive subscriber built-up for the new tariff. Moreover the ability to implement myriad schemes across the base is determined by the billing systems in use. We are in favour of transparent and most attractive pricing for relevant segments where consumers are free to opt-in without any cost either through SMS / other toll-free methods.

Proposal 3

In cases where a subscriber of an existing lifetime validity plan or unlimited validity plan opts for migration to a new lifetime validity or unlimited validity plan, with lower entry fee, the service provider shall not levy any upfront payment or recurring charges or fee for allowing such migration.

COAI

• As per TRAI regulations there is no migration fee or one time fee levied on the subscriber migrating from one tariff plan to other. However, while migrating from a tariff plan to other, the entire terms & conditions of the package/plan/product has to be viewed in totality and a component of a tariff plan should not be viewed in isolation.

• We would like to submit that most of the new tariff plans launched by the service providers are with additional / new benefits / options / lower rates, which are generally not there in earlier plans and hence it is not the entry fees which is the only deciding factor for the subscriber to opt for other lifetime validity plan or unlimited validity plan.

• In light of the above it would not be justified to mandate service providers for not charging any upfront payment for allowing such migration from existing lifetime validity plan or unlimited validity plan to new lifetime validity or unlimited validity plan which might have more attractive features.

Bharti Airtel

• We agree with the Authority's view in this regard.

Vodafone

• We agree that the operators cannot charge a migration fee. The migration fee will mean a fee in addition to the upfront charges required to be paid under the new lifetime validity plan even by a new subscriber.

• In case of existing lifetime subscriber who wishes to migrate to a new lifetime plan, the operators can charge same charges, including upfront charges, as are payable by a new subscriber.

• Alternatively, the subscriber who wants to migrate can be offered a charge of an amount lesser than the upfront charge (in form of one time fee or recurring fee) in lieu of the upfront charge**.**

BPL

• A tariff plan has to be viewed in totality and a component of a tariff plan should not be viewed in isolation. New tariff plans are designed by the operators based on usage pattern and interest of different segments of subscribers. When tariffs for certain components of a tariff plan are reduced, it may be necessary to raise charges for some of the other components with a view balancing the overall ARPU realised from the subscribers opting for the new plan. Since the choice is available to the customers to migrate to a new plan or not, the Authority should not prescribe such conditions and deprive the operators the flexibility to design a new tariff plan.

BSNL

• Levy of upfront charges on migration of an existing lifetime validity plan or unlimited validity plan opts for migration to new lifetime validity or unlimited validity plan may be left optional to the service providers to be decided by market forces. However, the recurring charges are linked to the call rates/SMS rates of the new plan which are payable as per usage.

Tata

• It would not be justified to mandate service providers for not charging any upfront payment for allowing such migration from existing lifetime validity plan or unlimited validity plan to new lifetime validity or unlimited validity plan which might have more attractive features.

• A tariff plan has to be viewed in totality and a component of a tariff plan cannot be viewed in isolation. We would like to submit that most of the new tariff plans launched by the service providers are with additional / new benefits / options / lower rates, which are generally not there in earlier plans and hence it is not the entry fees which is the only deciding factor for the subscriber to opt for other lifetime validity plan or unlimited validity plan.

MTNL

• In case of migration of a subscriber of an existing Life Time Validity Plan or unlimited Validity plan to a new lifetime validity or unlimited Validity Plan with lower entry fee, it is not technically

feasible to allow the migration of Jeevan Saathi post-paid plan to prepaid or vice-versa directly. Normally, on migration of a subscriber from post-paid plan to prepaid or vice-versa, it is migrated to default plan which is usually not a life time validity plan or unlimited validity plan. The subscriber is then allowed to migrate from the default plan to the new lifetime validity plan or unlimited validity plan after paying the requisite one time rent/entry fee.

Proposal 4

No fixed fee other than applicable taxes shall be levied on recharges exclusively meant for provision of talk time value. However, the service providers can charge a nominal fee not exceeding Rs.2 per top up towards administrative costs.

COAI

• The service providers generally balance the administrative / processing fees while preparing tariff across talktime & validity recharges.

• The major administrative costs related to recharge vouchers are as follows:
• Distribution Cost
• IN maintenance cost
• Distributor and retailer commission
• Printing of recharge vouchers
• Advertisement/Publicity cost for recharge vouchers

• Hence the prescribed ceiling will not be sufficient to recover all costs related to recharge vouchers especially if recharge is for higher value where the distributor/retailer commission is much higher

AUSPI

• Nominal fee of Rs 2 will not be sufficient to recover costs. There are number of costs attached to the top-up recharge vouchers like commission for distributors and retailers, the distribution cost, the printing cost for the vouchers, publicity and advertising cost and other network and IN platform costs for recharging and cost of maintenance of data base for recharge voucher which are

exclusively meant for talk time. The prescribed ceiling is too low to recover all these costs. Administrative cost charges should also remain under forbearance

Bharti

• Processing fee on Talktime Recharge Vouchers should be rationalized and capped upto an amount of 10% of the MRP to cover administrative costs, channel commissions, printing and distribution costs, etc. The Authority's concern is to protect the marginal and low-end users who do small denomination recharges and pay a high amount as processing fee. Therefore to go with a lowest common denominator of Rs 2/- for all recharge vouchers from Rs 10/- to Rs 1000/- or higher would not hold good.

• It is recommended that this be capped on a percentage of the MRP at 10% and not on the basis of a rupee value i.e. capped at Rs 2/- for all denominations

Vodafone

• Nominal fixed fee of up to Rs. 2 (excluding) applicable taxes may not be sufficient to cover the administrative costs including some distribution costs in all denominations. In a talk time value voucher, the talk time rate, denomination and the fixed fee are the three main drivers besides the government taxes. Limiting a component in this manner will impact the total construct.

• If such a change is proposed then the operators must be exempted from any requirement of minimum protection period.

BPL Mobile

• We do not know the basis on which TRAI has worked out the administrative cost for top up recharge voucher as maximum of Rs. 2/- only. The administrative cost involved in printing and distribution of recharge voucher and the commission etc. payable to the point of sale/distributor is definitely more than Rs. 2/-. Hence the suggested ceiling would not be adequate to recover all the costs involved in recharge vouchers.

• From the various regulations being issued by the Authority with the sole objective of safe guarding the consumer's interest, the Authority seems to have lost sight of its mandate under the TRAI Act to protect the interests of

service providers also alongwith the consumers of the telecom sector. When the Authority has no control over the inflation and rising operating costs, the Authority should not do micromanagement of telecom tariffs.

MTNL

• The proposed fee of Rs.2 per top up is very less because the recharge coupons are by and large being sold through franchisees/distributors & retailers to whom service charges are being paid for the service rendered. In this case, Rs.2 per top up is very less. Therefore, it is proposed that the fees towards administration cost may be increased to 10% of the value of the recharge coupon (with minimum amount of Rs.10 per top-up).

Tata

• The proposed amendment of a nominal fee of Rs 2/top up as administrative cost will not be sufficient to recover the costs. There are number of costs attached to the top-up recharge vouchers like commission for distributors and retailers, the distribution cost, the printing cost for the vouchers, publicity and advertising cost and other network and IN platform costs for recharging. The prescribed ceiling is too low to recover all these costs.

• There should not be any ceiling charges on the administrative fee for top-up vouchers exclusively for talk time. The tariffs are under forbearance and should continue to be like that. And the administrative cost charges should also remain under forbearance.

Idea • •	Amendment of prescribing a ceiling as low as Rs 2 would result in the service provider not being able to recover the genuine operating expenditure associated with the consumer / top-up recharge. The primary administrative costs related to recharge vouchers are:	
	•	Distribution Cost
	•	IN maintenance cost
	•	Distributor and retailer commission
	•	Printing of recharge vouchers
	•	Advertisement/Publicity cost for recharge vouchers
	•	New Recharge Development costs

The proposed ceiling of Rs 2 per top-up in our opinion is insufficient to cover the fixed component of the costs associated with the recharge vouchers.

• Moreover, the Distributor and retailer commissions are offered as a percentage of the recharge denomination and hence vary from denomination to denomination in absolute money / cost terms.

•	The cost component as a percentage of the denomination works out higher at the lower denomination levels and lower at the higher denomination levels.
•	Processing fees matrix of 5 to 35%of the Denominations may be considered as a ceiling for all talk-time top-ups:

Proposal 5

If the terms and conditions of a lifetime plan/plan with unlimited validity include any condition of minimum amount of recharge at specified intervals, such interval shall be minimum six months. Before expiry of the specified duration for the recharge, in these plans, if any, consumers are to be reminded by the service providers in advance to avoid disconnection by default

COAI

• There is no need to mandate the same by TRAI as the recharge conditions specified in the life time plans is an integral part of the tariff offer.

• The advance intimation to the subscriber about the expiry of the specified duration of recharge should not be a compulsion and should be viewed as a customer friendly gesture on part of the service provider to the subscriber.

• Moreover, as far as the minimum interval of 6 months is concerned all tariff plans should be treated on an equal footing and no distinction is required in this regard.

• There are number of subscribers who prefer a smaller recharge at shorter intervals. Therefore it should be left for the market to decide the conditions of recharge on life time plans and hence not mandate the same.

• If at all the amendments to the regulation comes into effect it should be carried out prospectively.

Bharti Airel

• Lifetime plans and likewise any other long validity plans have unique conditions which vary from service provider to service provider. All service providers through the existing regulations adequately communicate the terms and conditions to the customers before enrolment. Thus, there should not be any mandate from the Authority on the manner in which the same are communicated to its customers.

Vodafone

• There should not be any restriction on prescribed period of minimum amount of recharge at specified intervals as this will take out the flexibility from the operators to offer a plan with the reduced minimum amount of recharge and corresponding reduced applicable recharge period thereof. Also at any given point of time these conditions are fixed in consideration of the socio-economic conditions and the perceived preferences/ recharge trends applicable.

• In any case, if such modification is done in the TTO, then it should only apply to new lifetime subscribers acquired after such modification.

BPL

• As the tariff is "foreborne", TRAI should not prescribe such a condition that under life time plan there shall be minimum interval of six months between the two compulsory recharges.

• The operator should have the flexibility to decide the various components of a tariff plan so long as the overall per minute charge is not excessive. In the highly competitive market existing in India, the customers have enormous choice of operators as well as the tariff plans.

• The operator should have full flexibility and such conditions should not be prescribed by the Authority which will tantamount to micro management of tariffs.

• From the various regulations being issued by the Authority with the sole objective of safe guarding the consumer's interest, the Authority seems to have lost sight of its mandate under the TRAI Act to protect the interests of service providers also alongwith the consumers of the telecom sector.

• When the Authority has no control over the inflation and rising operating costs, the Authority should not do micromanagement of telecom tariffs.

BSNL

• Yes.

Tata

• The proposal is not in the consumer interest as large number of subscribers prefer low value recharges also at regular intervals to a higher value recharge at longer interval.

• There are various life time plans available in the market with varying recharge conditions ranging from every two months to six months. A subscriber makes a choice depending on consideration of affordability of shorter duration recharge or convenience of longer duration recharge. There are number of subscribers who prefer a smaller recharge at shorter intervals. Therefore it should be left for the market to decide the conditions of recharge on life time plans and hence not mandate the same

Idea

• Recommend keeping open the option to impose a minimum recharge interval depending upon the prevalent market and servicing conditions for the following reasons:

•	The minimum recharge condition is built in to improve number management as operators are issued limited

inventory of MSISDN's and it becomes extremely critical to recycle non-users numbers to make space for new

•	subscribers to come in.
•	Also with rural distribution on the rise, the market stock to sales ratio has increased due to the servicing challenges involved in distributing SIM cards in the remote rural areas. Further, It is also pertinent to note than cost of Lifetime validity has already been reduced to Rs. 295 across most of circles, which is barely sufficient to cover distribution and one time cost.
•	The amendments to the TTO finalized should be carried out prospectively for all new subscribers only, as any change in

the terms of existing subscribers could negatively impact the very basis of the plans they are presently on.

Comments received from the consumer organisations on the proposals contained in the draft TTO

Proposal 1: The minimum protection period available to an access service consumer from hike in any segment of the tariff is proposed to be increased to 12 months from his/her date of enrolment into a tariff plan as against the current regime which provides for 6 months protection. However, lifetime subscribers and subscribers in longer periods of validity will continue to be protected for the lifetime and with respect to the longer periods of validity subscribed to by the consumers.

CELLULAR PHONE USERS ASSOCIATION OF INDIA

•	The minimum period of tariff protection should be increased to 12 months
•	Further that if the operator(s) propose to alter any condition of the tariff package they can do so only after 12 months and

under intimation to the subscriber.

CELLUAR USERS ASSOICATION OF INDIA (CUAI)

•	The minimum period of tariff protection may be increased to 12 months
•	However, the subscriber should have the flexibility to move to a new tariff option as per his/her choice / discretion during this period.
•	Prepaid subscribers must be issued / sent a letter towards the following within few days of activation of services. A letter of

introduction detailing the tariff plan chosen and the obligations

/	procedure	for	customer	care	etc.	This	one	time

communication will also ensure the verification of address of the subscriber (if sent thru' speed/registered post – AD)

KERALA CONSUMER SERVICE SOCIETY

•	Extremely happy to note that TRAI mulls raising "minimum protection period" in order to protect telecom consumers &

ensure transparency. It is high time that the present period of only six months available against hikes, is increased to atleast 1 year from the date of enrollment, into a tariff plan. Same time, lifetime subscribers & those in longer periods of validity should

be allowed to continue. The modification can be made as amendments to telecom tariff order.

BHARAT JYOTI CONSUMER ADVOCACY GROUP, LUCKNOW

• We all agree with the modification suggested by the Authority

Proposal 2: In cases of straight tariff reductions, where the declared intention of the operator is to extend the benefit to all subscribers without any attached liabilities, there shall not be any pre-condition of explicit positive action on the part of subscribers.

CELLULAR PHONE USERS ASSOCIATION OF INDIA

•	There is a pressing need for introduction of this clause. There are several instance wherein the declared intent of the operator(s) is straight reduction of tariff, however, the essential requirement for availing such a tariff reduction is sending an SMS or calling an IVR system or calling call center etc.; such a positive action is not possible for all subscribers and consequentially the benefits of such a reduction of tariffs cannot reach all subscribers. The most recent example of the same is reduction in NLD/STD tariffs by almost all operators, wherein some of the leading operators made the tariff reduction limited to subscribers sending an SMS to a predefined number. The introduction of tariff reduction should be in a "non-

discriminatory" manner.

CUAI

•	This is emergently required, as all the subscribers may not be aware of the revised tariffs or reductions. The mass media campaigns or SMS based campaigns of service provided may not be able to reach all subscribers or all subscribers may not be in a position to take an explicit positive action like sending an sms to a predefined number or calling customer care.
•	Application of such revised (lower tariff) should be spontaneous for all subscribers (wherever beneficial) in a non discriminatory manner.

KERALA CONSUMER SERVICE SOCIETY

•	Feel that all service providers will follow the decisions announced by M/s. Vodafone & M/s. Idea in reducing long distance charges on request through an SMS, without any attached liabilities.

BHARAT JYOTI CONSUMER ADVOCACY GROUP, LUCKNOW

•	The benefit of any straight tariff reduction should be extended to all subscribers in all the existing tariff plans of the service provider, without any attached liabilities. The Tariff Plans need						
	to	be	absolutely	clear	and	transparent,	and	easily
	understandable to a common Telecom Consumer.							

Proposal 3: In cases where a subscriber of an existing lifetime validity plan or unlimited validity plan opts for migration to a new lifetime validity or unlimited validity plan, with lower entry fee, the service provider shall not levy any upfront payment or recurring charges or fee for allowing such migration.

CELLULAR PHONE USERS ASSOCIATION OF INDIA

•	This should be done by the operators in a non-discriminatory manner.
•	The benefit of revised scheme (like tariff reduction) should be automatically extended and subscriber moved to new tariff

plan.

•	The lifetime validity offers have been evolving as per the dynamics of targets and marketing oriented tariff plans of various operators, the one time tariff of about Rs.1000 has been revised to about Rs.295 with a host of tariff changes and special package cards for these subscribers.
•	However, with any new change in the tariff, the older subscribers are left to look out for options (read another recharge)to shift to the modified tariff.
•	It is absolutely important for the service providers to migrate such subscribers to newer tariff plan in the similar category

without any additional upfront charges.

CUAI

•	This should be done by the operators in a non-discriminatory manner.
•	The benefit of revised scheme (like tariff reduction) should be automatically extended and subscriber moved to new tariff plan.

KERALA CONSUMER SERVICE SOCIETY

•	It has to be ensured that service providers should not levy any upfront payment or receiving charges on existing validity lifetime subscribers during migration to new validity plans with lower entry fee.

BHARAT JYOTI CONSUMER ADVOCACY GROUP, LUCKNOW

• We have the same opinion as the Authority.

Proposal 4: No fixed fee other than applicable taxes shall be levied on recharges exclusively meant for provision of talk time value. However, the service providers can charge a nominal fee not exceeding Rs.2 per top up towards administrative costs.

CELLULAR PHONE USERS ASSOCIATION OF INDIA

•	Yes, all the top up recharges should deliver full talk value (after applicable taxes).
•	All operators practically have one or the other recharge option available at given time, which provides for full talk value (however, the same has to be meticulously looked for in a plethora of recharge options).
•	This move will ease the customer of searching out for the offer of the day / ongoing scheme from various channels.
•	Considering, large no. of prepaid subscribers and the fact that

prepaid segment delivers advance revenues for operators; this should be a welcome move. A number of recharge options available from each service provider makes prepaid recharge a bag of confusion for the subscribers, this couple with fact that the types of recharge denominations and lack of information amongst the prepaid recharge distributors make the task of choosing a correct recharge option an uphill task for an ordinary subscribers.

•	On top of it, there are recharge options which are time bound, event specific and there are instances where the recharge

options are specific to certain select subscribers i.e., the option of recharge offer is not been made in a “non-discriminatory” manner, this is against the general principles of tariff fixation prescribed by TRAI.

•	In order to streamline the choice available before a subscriber, the operators should be directed to offer full talktime on prepaid recharges and token administrative fees for “top-up” recharges. The recharges with validity are generally structured by the operators to yield minimum assured revenue.
•	Majority of the revenue accruals from the prepaid recharges for operators is achieved through “electronic” recharges. The large operators are generating revenues to the tune of 40-50 crores per day from electronic recharges alone.
•	A token administrative fee of Rs.2 per transaction is reasonable and justified to maintain and cover the expense of the transaction.
•	The operators save revenue to the tune of 5-6% in prepaid compared to the postpaid segement on account of billing and bad debts.
•	Additionally, the operators generate additional revenues in prepaid segment from non-refund of unspent balance in prepaid accounts.

The advance revenue generated in the prepaid segement is generating advance revenues and advance recovery of capital and profits for the operators, at the present interest rates, this amounts to 10-11% additional accrual of revenues on a yearly basis.

CUAI

•	Yes, all the top up recharges should deliver full talk value (after applicable taxes).
•	All operators practically have one or the other recharge option available at given time, which provides for full talk value (however, the same has to be meticulously looked for in a plethora of recharge options).
•	This move will ease the customer of searching out for the offer of the day / ongoing scheme from various channels.
•	Considering, large no. of prepaid subscribers and the fact that prepaid segment delivers advance revenues for operators; this should be a welcome move.

KERALA CONSUMER SERVICE SOCIETY

•	No fixed fee other than permitted taxes shall be levied on recharges exclusively meant for provision of talktime value. Even Top-up charges should not be collected. .

BHARAT JYOTI CONSUMER ADVOCACY GROUP, LUCKNOW

•	No fixed fee other than applicable taxes (needs clarity), should be levied on recharges, exclusively meant for provision of talk time value. Yes, the service provider may charge a nominal fee, not exceeding Rs.2/- on each Top-Up, as the administrative cost..

Proposal 5: If the terms and conditions of a lifetime plan/plan with unlimited validity include any condition of minimum amount of recharge at specified intervals, such interval shall be minimum six months. Before expiry of the specified duration for the recharge, in these plans, if any, consumers are to be reminded by the service providers in advance to avoid disconnection by default.

CELLULAR PHONE USERS ASSOCIATION OF INDIA

•	Yes, this must be made mandatory in public interest.
•	Any kind of disconnection or deletion of connection from switch should not be an uninformed activity. An automated reminder in the form of a SMS should be mandatory. This is more important for undeserved and marginal subscribers.

CUAI

• Yes, this must be made mandatory in public interest.

KERALA CONSUMER SERVICE SOCIETY

•	Steps may be included to prevent disconnection by default. Steps may be initiated by TRAI to modify the present telecom tariff order to suit the above requirements.

BHARAT JYOTI CONSUMER ADVOCACY GROUP, LUCKNOW • We have the same opinion as the Authority.

CONSUMER-VOICE.INFO AND CONSUMER UNITY & TRUST SOCIETY (CUTS) have generally welcomed the proposals of TRAI

TO BE PUBLISHED IN THE GAZETTE OF INDIA
EXTRAORDINARY PART III SECTION 4
TELECOM REGULATORY AUTHORITY OF INDIA NOTIFICATION
New Delhi, the 20th November, 2009
THE TELECOMMUNICATION TARIFF (FORTY- NINTH AMENDMENT) ORDER, 2009
No. 1 of 2009

No. 301-25/2009-ER — In exercise of the powers conferred upon it under sub-section (2) of section 11, read with sub-clause (i) of clause (b) of sub-section (1) of the said section, of the Telecom Regulatory Authority of India Act, 1997(24 of 1997), the Telecom Regulatory Authority of India hereby makes the following Order further to amend the Telecommunication Tariff Order, 1999, namely: -

1. (1) This Order may be called the Telecommunication Tariff (Forty Ninth Amendment) Order, 2009.

(2) It shall come into force on the 31st day of December, 2009.

2. In the Telecommunication Tariff Order, 1999, in clause 3, for the word and figures “Schedules I to XI”, the word and figures “Schedules I to XII” shall be substituted.

3. After Schedule XI to the Telecommunication Tariff Order, 1999, the following Schedule shall be inserted, namely:-

“SCHEDULE XII
(See clause 3)

Tariff for porting of a mobile number referred to in sub-regulation 4 of the regulation 7 of the Telecommunication Mobile Number Portability Regulations, 2009 (8 of 2009)

ITEM	TARIFF
1. Porting charge payable by the subscriber to the Recipient Operator.	The Per Port Transaction charge specified in regulation 3 of the Telecommunication Mobile Number Portability Per Port Transaction Charge and Dipping Charge Regulations, 2009(9 of 2009), as ceiling.

[Sadhana Dikshit]
Principal Advisor (ER)

Note.1. – The Telecommunication Tariff Order, 1999 was published in the

dated 9th March, 1999, and subsequently amended as given below:-

Amendment No.	Notification No. and Date
st 1	301-4/99-TRAI (Econ) dated 30.3.1999
2nd	301-4/99-TRAI(Econ) dated 31.5.1999
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28th	301-51/2003-Econ dated 5.11.2003
29th	301-56/2003-Econ dated 3.12.2003
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45th	301-18/2007-Eco dated 5.6.2007

46th	301-36/2007-Eco dated 24.1.2008
47th	301-14/2008-Eco dated 17.3.2008
48th	301-31/2007-Eco dated 1.9.2008

Note 2. – The Explanatory Memorandum explains the objects and reasons for the Telecommunication Tariff (Forty Ninth Amendment) Order, 2009.

Explanatory Memorandum

1. Mobile Number Portability (MNP) allows the subscribers to retain their existing mobile telephone number when they move from one Access Provider to another irrespective of the mobile technology or from one cellular mobile technology to another of the same Access Provider, in a licensed service area.

2. In the Telecommunication Mobile Number Portability Regulations, 2009 (8 of 2009) dated 23rd September 2009, it was specified that the subscriber availing Mobile Number Portability facility shall have to pay the porting charge, if any. The Porting charge means such charge as may be levied by a Recipient Operator from a subscriber for porting his mobile number.

3. In this regard, the Authority while determining the Per Port Transaction charge through the Telecommunications Per Port Transaction Charge and Dipping Charge Regulations, 2009 (9 of 2009), has decided that no compensation shall be payable to the service providers for upgradation of their networks to make it MNP compliant and also to the Donor Operator for administrative costs incurred in processing the porting request as MNP do not require the Donor Operator to carryout any significant work.

4. Similarly, when a subscriber makes a request to port his mobile number, in so far as Recipient Operator is concerned, it is similar to acquiring a new subscriber and as such the Recipient Operator does not incur any additional cost in the MNP process except for the Per Port Transaction charge which is payable to the MNPSP for processing the porting request. Moreover, MNP gives the Recipient Operator an opportunity to acquire more subscribers. Therefore, the Authority does not find any justification for the

Recipient Operator to charge any additional amount from the subscriber over and above what it has to pay to the MNPSP in the form of Per Port Transaction charge. Accordingly, the Per Port Transaction charge shall be the ceiling for the Porting charge. It is however open to the Recipient Operator to collect, at his discretion, a lesser amount from the subscriber making a porting request.

TELECOM REGULATORY AUTHORITY OF INDIA
NOTIFICATION
New Delhi, the 19th April, 2012

THE TELECOMMUNICATION TARIFF (FIFTIETH AMENDMENT) ORDER, 2012

No. 1 of 2012

No. 301-24/2012-ER— In exercise of the powers conferred upon it under sub-section (2) of section 11, read with sub-clause (i) of clause (b) of sub-section (1) of the said section, of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), the Telecom Regulatory Authority of India hereby makes the following Order further to amend the Telecommunication Tariff Order, 1999, namely: -

1. (1) This Order may be called the Telecommunication Tariff (Fiftieth amendment) Order, 2012.

2. In Schedule II of the Telecommunication Tariff Order, 1999, under the heading ―Tariff‖, in the entries appearing against the item ―(6) Tariff for prepaid service‖, in the proviso, ---
(a) for clause (a), the following clause shall be substituted, namely:-
―(a) Every service provider shall offer and make available to the consumer at least one top up voucher, of denomination of rupees ten.‖;

(b) for sub-clause (ii) of clause (f), the following sub-clause shall be substituted, namely:-
―(ii) a nominal fee, not exceeding two rupees for each top up voucher having maximum retail price below rupees twenty and not exceeding three rupees for each top up voucher having maximum retail price of rupees twenty or more, shall be levied towards administrative cost or expenses.‖

(Raj Pal)
Advisor(ER)

Note.1. – The Telecommunication Tariff Order, 1999 was published in the Gazette of India, Extraordinary, Part III, Section 4 under notification No.99/3 dated 9th March, 1999, and subsequently amended as given below:-

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49th	No. 301-25/2009-ER dated 20.11.2009

Note 2. – The Explanatory Memorandum explains the objects and reasons for

the Telecommunication Tariff (Fiftieth Amendment) Order, 2012.

EXPLANATORY MEMORANDUM

The difference between the Maximum Retail Price (MRP) of the vouchers and the talk value plus service tax is known as processing fee, though different nomenclatures are used to refer to this fixed charge. Through TTO (Forty-Eighth Amendment) Order a ceiling of rupees two was prescribed on processing fee on any recharge voucher exclusively meant for provision of talk value.

2. The Telecom Consumers Protection Regulations (TCPR), 2012 reiterate that Top up voucher shall not contain any administrative or processing fee beyond the ceiling specified by the Authority.

3. Association of Unified Telecom Service Providers of India (AUSPI) and Cellular Operators Association of India (COAI) have requested for upward revision of the Processing Fee in Top up vouchers to rupees three from the existing ceiling of rupees two. It has been argued that there has been inflationary pressure in the last three years since the ceiling of rupees two was prescribed by the Authority. Cost of providing service by way of hike in salaries/wages, increase in cost of transportation & diesel cost, increase in cost of storage etc., among others have been cited as supporting arguments in this regard.

4. In order to decide on above representations from COAI and AUSPI, the Authority has invited comments of the stakeholders by issuing a consultation paper on ―Certain issues relating to the Telecom Consumers Protection Regulations, 2012‖ on 15th March, 2012. On the issue of increasing ceiling on administrative and processing fee, the following specific questions were raised for consultation:

Is there sufficient justification to increase the ceiling on processing fee on Top up vouchers from Rs.2/ to Rs. 3/-, as requested by the associations of service providers?

If yes, should the above increase in processing fee be allowed only in respect of paper voucher?

5. The stakeholders were requested to send their comments by the 25th March 2012. Written comments have been received from AUSPI, COAI, few service providers, consumer organisations and individuals. These comments of the stakeholders are briefly discussed as under:

6. The service providers and their associations have reiterated their stated position arguing for increase in the Processing Fee to Rs.3/-. It has been argued that the ceiling of Rs 2/- was prescribed more than three years ago and even at that time they had submitted that the ceiling was not sufficient to recover costs related to recharge vouchers. The reasons given are inflationary pressures and increase in cost of the material to meet requirements of font-size and colour code etc. as prescribed by TCPR, 2012. In addition, the costs relating to the distribution and retail commission, printing of vouchers, SMS alerts on activation of vouchers as well as the low level of ARPU and customers moving away from high value top up vouchers to small denomination top up vouchers have been highlighted. However, one service provider has stated that the ceiling of Rs.2/- should continue on denominations up to Rs.100/- as lower denominations are generally used by low income strata.

7. The consumer groups as well as individuals have argued for continuation of the existing ceiling of rupees two. There are also suggestions for not allowing any separate processing fee on top-up vouchers. Further, some of the consumers groups and individuals have argued that in case the ceiling on processing is increased, the top up vouchers of smaller denominations should be exempted from such hike in processing fee in order to protect interests of marginal and low usage subscribers. While one individual has stated that the increase in ceiling on processing fee to Rs. 3/- is justified.

8. Subsequently, in addition to their written suggestions in response to the above cited consultation paper, COAI have submitted another representation to the Authority justifying their proposal for increase in processing fee on top up vouchers. It has been reiterated that the upward revision of processing fee on top up vouchers is inescapable on account of increase in operating costs over the years since the ceiling on processing fee was prescribed. Further, the costs arising out of the implementation of the TCPR, 2012 and drop in revenue of the telecom service providers have also been highlighted. COAI have also argued that the proposed increase in processing fee will only mitigate a portion of the revenue shortfall that has been witnessed with implementation of the TCPR.

9. The Authority appreciates the justifications given by the service providers and their associations as well as the falling trend in APRU. The ARPU in respect of prepaid service for GSM and CDMA was Rs.189 and Rs.95 respectively for the quarter ending September 2008. The ARPU for GSM and CDMA for the quarter ending December 2011 have fallen to Rs.81 and Rs.47 respectively.

10. Notwithstanding the above justifications, the Authority feels that hike in the Processing Fee is likely to adversely impact the users who generally buy Top up vouchers with smaller denominations. While considering increase in the existing ceiling on processing fee, it is necessary to see how the interest of users can be protected so that the processing fee remains at affordable level vis-a-vis the net monetary value offered through the Top up voucher. The impact of any increase in the Processing Fee will be much more in the case of lower denominations Top up vouchers. Details given in the Table below illustrate the extent of impact on of processing fee on top up vouchers of various denominations:

MRP Rs.	Service Tax + Education cess @ 12.36%	Processing Fee		Monitory Value if PF = Rs. 2		Monitory Value if PF = Rs. 3	
		Rs.	%age of MRP	Rs.	%age of MRP	Rs.	%age of MRP

10	1.10	2	20%	6.90	69%	5.90	59%
20	2.20	2	10%	15.80	79%	14.80	74%
30	3.30	2	6.7%	24.70	82%	23.70	79%
40	4.40	2	5%	33.6	84%	32.6	81.5%
50	5.50	2	4%	42.50	85%	41.50	83%
100	11.00	2	2%	87.00	87%	86.00	86%
200	22.00	2	1%	176.00	88%	175.00	87%
500	55.00	2	0.4%	443.00	89%	442.00	88%
1000	110.00	2	0.2%	888.00	89%	887.00	89%

11.	In the case of Rs.10/- voucher, which is very popular among users, the

monetary value will be reduced to 59% from 69% with increase in processing fee to Rs.3/- i.e., 10% reduction in talk time. In the case of Rs.20 Top up vouchers, effective talk-time value will get reduced to 74% from 79% (reduction of 5 %age points), and so on. As such, for higher denominations of Top up vouchers, the impact of Processing Fee is minimal.

12. While appreciating the justifications in support of increase in processing fee, the Authority feels that the top up vouchers having MRP less than rupees twenty should be exempted from increase in processing fee. The Authority has also noted that the impact of fixed amount of Processing Fee is relatively more on top up vouchers of smaller denominations as compared to higher

denomination top up vouchers. With multiple recharges, the subscribers recharging with smaller denomination top up vouchers end up paying proportionately more processing fee in comparison to the subscribers charging with high value top up vouchers. Therefore, having a uniform fixed Processing Fee across all denomination of Top up vouchers appears to go against equity.

13. Further, the Authority also agrees with the suggestions of the service providers and their association for having a uniform ceiling on processing fee in respect of paper top up vouchers and electronic top up vouchers. A uniform processing fee on paper as well as electronic top up vouchers would be appropriate from transparency and equity perspective.

14. **Therefore, the Authority has decided to increase the ceiling on Processing Fee on Top up vouchers to rupees three from rupees two in respect of Top up vouchers having Maximum Retail Price of rupees twenty and above and to continue with the existing ceiling of rupees two in respect of Top up vouchers having Maximum Retail Price of less than rupees twenty.**

15. Another closely linked issue is ensuring the actual availability of Top up vouchers of lower denominations in the market, as instances of non-availability of such Top up vouchers have been brought to the notice of the Authority. Therefore, with a view to protect the interests of users, **the Authority mandates that every service provider shall offer and make available to the consumer at least one top up voucher, of denomination of rupees ten.**

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TELECOM REGULATORY AUTHORITY OF INDIA
NOTIFICATION
New Delhi, the 20th April, 2012

THE TELECOMMUNICATION TARIFF (FIFTY FIRST AMENDMENT) ORDER, 2012
No. 2 of 2012
No. 301-26/2011-ER.— In exercise of the powers conferred upon it under sub-section (2) of section 11, read with sub-clause (i) of clause (b) of sub-section (1) of the said section, of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), the Telecom Regulatory Authority of India hereby makes the following Order further to amend the Telecommunication Tariff Order, 1999, namely: - **1.** (1) This Order may be called the Telecommunication Tariff (Fifty First Amendment) Order, 2012.

2. In clause (2) of the Telecommunication Tariff Order, 1999 (hereinafter referred as the principal tariff order), after sub-clause (k), the following sub-clause shall be inserted, namely:-
‗(ka)' ‗Premium Rate Service' or ‗PRS' means service for which charges are levied at rates higher than the rates applicable to the consumer as per his tariff plan.

3. In clause 3 of the principal tariff order, for the word and figures ―Schedule I to XII‖, the word and figures ―Schedule I to XIII‖ shall be substituted.

4. In clause 6 of the principal tariff order, after sub-clause (iv), the following proviso shall be inserted, namely:-

―Provided that every service provider providing cellular mobile service shall offer to the subscriber at least one pre-paid and one post-paid Tariff plan with pulse duration of one second for local and national long distance calls.‖
5. In sub-clause (vii) of clause 6 of the principal tariff order, after para (c), the following proviso shall be inserted, namely:-
―provided that nothing contained in this sub-clause shall apply to the calls terminated outside the country‖.

6. After Schedule XII to the principal tariff order, the following Schedule shall be inserted, namely:-

"SCHEDULE XIII
(See Clause 3)

Tariff for Premium Rate Services

S.No.	ITEM	TARIFF
1.	Calls made to participate in contests and competitions and to vote in television and radio programmes.	Four times of the applicable local call charges in the Tariff plan opted by the subscriber, as ceiling.
2.	SMS sent to participate in contests and competitions and to vote in television and radio programmes.	Four times of the applicable SMS charges in the Tariff plan opted by the subscriber, as ceiling.
3.	All other matters relevant to tariff for Premium Rate Services.	Forbearance.ǁ

(Raj Pal)
Advisor(ER)

Note.1. – The Telecommunication Tariff Order, 1999 was published in the Gazette of India, Extraordinary, Part III, Section 4 under notification No.99/3 dated 9th March, 1999, and subsequently amended as given below:-

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48th	301-31/2007-Eco dated 1.9.2008
49th	301-25/2009-ER dated 20.11.2009
50th	301-24/2012-ER dated 19.4.2012

Note 2. – The Explanatory Memorandum explains the objects and reasons for the Telecommunication Tariff (Fifty First Amendment) Order, 2012.

EXPLANATORY MEMORANDUM

Consultation Paper No.12/2010 on ―*Certain issues relating to Telecom Tariff*‖ was issued by TRAI on 13.10.2010 for seeking the views of stakeholders. This Paper had *inter alia* deliberated on various aspects of multiplicity of tariff plans and the need for improving transparency in tariff offerings. Having concluded the consultation process, the Authority has decided to issue required regulatory measures to further improve the transparency for protecting the interests of subscribers. These measures are being issued through; (i) amendment in Telecommunication Tariff Order (Fifty First Amendment); (ii) The Telecom Consumer Protection Regulations, 2012; and (iii) through two sets of Directions relating to publication of telecom tariff plans and preventing misleading advertisements.

2. The Telecommunication Tariff (Fifty First Amendment) Order addresses issues related to Multiplicity of Tariff Plans and Transparency, need for providing Flexibility to operators in implementing ILD Tariff, and limiting the tariff for calls and SMS for participating in competitions and voting to four times the tariff for calls and SMS under the tariff plan applicable to the subscriber.

3. Concerns have been raised by the stakeholders from time to time regarding multiplicity of tariff plans in the access market. Attempts have been made in the past to address this issue by prescribing a cap on the number of Tariff Plans that can be offered by a access service provider at any given point of time. Initially the cap of 25 plans on offer was specified in the year 2002. This cap was reviewed in the year 2004 and 2008 after going through the process of consultation. On both occasions after examining the views of the stakeholders the Authority had decided to continue with the cap of 25 tariff plans on offer.

4. In the light of demands from certain consumer organisations, the Authority again sought the views of stakeholders through the above mentioned Consultation Paper on the desirability of reviewing the ceiling on the number of Tariff plans, particularly on the following issues:

i)Whether „One Standard Plan, for all Service Providers, particularly for a prepaid subscriber would be relevant in the present scenario of Indian telecom market.

ii)Whether existence of large number of tariff plans are beneficial for subscribers.

iii)Whether there is need for revising the existing cap of 25 tariff plans on offer

5. Only a few stakeholders have suggested ‗one plan for all', while most other stakeholders have opposed the idea of ‗one plan for all'. On the question of revising the existing cap, there were differing views. The stakeholders who support ‗one plan for all' or favoured further reducing the cap from the level of 25 have put forward the following supporting arguments:

- Mandating ‗*One Plan for All*' for prepaid subscribers would be the answer to the problems of prepaid subscribers.
- Multiple plans are confusing for subscribers.
- Large numbers of tariff plans do not provide real choice but only confusion.
- It will be difficult for an average subscriber to compare such large number of tariff plans and to find out which one is beneficial to him.
- Lack of transparency in the large number of tariff plans makes the choice for subscribers very difficult.

6. The stakeholders who opposed ‗one plan for all' and favoured either no cap or no further reduction in the existing cap have mainly put forward the following reasons:

- The single plan would be detrimental to the needs of consumers which are so dynamic and segmented and would not meet the requirements of different classes of consumers.
- Different tariff plans are designed to cater to specific segments of subscribers with unique needs and any curb on this flexibility would close the avenues for operators to innovate on new tariff plans.
- Mandating ‗one standard plan for all Service Providers' will work against the introduction of new innovative schemes/ plans and customised benefits being provided to the subscribers.
- Enforcement of ‗one standard plan for all Service Providers' is against the basic principles of promoting competition and contrary to the individual human requirements and preferences. The ‗one size fits all' is anti-consumer.
- Different requirements of every consumer cannot be lumped together in one plan.
- More offers enables the customers to alter their usage pattern to better suit work/ social/ entertainment needs at affordable incremental cost additions.

7. In the opinion of a section of stakeholders the number of tariff plans offered is not the real concern but the manner in which they are offered is the real problem. If the transparency issues are effectively addressed, the subscribers will be in a position to choose tariff plans ideal for their usage even from a basket of large number of plans. The measures intended towards improved transparency in tariff offers have been addressed separately through The Telecom Consumer Protection Regulations, 2012 and two sets Directions relating to publication of telecom tariff plans and preventing misleading advertisements.

8. The Authority is in agreement with the majority view of the

stakeholders that mandating ‗one plan for all' would be against the interest of different classes of subscribers. Such mandate would also adversely affect the flexibility available to Service Providers to provide customised services for meeting differing requirements of various consumer segments. The Authority feels that larger interest of subscribers would be served by retaining the existing cap of 25 plans unaltered and at the same time by ensuring the transparency measures that are already in place and also those envisaged as a result of the consultation process. The Authority, therefore, after considering the various viewpoints expressed by stake holders and

assessing	the	prevailing	market	conditions,	**has**	**arrived**	**at**

conclusion not to change the current cap of 25 tariff plans that can be offered by access service providers including post-paid and pre-paid.

Mandating one tariff plan on „Per Second Billing" basis.

9. There have been demands from certain sections of Consumer Groups to reduce the number of tariff plans on offer with a view to avoid confusion and to facilitate informed choice. After consideration of all facts including the feedback from the consultation process, the Authority has decided not to interfere with the currently prevailing ceiling of 25 tariff plans that can be offered by a Service Provider at any given point of time. However, at the same time the Authority feels that there has to be at least one tariff plan each for both post-paid and pre-paid subscribers with uniform pulse rate i.e. ‗per second pulse', across all service providers so as to enable the subscribers to compare the tariffs offered by different service providers.

10. The telecom market has witnessed intense price competition primarily due to entry of several new operators in the already competitive mobile telephony market. Substantially reduced call rates and innovative tariff schemes were triggered as part of attempts by new players to gain a foothold

in the market. The mobile telephony market in the country being highly competitive, it was imperative for the incumbent operators to respond in equal measure in order to prevent erosion of their market share. The fear of large scale churn, particularly in the context of implementation of mobile number portability also compelled the operators to come up with innovative and attractive tariff offers. Pulse rate for mobile calls had been generally 60 seconds, though there were isolated instances where few service providers implemented a different pulse rate. In the June, 2009, one of the new service providers, introduced ‗per second billing', which was received favourably in the market. Within a period of few months, almost all mobile service providers introduced second based tariff plans for mobile subscribers in one form or other.

11. Scrutiny of tariff offers available in the market shows that almost all the service providers currently have ‗per second billing' options made available to subscribers for making Local and STD calls. While several operators launched regular tariff plans having lifetime validity with one second pulse, some other service providers have implemented ‗per second billing' option for a limited period through special tariff vouchers. There are also regular post-paid tariff plans with per second billing for most of the operators. It has been observed that ‗per second billing' system is more acceptable among majority of the subscribers, because it enables the subscribers to pay only for the actual usage.

12. In order to ensure that ‗per second billing' remains an assured alternative option for all subscribers, **it has been decided to mandate that all service providers shall offer at least one pre-paid and one post-paid tariff plan with the pulse rate of one second for local and national long distance calls.** The service providers will be at

liberty to offer alternative tariff plans with any pulse rate within the overall ceiling of 25 tariff plans.

Flexibility for revising ILD Tariff

13. The Telecommunication Tariff (Forty third Amendment) Order, 2005 stipulates that a tariff plan once offered by an Access Provider shall be available to a subscriber for a minimum period of six months from the date of enrolment of the subscriber to that tariff plan. Further, any such plan with validity of more than six months or having lifetime or unlimited validity in lieu of an upfront fee payment shall continue to be available for the entire duration of the plan, as offered. The TTO also mandates that no tariff item in a tariff plan shall be increased during the entire promised validity of the plan. As a result, the service providers are debarred from effecting changes to the disadvantage of an existing lifetime subscriber during the entire license period.

14. The service providers had represented to the Authority that the above said provision is coming in their way of implementing any increase in ILD tariffs necessitated by unforeseen circumstances or factors beyond their control. They had sought flexibility to implement revision in ILD tariff across the board including for the existing subscribers. The service providers and their associations have extended the following main grounds in this regard:

(i) Increase in termination charges to several countries.

(ii) Increase in foreign exchange rate.

(iii) The factors relevant for deciding ILD tariffs are outside the control of Regulatory Authority in India.

(iv) The price freeze on all tariff items for lifetime customers without providing a corresponding guarantee that there shall be no increase in the input costs is unfair.

(v) A large percentage of subscriber base is in the lifetime prepaid category and the bar on increasing tariff for this category of subscribers is creating difficulties in recovering the cost of ILD business.

(vi) The termination charges for incoming international calls are specified in the IUC Regulation and the Indian service providers do

not	possess	the	equal	opportunity	to	negotiate	bi-lateral

agreements on a reciprocal basis with their overseas counterparts. (vii) In the case of ILD tariffs, the revision in tariffs is necessitated by commercial and financial reasons affecting sustainability of business, the same may not be considered as a case of arbitrary increase in tariffs which is intended to be barred by the 43rd TTO amendment.

15. In the context of the representations made by Service Providers and their Associations, the Authority decided to seek the views of stakeholders as to whether the hike in ILD Tariff could be made applicable across all subscribers including the existing lifetime subscribers. Therefore, though the above mentioned Consultation Paper the following issue was raised:

“Do you think there is sufficient justification to allow the service providers to realign the ILD tariff in respect of existing lifetime

subscribers	**in**	**view**	**of**	**the**	**grounds**	**mentioned**	**in**	**their**

representations?”

16. The service providers as well as their associations have responded in affirmative to this question and have reiterated the submissions in their earlier representations and have drawn attention to the fact that the Authority revises prices for free to air channels for CAS areas to compensate operators for inflation. They have made some additional points, like;

a) Tariffs are offered to the customers on the basis of existing costs and costs projected over a shorter period of time which cannot be frozen.

b) Whenever prices of utilities like gas, water, and electricity are increased, it is effective for all consumers irrespectively when the subscriber has started using that service.

c) The contractual agreement with the lifetime subscribers should be considered only for the local and STD usage which is under the control of the Indian service providers.

17. The views of the consumer organizations are divided on this issue. One group of CAGs are of the view that there is not sufficient justification to allow the service providers to realign the ILD tariff, whereas other CAGs have not opposed the request of the service providers being considered by the TRAI on merit. The responses from Individuals/Individual organizations are generally in favour of realignment of the ILD tariffs for existing Lifetime customers. There are also suggestions that the subscribers who paid a substantial amount as upfront fee for enrolling into Lifetime schemes may be provided a percentage of that fee in the form of free talk time or the subscribers may be provided with the cost of switching the service provider (SP).

18. The Authority has considered the rationale for prohibiting hike in any tariff component as per the 43rd Amendment, the developments that have taken place after the 43rd Amendment was notified and the views expressed by stakeholders during the consultation process. In arriving at a conclusion to have a separate tariff regulatory regime for lifetime validity plans vis-à-vis other tariff plans (through 43rd Amendment to TTO), the Authority was influenced by the following facts and features of the lifetime validity plans that were on offer: (a) An upfront payment of substantial amount, which was in the region of Rs.1000/-, was payable by the subscribers for getting enrolled into the plan.

(b) No fair exit options were provided for the customers thereby restricting their ability of free choice of the plans on offer.

(c) The call charges applicable in lifetime plans were higher compared with the normal prepaid plans.

(d) Initially various optional packs/top-ups were not offered to the lifetime customers by many operators.

19. The lifetime validity plans have been in the market for almost six years after their first launch in December, 2005. The features of the lifetime plans have under gone substantial changes with the passage of time due to intense competition. At present, the upfront payment applicable in lifetime schemes has come down to a negligible level of Rs.25/-, including many operators providing SIMs with lifetime validity free of charge. The call charges applicable in the lifetime schemes are also at par with standard applicable rates. The subscribers of lifetime plans get an equal consideration in matter of subscription to various add-on/top-up vouchers. These developments seem to imply that the factors which guided the Authority while framing the 43rd Amendment to TTO, have been considerably taken care of by the market forces. Another important development is that the Authority has prescribed a ceiling on the processing fee applicable on exclusively talk-time top ups effective from 15.09.2008. In the initial period of lifetime schemes subscribers were to pay processing fee which was as high as 25% of the price of Talk-time top ups. Thus, over a period there have been several positive developments which have worked to the advantage of the existing lifetime subscribers.

20. The main argument contained in the submissions made by service providers/their associations is that the factors governing the cost of ILD tariffs, like that of international roaming tariffs are beyond their control. They have also mentioned about increase in termination charges in respect of ILD calls to several destinations resulting in higher pay out and negative revenues on account of freeze in the ILD tariffs offered under lifetime plans. These arguments are valid to a great extent.

21. The Authority recalls that the Service Providers had raised certain objections at the time of Notification of 43rd Amendment. The objections were in the context of apprehensions by the industry that there could be unforeseen factors beyond their control that would affect the cost of provisioning of service

in future. While addressing these concerns the Authority vide Para 7 of the Explanatory Memorandum of the 43rd Amendment had stated:
"... it is important to realize that the cost of providing telecommunication services is on the decline and thus the apprehensions raised in this regard of a possible hike in cost of providing services in future are untenable. The Authority is also of the view that in event of the apprehensions pointed out by the industry Associations becoming true, the provisions of this Amendment can be reviewed".

The changes proposed to be effected at this stage are to be seen as the result of the review envisaged at the time of notifying 43rd Amendment.

22. What the 43rd Amendment to TTO envisaged was essentially that the basic considerations which induced a subscriber to join a tariff plan shall not be altered to his disadvantage for a specified period. In this context the Authority has examined whether the ILD rates formed part of the basic considerations for a subscriber to enrol into particular tariff schemes. As per the data available with the Authority, the GSM mobile originated traffic distribution shows that ILD calls, on an average constitute only a negligible share of 0.24%. In the case of CDMA mobiles, this is even lesser i.e. 0.10%. In terms of the actual minutes of usage, the data shows that a mobile subscriber uses on an average less than half minute of ILD calls in a month. These figures would reveal that ILD calls or the rates thereof may not be a major factor that influences a subscriber in choosing any particular plan. Moreover, ILD rates are not Plan Specific and generally the operators have uniform ILD rates across various plans on offer. Therefore, it may not be logical to assume that a subscriber has opted for a particular tariff plan considering the ILD rates applicable in that plan.

23. In the light of facts and circumstances described above, **the Authority has decided to exclude ILD call rates from the purview of the Tariff**

Protection envisaged vide 43rd Amendment. This decision of the Authority is being made effective by adding a proviso in sub clause (vii) of Clause 6 of the TTO. Since the ILD rates are treated as a separate component, any upward or downward revision can be made applicable to all subscribers uniformly irrespective of the date on which the subscriber was enrolled into a tariff plan.

24. The Authority will continue to keep a watch to ensure that the flexibility being given to the Service Providers is not misused. The Authority expects the Service Providers not to effect upward ILD tariff revisions exclusively for existing subscribers. Such revisions will have to be uniform for subscribers of all tariff plans, existing as well as new. It is also expected of Service Providers to ensure that existing subscribers shall remain eligible for subscribing to any special packs providing free or concessional ILD usage charges.

Tariff for Premium Rate Services

25. Premium rate services (PRS) generally offer some form of content and include services like helpline services, competition, voting, ring tones, gaming etc. The services include both telecommunication services as well as non-telecommunication (―content‖) services, which are both billed by the provider of the telecommunication service. Access to PRS is through special members and charges for such services are levied at rates higher than the rates applicable to the consumers as per his tariff plan. The revenue generated through the PRS is shared between the Telecom access provider and the content service provider.

26. Some consumer organisations had represented to TRAI against high usage charges and lack of transparency in provision of premium rate services. Particularly, attention of Authority was drawn to the issue of mushrooming growth of ―Pull SMS‖ and ―Pull Calls‖ for participating in competitions and voting organised through various television programmes and FM radios. With a view to exploring the possibility of prescribing regulatory measures to address

the concerns of the consumers, this issue was included in the consultation process on ‗certain issues related to telecom tariff'. The following Questions were raised for comments of stakeholders:-

- ***Should there any limit be prescribed on the rates for the premium rate SMS and calls? If so, what should be the norms for prescribing such limit?***
- ***If not, what further measures do you suggest to improve transparency in provision of premium rate services to prevent the***

instances	***of***	***subscribers***	***availing***	***such***	***services***	***without***

understanding financial implications thereof?

27. The Service Providers as well as their associations were firm in their view that there is no need to prescribe any limit on the rates for premium services and the same should be left to the market forces. It was pointed out that there are quite a large number of content services with each service differing in content, cost, and demand and there cannot be a standard limit for all content based premium services. The price regulation of premium rate services, according to them, will restrict the growth of value added services and will also seriously affect the viability of the telecom operators.

28. The Consumer Organisations were generally in favour of prescribing a limit on tariffs for premium rate services. Some have suggested that the rate of premium services must be limited to 2 or 3 times the normal rate chargeable. There was also a view that any rate or tariff should be on the basis of resources spent by the service provider and no other consideration. Several measures to address the concerns relating to PRS also came up during the consultation process. The suggestions include allocation of exclusive numbering range for PRS, mandating announcement of tariff at the beginning of the call, excluding waiting time from the duration for charging, hence, transparency in billing and advertisement etc.

29. The Authority considered the view points expressed by stakeholders and the practices currently followed by SPs in the provision of PRS. As per the tariff framework in vogue, flexibility has been given to SPs to determine prices for various service components including PRS. Since PRS constitutes more than a simple two-way communication and include the value for the content, there is no doubt that charges will be higher vis-à-vis the normal tariff applicable for subscribers. The value of the content may vary vastly which will also be reflected in the end user prices. The Authority does not intend to restrict the growth of services involving content nor to curb the revenue streams available for the service providers.

30. As regards prescribing tariff for all PRS, it is not practically possible to fix prices for each PRS due to the number and categories of such services being too large. At the same time the Authority felt it appropriate to spell out some degree of price certainty in respect of the most commonly used PRS like participation in contests and competitions. Unlike other Premium Rate Services where the value of the content is substantial, the content element involved in the calls and SMS made for participating in competition and voting, is minimal. In this type of PRS the telecom service provider essentially provides facility for transmission of such calls and SMS. However, keeping

in view the fact that revenue from such calls and SMS is shared by the telecom service provider with other parties, therefore, charges for such calls and SMS are higher compared with those of normal calls and SMS.

31. It is observed that the SPs generally charge Rs.2/- to Rs.5/- per minute for each call made and each SMS sent to participate in the contest, voting, survey and competitions. While it is the choice of the subscriber to make or not to make such calls/ SMS, an unreasonably high price results in undue gain to the SP at the cost of the customer. This leads to customer dissatisfaction and complaints. As per the present practice PRS is priced

uniformly for subscribers of all plans irrespective of the rates available in the tariff plan. Thus, there is no relation between the rates available in the tariff plan and those charged for PRS.

32. In view of the above, the Authority has now decided to relate the charges for calls and SMS meant for participating in contests and competitions including for voting in television and radio programmes, to the rates available in the tariff plan of the subscriber. **The tariff for such PRS as stated in this Order shall not exceed four times of the applicable Local call/ SMS charges.** The Authority is aware that there are differential Local call rates in the same tariff plan for peak/ off-peak, on-net/off-net calls and SMS. For the purpose of ceiling tariff specified in this Order, the higher tariff for Local calls/ SMS applicable in the plan would be taken into account in situations where more than one rate is available. Similarly the free or discounted call/SMS charge, if any, provided for specific duration through Special Tariff Vouchers, shall not be reckoned for the purpose of the specified ceiling as these are not the rates applicable in the Tariff plan. Since the rates indicated are by way of ceiling, SPs are at liberty to fix any rate less than four times of Local call/SMS tariff.

33. As regards improving transparency in provision of PRS, it has already been mandated through the Telecom Consumers Protection Regulations, 2012 that every service provider providing or giving access to a Premium Rate Service shall ensure that the rate of such call is conveyed to the consumer through a voice alert prior to the materialisation of the call.

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TELECOM REGULATORY AUTHORITY OF INDIA
NOTIFICATION
New Delhi, the 19th September, 2012

THE TELECOMMUNICATION TARIFF (FIFTY SECOND AMENDMENT) ORDER, 2012
No. 4 of 2012
No. 301-41/2012-F&EA — In exercise of the powers conferred upon it under sub-section (2) of section 11, read with sub-clause (i) of clause (b) of sub-section (1) of the said section, of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), the Telecom Regulatory Authority of India hereby makes the following Order further to amend the Telecommunication Tariff Order, 1999, namely: -

1. (1) This Order may be called the Telecommunication Tariff (Fifty Second Amendment) Order, 2012.

2. In clause 2 of the Telecommunication Tariff Order, 1999 (hereinafter referred to as the principal tariff order), in sub-clause (l), for the words “within SEVEN days”, the words “within seven working days” shall be substituted.

3. In clause 7 of the principal tariff order, ----

(a)after sub-clause (ii), the following sub-clause shall be inserted, namely:-

“(iii) if any service provider fails to comply with the Reporting Requirement, it shall, without prejudice to the terms and conditions of its licence, or the provisions of the Act or rules or regulations or orders made, or directions issued, thereunder, be liable to pay five thousand 1

rupees, by way of financial disincentive, for every day of delay subject to maximum of two lakh rupees as the Authority may by order direct:

Provided that no order for payment of any amount by way of financial disincentive shall be made by the Authority unless the service provider has been given a reasonable opportunity of representing against the contravention of the tariff order observed by the Authority.”

(b)sub-clause (v) shall be omitted.

(c)sub-clause (vi) shall be omitted.

(d)for sub-clause (vii), the following sub-clause shall be substituted, namely:-
“(vii) No service provider shall terminate any existing tariff plan without giving a notice of not less than thirty days to the subscriber of its intention to terminate the tariff plan.”

4. After clause 7 of the principal tariff order, the following clause shall be inserted, namely:-

“7A. Consequences for levy of excess charge by the service provider.-

If the Authority finds that a service provider has collected from its subscribers any amount in violation of the provisions of this tariff order, the Authority may, by order, direct such service provider to refund such amount to the subscribers and also to pay, by way of financial disincentive, an amount not exceeding the amount collected from the subscribers:

Provided that no order for payment of any amount by way of financial disincentive shall be made by the Authority unless the service provider has been given a reasonable opportunity of representing against the contravention of the tariff order observed by the Authority.”

(Raj Pal)
Advisor (F&EA)

Note.1. – The Telecommunication Tariff Order, 1999 was published in the Gazette of India, Extraordinary, Part III, Section 4 under notification No.99/3 dated 9th March, 1999, and subsequently amended as given below:-

Amendment No.	Notification No. and Date
1st	301-4/99-TRAI (Econ) dated 30.3.1999
2nd	301-4/99-TRAI(Econ) dated 31.5.1999

3rd	301-4/99-TRAI(Econ) dated 31.5.1999
4th	301-4/99-TRAI(Econ) dated 28.7.1999
5th	301-4/99-TRAI(Econ) dated 17.9.1999
6th	301-4/99-TRAI(Econ) dated 30.9.1999
7th	301-8/2000-TRAI(Econ) dated 30.3.2000
8th	301-8/2000-TRAI(Econ) dated 31.7.2000
9th	301-8/2000-TRAI(Econ) dated 28.8.2000
10th	306-1/99-TRAI(Econ) dated 9.11.2000
11th	310-1(5)/TRAI-2000 dated 25.1.2001
12th	301-9/2000-TRAI(Econ) dated 25.1.2001
13th	303-4/TRAI-2001 dated 1.5.2001
14th	306-2/TRAI-2001 dated 24.5.2001
15th	310-1(5)/TRAI-2000 dated 20.7.2001
16th	310-5(17)/2001-TRAI(Econ) dated 14.8.2001
17th	301/2/2002-TRAI(Econ) dated 22.1.2002
18th	303/3/2002-TRAI(Econ) dated 30.1.2002
19th	303/3/2002-TRAI(Econ) dated 28.2.2002
20th	312-7/2001-TRAI(Econ) 14.3.2002
21st	301-6/2002-TRAI(Econ) dated 13.6.2002
22nd	312-5/2002-TRAI(Eco) dated 4.7.2002
23rd	303/8/2002-TRAI(Econ) dated 6.9.2002
24th	306-2/2003-Econ dated 24.1.2003
25th	306-2/2003-Econ dated 12.3.2003
26th	306-2/2003-Econ dated 27.3.2003
27th	303/6/2003-TRAI(Econ) dated 25.4.2003
28th	301-51/2003-Econ dated 5.11.2003
29th	301-56/2003-Econ dated 3.12.2003
30th	301-4/2004(Econ) dated 16.1.2004
31st	301-2/2004-Eco dated 7.7.2004
32nd	301-37/2004-Eco dated 7.10.2004
33rd	301-31/2004-Eco dated 8.12.2004
34th	310-3(1)/2003-Eco dated 11.3.2005
35th	310-3(1)/2003-Eco dated 31.3.2005
36th	312-7/2003-Eco dated 21.4.2005
37th	312-7/2003-Eco dated 2.5.2005

38th	312-7/2003-Eco dated 2.6.2005
39th	310-3(1)/2003-Eco dated 8.9.2005
40th	310-3(1)/2003-Eco dated 16.9.2005
41st	310-3(1)/2003-Eco dated 29.11.2005
42nd	301-34/2005-Eco dated 7.3.2006
43rd	301-2/2006-Eco dated 21.3.2006
44th	301-34/2006-Eco dated 24.1.2007
45th	301-18/2007-Eco dated 5.6.2007
46th	301-36/2007-Eco dated 24.1.2008
47th	301-14/2008-Eco dated 17.3.2008
48th	301-31/2007-Eco dated 1.9.2008
49th	301-25/2009-ER dated 20.11.2009
50th	301-24/2012-ER dated 19.4.2012
51st	301-26/2011-ER dated 20.4.2012

Note 2. – The Explanatory Memorandum explains the objects and reasons for

the Telecommunication Tariff (Fifty Second Amendment) Order, 2012.

EXPLANATORY MEMORANDUM

1. The TRAI Act confers power on the Authority not only to regulate but also to ensure the compliance of the provisions of the regulations and Tariff Orders. The word "ensure" has mandatory connotation, it means "make certain". Furthermore, the Hon'ble Supreme Court, in its judgment dated the 17, Aug, 2007, in *Civil Appeal No. 2104/2006 (Central Power Distribution Co. & Ors Vs. CERC & Anr),* inter-alia, held that "it is well settled that a power to regulate includes within it power to enforce".

2. The main purposes for enactment of the TRAI Act, 1997, as discernable from the preamble thereof, and as applicable to TRAI are (a) **to regulate** telecommunication services : (b) **to protect** the **interest** of the service providers and **consumers** of telecommunication services; and (c) to ensure orderly growth of telecom sector. From the reading of the various provisions of TRAI Act, it is clear that protection of the interest of the consumers has been given paramount importance by the legislature.

3. It will not be out of place to mention that there are a catena of judgments by the Supreme Court wherein the Hon'ble Court has repeatedly re-stated the proposition that legislation should be read and interpreted so as to further the purpose of its enactment and not in a manner that derogates from its main objectives. The Hon'ble Supreme Court in its judgment in the case of *State of Karnataka Vs. Vishwabharthi House Building Co-operative Societies and Ors. [(2004) 5 SCC 430],* quoted with approval the judgment of Hon'ble Guwahati High Court in the case of *Arbind Das Vs. State of Assam & Ors. [AIR 1981 Gau 18 (FB)]* wherein it was inter-alia, held that where a statute gives a power, such power implies that legitimate steps may be taken to exercise that power even though these steps may not be clearly spelt out in the statute. The Hon'ble Court further held that in determining whether a power claimed by a statutory authority can be held to be incidental or ancillary to the powers specially conferred by the statute, the court must not only see whether the power may be derived by reasonable implication from the provisions of the statute, but

also whether such powers are necessary for carrying out the purposes of the provision of the statute which confers power on the Authority in exercise of such powers. The relevant part of the said judgment reads as under :-

"We are of firm opinion that where a statute gives a power, such power implies that all legitimate steps may be taken to exercise that power even though these steps may not be clearly spelt in the statute. Where the rule-making authority gives power to certain authority to do anything of public character, such authority should get the power to take intermediate steps in order to give effect to the exercise of the power in its final step, otherwise the ultimate power would become illusory, ridiculous and inoperative which could not be the intention of the rule-making authority.

In determining whether a power claimed by the statutory authority can be held to be incidental or ancillary to the powers expressly conferred by the statute, the court must not only see whether the power may be derived by reasonable implication from the provisions of the statute, but also whether such powers are necessary for carrying out the purpose of the provisions of the statute which confers power on the authority in its exercise of such power."

4. Apart from casting duty on the Authority to protect the interest of the consumer, TRAI Act under section 11 (1)(d) confers power on TRAI to perform such other functions including such administrative and financial functions as may be necessary to carry out the provisions of the Act. It is also worthwhile to mention over here the judgment of the Hon'ble Supreme Court in U.P. Cooperative Cane Unions Federations Vs. West U.P. Sugar Mills Association & Ors. (AIR 2004 SC 3697) wherein the Hon'ble court, inter alia, held that the word to regulate is a phrase of broad impact having a wide meaning comprehending all facets not only specifically enumerated in the Act, but also embraces within its fold the powers incidental to the regulation envisaged in good faith and its meaning has to be ascertained in the context in which it is being used and the purpose of the statute. The Hon'ble court held that even 6

when the power to fix tariff was not expressly given in the Act, the power to regulate the price of sugar cane would include in itself the power to fix tariff. In other words, even a power not explicitly vested with the Authority would be held so vested, if it was intrinsic to the exercise of larger, general power to regulate. The relevant part of the aforesaid judgment of the Hon'ble Supreme Court is as under :-

"20……."Regulate" means to control or to adjust by rule or to subject to governing principles. It is a word of broad impact having wide meaning comprehending all facets not only specifically enumerated in the Act, but also embraces within its fold the powers incidental to the regulation envisaged in good faith and its meaning has to be ascertained in the context in which it has been used and the purpose of the statute.

……

26……..The provisions of the Act referred to above also show that the legislature has made very elaborate provisions regarding supply of sugarcane by cane-growers, its purchase by the sugar factories and payment of price thereof. In fact, very detailed and exhaustive provisions have been made in the Rules and the 1954 Orders to ensure that at the time of delivery of sugarcane by the cane-growers, its weight and price is correctly recorded and the price is paid to them within 14 days, failing which the sugar factory is liable to pay interest. In such circumstances, the irresistible conclusion which can be drawn is that the regulatory power possessed by the State Government shall also include the power to fix the price of the sugarcane. If it is held that the State under its power of regulation cannot fix the price, then the statutory provision contained in the 1953 Act, the Rules and 1954 Order will become completely one sided, operating entirely for the benefit of sugar factories giving them many advantages with no corresponding obligations and leaving the cane grower 7

in a lurch with a host of restrictions upon him. This can never be the intention of the Legislature. It will not be fair to read the Act and the Rules in such a restrictive manner, whereby the provisions made for the benefit of the cane growers become wholly illusory…."

5. In view of the above, the Authority has power to impose financial disincentives on the service provider for non-compliance of the provisions of the regulations and tariff orders.

Financial Disincentives on delay in reporting Tariff

6.	The	Telecommunication	Tariff	(30th	Amendment)	Order,	dated

16.01.2004 had done away with the stipulation that all service providers shall file their tariff plans at least FIVE working days prior to its launch in the market. The amendment instead provided that that the service providers shall report tariff to the Authority within SEVEN days from the date of implementation after conducting a self-check to ensure consistency of the tariff with regulatory guidelines. With this change in reporting requirement, sub-clause (v) and (vi) of Clause 7 have become redundant and are, therefore, being deleted. In sub-clause (vii), the provision for advance notice to the Authority before terminating an existing tariff plan has also become redundant for the same reason and the sub-clause is being modified to that extent.

7. It is observed that the prescribed timelines for reporting tariff are not being taken very seriously by the service providers and are to the prejudice of those service providers who regularly file their tariff plans on time. The non-adherence of timelines in tariff reporting deprives the Authority of the timely opportunity to intervene in case the tariff in question is found to be inconsistent with regulatory guidelines and/ or adversely affect the interest of consumers. The Authority, therefore, has decided to introduce a financial disincentive for each day of delay of a tariff report subject to a cap of Rs 2 lakhs for each instance of delay. The new sub-clause (iii) in Clause 7 has been inserted for this purpose.

8. To make the timelines for tariff reporting more clear and to avoid the chances of delay due to holidays, it has been decided to amend the definition of 'Reporting Requirement' in sub-clause (l) of Clause 2 by replacing 'SEVEN days' with 'seven working days'. In addition, both the days on which the tariff is reported and implemented shall be excluded while calculating the seven working days. Thus, service providers will get seven clear working days for reporting an implemented tariff. This will give some additional time to the service providers for reporting tariff and will also enable the Authority to apply the new provisions relating to financial disincentives in a uniform manner across all service providers.

Financial Disincentives for Levy of excess Charges from consumers 9. Instances of levy of excess charges in violation of provisions of TTO and other regulatory guidelines have come to the notice of the Authority on several occasions in the past. In such cases, the course of action normally adopted by the Authority has been to order refunds of excess amounts charged to the affected subscribers. The service providers do make necessary refunds as per the directions of the Authority and provide compliance reports along with details of refunds. If any amount remains unrefunded due to subscriber being untraceable etc. the same is deposited in Telecommunication Consumers Education and Protection Fund. Since the refund made is only the amount that has been levied illegally and detected by the Authority, there is no compulsion for service providers to confine the charging to the permitted level. The Authority feels that there has to be some financial disincentive for service providers in addition to the actual refunds, so as to act as a deterrent against such illegal charging and also to avoid instances of excess charging. Keeping in view these factors, it has been decided that in cases where it comes to the notice of the Authority that excess charges have been levied in violation of the provisions of this Order and the same is ordered to be refunded to the affected subscribers, the service providers shall, in addition to such refund, remit to

TRAI an amount not exceeding the total of such excess amount charged from subscribers.

Action on violations of Regulatory mandates

10. The amendments made through the Tariff Order are without prejudice to the action that may be taken against the service providers in accordance with the provisions of TRAI Act for violations of regulatory mandates. The Authority wants to make it clear that the prescribed financial disincentives are only to enhance the compliance level and it shall be open to the Authority to take action separately for violation of any Regulation, Order and Direction as provided in the Act.

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TELECOM REGULATORY AUTHORITY OF INDIA
NOTIFICATION
New Delhi, the 1ST OCTOBER, 2012

THE TELECOMMUNICATION TARIFF (FIFTY THIRD AMENDMENT) ORDER, 2012

No. 5 of 2012

No. 301-39/2012-F&EA— In exercise of the powers conferred upon it under sub-section (2) of section 11, read with sub-clause (i) of clause (b) of sub-section (1) of the said section, of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), the Telecom Regulatory Authority of India

hereby	makes	the	following	Order	further	to	amend	the

Telecommunication Tariff Order, 1999, namely: -

1. (1) This Order may be called the Telecommunication Tariff (Fifty Third Amendment) Order, 2012.

2. In clause 3 of the Telecommunication Tariff Order, 1999 (hereinafter referred to as the principal tariff order), for the word and figures “Schedule I to XIII”, the word and figures “Schedule I to XII” shall be substituted.

3. In Schedule II to the principal tariff order, under the heading “Tariff”, in the entries occuring against the item “(6) Tariff for prepaid service”, in the proviso, for sub-clause (ii) of clause (f), the following sub-clause shall be substituted, namely:-
“(ii) a nominal fee, not exceeding ten percent of maximum retail price of top up voucher or three rupees, whichever is less, shall be levied towards administrative cost or expenses for each top up voucher.”

4. Schedule XIII to the principal tariff order and entries thereunder shall be omitted.

(Raj Pal)
Advisor (F&EA)

Note.1. – The Telecommunication Tariff Order, 1999 was published in the Gazette of India, Extraordinary, Part III, Section 4 under

notification	No.99/3	dated	9th	March,	1999,	and

subsequently amended as given below:-

Amendment No.	Notification No. and Date
1st	301-4/99-TRAI (Econ) dated 30.3.1999
2nd	301-4/99-TRAI(Econ) dated 31.5.1999
3rd	301-4/99-TRAI(Econ) dated 31.5.1999
4th	301-4/99-TRAI(Econ) dated 28.7.1999
5th	301-4/99-TRAI(Econ) dated 17.9.1999
6th	301-4/99-TRAI(Econ) dated 30.9.1999
7th	301-8/2000-TRAI(Econ) dated 30.3.2000
8th	301-8/2000-TRAI(Econ) dated 31.7.2000
9th	301-8/2000-TRAI(Econ) dated 28.8.2000
10th	306-1/99-TRAI(Econ) dated 9.11.2000
11th	310-1(5)/TRAI-2000 dated 25.1.2001
12th	301-9/2000-TRAI(Econ) dated 25.1.2001
13th	303-4/TRAI-2001 dated 1.5.2001
14th	306-2/TRAI-2001 dated 24.5.2001
15th	310-1(5)/TRAI-2000 dated 20.7.2001
16th	310-5(17)/2001-TRAI(Econ) dated 14.8.2001
17th	301/2/2002-TRAI(Econ) dated 22.1.2002
18th	303/3/2002-TRAI(Econ) dated 30.1.2002
19th	303/3/2002-TRAI(Econ) dated 28.2.2002
20th	312-7/2001-TRAI(Econ) 14.3.2002
21st	301-6/2002-TRAI(Econ) dated 13.6.2002
22nd	312-5/2002-TRAI(Eco) dated 4.7.2002
23rd	303/8/2002-TRAI(Econ) dated 6.9.2002
24th	306-2/2003-Econ dated 24.1.2003
25th	306-2/2003-Econ dated 12.3.2003

26th	306-2/2003-Econ dated 27.3.2003
27th	303/6/2003-TRAI(Econ) dated 25.4.2003
28th	301-51/2003-Econ dated 5.11.2003
29th	301-56/2003-Econ dated 3.12.2003

30th	301-4/2004(Econ) dated 16.1.2004
31st	301-2/2004-Eco dated 7.7.2004
32nd	301-37/2004-Eco dated 7.10.2004
33rd	301-31/2004-Eco dated 8.12.2004
34th	310-3(1)/2003-Eco dated 11.3.2005
35th	310-3(1)/2003-Eco dated 31.3.2005
36th	312-7/2003-Eco dated 21.4.2005
37th	312-7/2003-Eco dated 2.5.2005
38th	312-7/2003-Eco dated 2.6.2005
39th	310-3(1)/2003-Eco dated 8.9.2005
40th	310-3(1)/2003-Eco dated 16.9.2005
41st	310-3(1)/2003-Eco dated 29.11.2005
42nd	301-34/2005-Eco dated 7.3.2006
43rd	301-2/2006-Eco dated 21.3.2006
44th	301-34/2006-Eco dated 24.1.2007
45th	301-18/2007-Eco dated 5.6.2007
46th	301-36/2007-Eco dated 24.1.2008
47th	301-14/2008-Eco dated 17.3.2008
48th	301-31/2007-Eco dated 1.9.2008
49th	No. 301-25/2009-ER dated 20.11.2009
50th	301-24/2012-ER dated 19.4.2012
51st	301-26/2011-ER dated 19.4.2012
52nd	301-41/2012-/F&EA dated 19.09.2012

Note 2. – The Explanatory Memorandum explains the objects and reasons for the Telecommunication Tariff (Fifty Third Amendment) Order, 2012.

EXPLANATORY MEMORANDUM

Processing Fee on talktime top up vouchers

The existing structure of Processing Fee was mandated vide TTO(50th Amendment) notified on 19.04.2012 as per which ceiling on Processing Fee is Rs.3/- in respect of top-up denominations of Rs.20/- and above and Rs.2/- for top-up denominations below Rs.20/-. The National Telecom Policy, 2012 has emphasised the need to enhance the ability of the poorer sections of the society, both in rural and urban areas, to benefit from technology. In this context, the Authority looked at the manner in which the Processing Fee mandated vide TTO (50th Amendment) was being implemented in the market. It was observed that Processing Fee of Rs.2/- is being charged on top-up vouchers having Maximum Retail Price (MRP) of Rs.10/- by all service providers. In respect of higher denomination top-up vouchers the service providers do not generally charge any Processing Fee and also in some cases monetary value equal to or greater than the MRP is made available. It was seen that the impact of fixed amount of Processing Fee is relatively more on top-up vouchers of smaller denominations as compared to higher top-up vouchers.

2. The Authority had initiated a consultation process by issuing a consultation paper dated 03.08.2012 seeking views of stakeholders on the proposal to review the present structure of Processing Fee on talktime top-up vouchers so as to make it more equitable and affordable especially to the lower end subscribers. Following three options were proposed for consultation:-

(i) Mandating a tiered structure of levying processing fee.

(ii) Mandating processing fee ad valorem at ten per cent of MRP with a ceiling of rupees three.

(iii) Mandating that there should not be any processing fee at all.

3. Comments received from stakeholders have been considered. The service providers in general have not favoured any one of the above proposed options, rather argued for enhancing Processing Fee on all top-up vouchers to Rs.3/- or placing Processing Fee under forbearance. A few individuals who have furnished comments have favoured option (ii) or preferred NIL Processing Fee so as to help the low income people from rural/semi-urban areas. One service provider has also expressed views in favour of option (ii).

4. It has been noted that the present manner of charging Processing Fee leads to a regressive burden on lower denomination vouchers. The Authority feels that various elements of cost associated with the provision of top-up vouchers need not necessarily be recovered by way of Processing Fee. Tariff for telecommunication services being under forbearance, the operators have the flexibility to recover costs through levy of tariff for various items under tariff plan, subject to the prevailing regulatory prescriptions. Thus, there is no basis for the demand for a higher Processing Fee on top up vouchers on the ground of increase in cost.

5. Processing fee could be levied as a fixed amount or as a certain proportion of MRP of the top up voucher. The fixed amount of processing fee is favoured from the point of view of transparency and simplicity. However, the impact of fixed amount of processing fee is unreasonably high on smaller denomination top up vouchers. After considering various facts and also the feedback received during the consultation process, the Authority has decided to mandate the processing fee on top up vouchers as a ceiling based on 10% of the MRP of top up voucher with denominations up to Rs.30 and Rs.3 for top up vouchers with denominations more than Rs.30, as proposed under option (ii) in the 6

consultation paper. As per this determination, there shall be a ceiling on processing fee for top up vouchers based on 10% of MRP of the top up voucher or Rs.3, whichever is less. The TTO (53rd Amendment) seeks to implement the above decision of the Authority.

6. In order to ensure provision of top up vouchers in denomination of Rs.10, it is reiterated that the mandate to offer and make available to the consumer top-up voucher denomination of rupees ten as envisaged in TTO (50th Amendment), will continue to be in operation.

Review of Tariff for Premium Rate Services

7. The TTO 51st Amendment notified on 20.04.2012 specified ceiling tariff for certain categories of Premium Rate Services (PRS). Thus, the calls made and SMS sent to participate in contests and competitions and voting shall not be charged more than four times of applicable local charges. Representations were received that these provisions were difficult to implement due to several reasons, particularly linking the rates for calls and SMS made to participate in contests and competitions and to vote in television and radio programmes with the rates for local call charges and SMS charges in the tariff plan opted by the subscriber. In this background, a consultation process was initiated to seek the views of stakeholders on the subject by issuing a consultation paper dated 03.08.2012. Following options were placed for consultation:

(i)Mandating a ceiling of Rs.3/- for calls (per minute) and per SMS made for the above purposes/.

(ii)Doing away with the tariff ceiling for such calls and SMSs.

8. The Authority has considered the comments and feedback received from the stakeholders. All the service providers and their associations have unanimously stated that tariff for such PRS should be kept under

forbearance. Views have been expressed that such services are not basic or utility services and in many cases involve a fair amount of content, the value of which may vary widely. The service providers have also stated that they are implementing several transparency measures specified by TRAI through various Regulations and guidelines. Since the rates are transparently conveyed, subscribers can make an informed choice for using or not using the service. Tariff for Premium Rate Services, when related to the local call charges of the subscriber, gives rise to several problems both in terms of difficulty in implementation and ensuring transparency. There are quite a large number of tariff plans offered by different operators having different Local Call Charges. The pulse rate applicable for local calls are also different for different plans and services. Charging for PRS have to be at a uniform pulse rate which is generally ’60 seconds’ and this would be part of the negotiated agreement between service providers and other parties involved in the provision of PRS.

9. Another difficulty is that the subscriber is not actually charged at a uniform single rate in his tariff plan on most of the occasions. This is due to the fact that the actual charges for local calls/ SMS would be different for peak/ off peak, on-net/ off-net and also depending on the special tariff packs (STVs) availed by him from time to time. Thus, in addition to the difficulty in implementation, the subscriber will also not have a clear idea on the level of the local call charges applicable for him at the time of availing the PRS.

10. Linking the charges for PRS to the local call rates may also make it difficult to implement the transparency measures which have been separately mandated. Thus, the broadcasters will not be able to communicate a single rate on their TV shows and radio programmes during the programme, since there is no uniform rate that can be so conveyed. The Telecom Consumer Protection Regulation, 2012 states

“Every service provider providing or giving access to a Premium Rate Service shall ensure that the rate of such call is conveyed to the consumer through a voice alert prior to the materialization of the call…”. Similarly, the TRAI Direction issued on 03.05.2005 requires the service providers to publish in all communications/ advertisements relating to Premium Rate Services, the pulse rate/ tariff for the service. When each subscriber is required to pay local call charges of his plan which again is of dynamic nature and not uniform, compliance of the above regulatory mandates would become difficult.

11. The Authority has also noted that generally such PRS are availed by customers who are educated and capable of understanding the financial implications involved. Therefore, the regulatory concern would be limited to enforcing the transparency measures whereby the subscriber is made aware of the charges and financial consequences, if he chooses to avail these services. In this regard , under the Telecom Consumer Protection Regulation, 2012, it has been mandated that every service provider providing or giving access to a Premium Rate Service shall ensure that the rate of such call is conveyed to the consumer through a voice alert prior of the materialisation of the call.

12. The ceiling tariff specified through the TTO (51st Amendment) was applicable only to a few categories of PRS while vast majority of other PRS continued to be under forbearance. Keeping in view the practical difficulties in implementing the ceiling tariff and the feedback received during the consultation process, it has been decided to keep the tariff for calls/SMS made to participate in contests and competitions and to vote in television and radio programmes under forbearance, as is the case with other Premium Rate Services.

TELECOM REGULATORY AUTHORITY OF INDIA
NOTIFICATION
New Delhi, the 5th November, 2012

THE TELECOMMUNICATION TARIFF (FIFTY FOURTH AMENDMENT) ORDER, 2012

No.6 of 2012

No. 301-59/2012-F&EA— In exercise of the powers conferred upon it under sub-section (2) of section 11, read with sub-clause (i) of clause (b) of sub-section (1) of the said section, of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), the Telecom Regulatory Authority of India

hereby	makes	the	following	Order	further	to	amend	the

Telecommunication Tariff Order, 1999, namely: -

1. (1) This Order may be called the Telecommunication Tariff (Fifty Fourth Amendment) Order, 2012.

(2) This Order shall come into force on the 20th day of November, 2012.

2. In clause 3 of the Telecommunication Tariff Order, 1999 (hereinafter referred to as the principal tariff order), for the word and figures “Schedule I to XII”, the word and figures “Schedule I to XIII” shall be substituted.

3. After Schedule XII to the principal tariff order, the following schedule shall be inserted, namely:-

“SCHEDULE XIII
(See clause 3)
Tariff for Short Message Services sent by persons other than a telemarketer registered under regulation 14 or an entity sending transactional message, referred in clause (k) of sub-regulation (2) of regulation 20 of The Telecom Commercial Communications Customer Preference Regulations, 2010 (6 of 2010)

ITEM	TARIFF
1.Upto one hundred SMS per SIM per day	Forbearance
2.Every SMS beyond one hundred SMS per SIM per day	Not less than fifty paisa per SMS

(Raj Pal)
Advisor (F&EA)

Note.1. – The Telecommunication Tariff Order, 1999 was published in the Gazette of India, Extraordinary, Part III, Section 4 under notification No.99/3 dated 9th March, 1999, and subsequently amended as given below:-

Amendment No.	Notification No. and Date
1st	301-4/99-TRAI (Econ) dated 30.3.1999
2nd	301-4/99-TRAI(Econ) dated 31.5.1999
3rd	301-4/99-TRAI(Econ) dated 31.5.1999
4th	301-4/99-TRAI(Econ) dated 28.7.1999
5th	301-4/99-TRAI(Econ) dated 17.9.1999
6th	301-4/99-TRAI(Econ) dated 30.9.1999
7th	301-8/2000-TRAI(Econ) dated 30.3.2000
8th	301-8/2000-TRAI(Econ) dated 31.7.2000
9th	301-8/2000-TRAI(Econ) dated 28.8.2000
10th	306-1/99-TRAI(Econ) dated 9.11.2000
11th	310-1(5)/TRAI-2000 dated 25.1.2001
12th	301-9/2000-TRAI(Econ) dated 25.1.2001
13th	303-4/TRAI-2001 dated 1.5.2001
14th	306-2/TRAI-2001 dated 24.5.2001
15th	310-1(5)/TRAI-2000 dated 20.7.2001
16th	310-5(17)/2001-TRAI(Econ) dated 14.8.2001
17th	301/2/2002-TRAI(Econ) dated 22.1.2002
18th	303/3/2002-TRAI(Econ) dated 30.1.2002

19th	303/3/2002-TRAI(Econ) dated 28.2.2002
20th	312-7/2001-TRAI(Econ) 14.3.2002
21st	301-6/2002-TRAI(Econ) dated 13.6.2002
22nd	312-5/2002-TRAI(Eco) dated 4.7.2002
23rd	303/8/2002-TRAI(Econ) dated 6.9.2002
24th	306-2/2003-Econ dated 24.1.2003
25th	306-2/2003-Econ dated 12.3.2003
26th	306-2/2003-Econ dated 27.3.2003
27th	303/6/2003-TRAI(Econ) dated 25.4.2003
28th	301-51/2003-Econ dated 5.11.2003
29th	301-56/2003-Econ dated 3.12.2003
30th	301-4/2004(Econ) dated 16.1.2004

31st	301-2/2004-Eco dated 7.7.2004
32nd	301-37/2004-Eco dated 7.10.2004
33rd	301-31/2004-Eco dated 8.12.2004
34th	310-3(1)/2003-Eco dated 11.3.2005
35th	310-3(1)/2003-Eco dated 31.3.2005
36th	312-7/2003-Eco dated 21.4.2005
37th	312-7/2003-Eco dated 2.5.2005
38th	312-7/2003-Eco dated 2.6.2005
39th	310-3(1)/2003-Eco dated 8.9.2005
40th	310-3(1)/2003-Eco dated 16.9.2005
41st	310-3(1)/2003-Eco dated 29.11.2005
42nd	301-34/2005-Eco dated 7.3.2006
43rd	301-2/2006-Eco dated 21.3.2006
44th	301-34/2006-Eco dated 24.1.2007
45th	301-18/2007-Eco dated 5.6.2007
46th	301-36/2007-Eco dated 24.1.2008
47th	301-14/2008-Eco dated 17.3.2008
48th	301-31/2007-Eco dated 1.9.2008
49th	No. 301-25/2009-ER dated 20.11.2009
50th	301-24/2012-ER dated 19.4.2012
51st	301-26/2011-ER dated 19.4.2012
52nd	301-41/2012-F&EA dated 19.09.2012
53rd	301-39/2012-F&EA dated 1.10.2012

Note 2. – The Explanatory Memorandum explains the objects and reasons

for the Telecommunication Tariff (Fifty Fourth Amendment) Order, 2012.

EXPLANATORY MEMORANDUM

1. The Telecom Regulatory Authority of India issued the Telecom Commercial Communications Customer Preference Regulation, 2010 (6 of 2010) dated the 1st December, 2010 to provide an

effective	mechanism	for	curbing	unsolicited	commercial

communications (UCC). All the provisions of regulations came into force from 27th September 2011. The above regulation had put a limit of 200 SMS per day per SIM. This restriction had the desired effect in curbing UCC to a great extent. However, after the removal of the cap of 200 SMS per day per SIM, the number of complaints relating to UCC from 10 digit numbers have increased manifold. This required further regulatory measures to address the increasing menace of UCC.

2. With a view to effectively address the concerns on unsolicited commercial communications, TRAI had undertaken a Consultation process. Keeping in view the feedback received from the stakeholders and other facts and circumstances of the case, TRAI has issued The Telecom Commercial Communications Customer

Preference	(Tenth	Amendment)	Regulations,	2012.	This

Amendment has inter-alia modified sub-regulation (2) of regulation 20 of the principal regulations, specifying that any person other than a telemarketer registered under regulation 14 or an entity sending transactional message shall be charged as specified in the Telecommunication Tariff Order to be notified separately.

3.	The	Authority	has	observed	that	subscribers	undertaking

telemarketing activities using normal telephone connections use discounted SMS packages available in the market, for sending bulk

promotional	SMSs.	During	the	consultation,	some	of	the

stakeholders have suggested that a differential tariff may be imposed to make it economically unviable for unregistered telemarketers to send commercial communications using ten digit numbers. Such provisions will also encourage unregistered telemarketers to get them registered to get discounted telecom resources. Some service providers offer bundled plans and packages where the SMS charges effectively become close to zero. As far back as 2011, the Authority recognised that such bulk SMS rates are attractive to advertisers and can impose costs on other networks by directing heavy traffic to other operators' networks. The Authority had recognised that such practices justified

regulatory intervention. Accordingly, TTO has been amended mandating the service providers not to allow sending of more than one hundred SMS per day per SIM at concessional rate. However, subscribers can send SMS beyond one hundred SMS per day per SIM, but all such SMSs will be charged at the rate of not less than fifty paisa per SMS.

4. While arriving at the floor price of 50 paisa in respect of SMS in excess of 100 per day per SIM, the Authority looked into the SMS rates currently levied by various operators in the tariff plans as well as SMS packages. It was noticed that the maximum rates levied by most of the operators for local SMS is Re.1 per SMS. There are also tariff plans where SMS rate is as low as 5 Paisa per SMS. Further, the access service providers are also offering a number of special tariff vouchers providing free and/or concessional SMS rates. With a view to disincentivise the consumers from sending large number of SMS and to augment the objective of The Telecom Commercial Communications Customer Preference Regulations, 2012, the Authority has decided to specify a floor tariff of fifty paisa for SMS exceeding 100 per SIM per day sent by persons other than a telemarketer registered under regulation 14 or an entity sending transactional message referred in clause (k) of sub regulation 2 of regulation 20 of The Telecom Commercial Communications Customer Preference Regulations, 2012.

5. The above floor price of fifty paisa per SMS exceeding 100 SMS per SIM per day will also apply to the SMS packages offered. Consequently, though consumers shall be able to send any number of SMS on any day, the number of free SMS or SMS at tariff less than fifty paisa per SMS shall not exceed 100 SMS per SIM per day.

6. After implementation of the TTO 54th Amendment, the subscribers may have to pay a higher rate for SMS in excess of 100 per day per SIM. Therefore, it is essential that this condition is explicitly and transparently conveyed by service providers to all subscribers who are otherwise entitled to lower rates in their tariff plans or SMS packages.

7. The Authority expects that notifying a floor tariff of fifty paisa per SMS for SMS exceeding 100 SMS per SIM per day would be one of the several measures initiated to effectively protect the telecom

subscribers	from	the	menace	of	unsolicited	commercial

communications being sent by the unregistered telemarketers.

TELECOM REGULATORY AUTHORITY OF INDIA

THE TELECOMMUNICATION TARIFF (FIFTY FIFTH AMENDMENT) ORDER, 2013 No.3 of 2013

NOTIFICATION

New Delhi, the 17th June, 2013

No. 301-10/2012-F&EA — In exercise of the powers conferred upon it under sub-section (2) of section 11, read with sub-clause (i) of clause (b) of sub-section (1) of the said section, of the Telecom Regulatory Authority of India Act, 1997(24 of 1997), the Telecom Regulatory Authority of India hereby makes the following Order further to amend the Telecommunication Tariff Order, 1999, namely:

1. (1) This Order may be called the Telecommunication Tariff (Fifty Fifth Amendment) Order, 2013.

(2) This Order shall come into force on the 1st day of July, 2013.

2. In clause 2 of the Telecommunication Tariff Order, 1999 (hereinafter referred to as the principal tariff order), ---

(a) after sub-clause (d), the following sub-clause shall be inserted, namely: "da. "Combo Voucher" means a paper voucher or electronic voucher which on activation alters

one or more items, for a period not exceeding ninety days, in the tariff plan of the consumer and adds monetary value to the prepaid account of the subscriber.";
(b) the existing sub-clause (dd) shall be numbered as sub-clause (db);
(c) after sub-clause (l), the following sub-clauses shall be inserted, namely: "la. "Roaming Tariff Plan" or "RTP" means a tariff plan in which the charges for outgoing voice calls and outgoing SMS, both local as well as long distance (inter-circle), shall not change with the location of the subscriber within the country.

lb. "Roaming Tariff Plan-FR" or "RTP-FR" means an RTP in which there is no charge for incoming voice calls while on national roaming, on payment of fixed charge, if any, as may be determined by the service provider.";
(d) after sub-clause (m), the following sub-clause shall be inserted, namely: "ma. "Special Tariff Voucher" means a paper or electronic voucher, which on activation alters one or more items of applicable tariff in the consumer tariff plan for a period not exceeding ninety days in terms of limited or unlimited usage of voice calls, SMS or data but does not provide any monetary value."

3. In clause 6 of the principal tariff order, after sub-clause (ix), the following sub-clause shall be inserted namely:
"(x) Every service provider shall offer a Roaming Tariff Plan and a Roaming Tariff Plan-FR to its pre-paid and post-paid subscribers.";

4. In the Schedule II to the principal tariff order under item (14), for sub-item (14.a) and entries thereto, the following sub-items and entries relating thereto shall be substituted, namely:

Schedule-II
Cellular Mobile Telecom Services (CMTS)

ITEM	**TARIFF**
"(14.a) National Roaming	
(14.a.i) Fixed charge for National Roaming	Nil provided that Special Tariff Voucher and Combo Voucher shall be permitted and in case of RTP-FR, the fixed charge shall be under forbearance.
(14.a.ii) Charge for outgoing local voice call while on national roaming	Ceiling of Re. 1.00 per minute
(14.a.iii) Charge for outgoing long distance (inter-circle) voice call while on national roaming	Ceiling of Rs. 1.50 per minute
(14.a.iv) Charge for incoming voice call while on national roaming	Ceiling of Re. 0.75 per minute
(14.a.v) Charge for outgoing local Short Message Services (SMS) while on national roaming	Ceiling of Re. 1.00 per SMS
(14.a.vi) Charge for outgoing long distance (inter-circle) Short Message Services (SMS) while on national roaming	Ceiling of Rs. 1.50 per SMS
(14.a.vii) Charge for incoming Short Message Services (SMS) while on national roaming	Nil
(14.a.viii) Surcharge while national roaming	Nil
(14.ab) International roaming	Forbearance
(14.ac) Any other item related to roaming but not falling under sub-item (14.a) and (14.ab) above	Forbearance.".

(Manish Sinha)
Advisor (F&EA)

Note.1. – The Telecommunication Tariff Order, 1999 was published in the Gazette of India, Extraordinary, Part III, Section 4 under notification No.99/3 dated 9th March, 1999, and subsequently amended as given below:

Amendment No.	**Notification No. and Date**
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7th	301-8/2000-TRAI(Econ) dated 30.3.2000
8th	301-8/2000-TRAI(Econ) dated 31.7.2000
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16th	310-5(17)/2001-TRAI(Econ) dated 14.8.2001
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32nd	301-37/2004-Eco dated 7.10.2004
33rd	301-31/2004-Eco dated 8.12.2004
34th	310-3(1)/2003-Eco dated 11.3.2005
35th	310-3(1)/2003-Eco dated 31.3.2005
36th	312-7/2003-Eco dated 21.4.2005
37th	312-7/2003-Eco dated 2.5.2005
38th	312-7/2003-Eco dated 2.6.2005

39th	310-3(1)/2003-Eco dated 8.9.2005
40th	310-3(1)/2003-Eco dated 16.9.2005
41st	310-3(1)/2003-Eco dated 29.11.2005
42nd	301-34/2005-Eco dated 7.3.2006
43rd	301-2/2006-Eco dated 21.3.2006
44th	301-34/2006-Eco dated 24.1.2007
45th	301-18/2007-Eco dated 5.6.2007
46th	301-36/2007-Eco dated 24.1.2008
47th	301-14/2008-Eco dated 17.3.2008
48th	301-31/2007-Eco dated 1.9.2008
49th	301-25/2009-ER dated 20.11.2009
50th	301-24/2012-ER dated 19.4.2012
51st	301-26/2011-ER dated 19.4.2012
52nd	301-41/2012-F&EA dated 19.09.2012
53rd	301-39/2012-F&EA dated 1.10.2012
54th	301-59/2012-F&EA dated 05.11.2012

Note.2. – The Explanatory Memorandum explains the objects and reasons for the

Telecommunication Tariff (Fifty Fifth Amendment) Order, 2013.

Explanatory Memorandum

A- Introduction & Background

1. Tariffs for national roaming service were being regulated in the form of ceiling tariffs prescribed by the Telecom Regulatory Authority of India (hereinafter referred to as the Authority) under clause 14(a) of Schedule II of Telecommunications Tariff Order (TTO), 1999 as amended by The Telecommunication Tariff (Forty Fourth Amendment) Order, 2007 (hereinafter referred to as the TTO (44th Amendment), 2007). The main features of the TTO (44th Amendment), 2007 were as below:

Table 1: Main Features of the TTO (44th Amendment), 2007

Item	**Tariff**
Monthly Access Charge	Nil
Outgoing local charge	Ceiling of Rs.1.40 per minute
Outgoing STD charge	Ceiling of Rs.2.40 per minute
Incoming calls	Ceiling of Rs.1.75 per minute
Incoming SMS charge	Nil
Other matters related to Roaming	Forbearance

2.	Subsequent to issue of the TTO (44th Amendment), 2007 prescribing the tariff for

national roaming service, the regimes governing some of the cost components which formed a part of the national roaming charges have undergone changes. Notably, the Access Deficit Charges (ADC) regime was phased out through the Telecommunication Interconnection Usage Charges (Ninth Amendment) Regulations, 2008 dated the 27.03. 2008. Further, the termination charges for local and national long distance voice calls were lowered from Re. 0.30 to Re. 0.20 per minute through the Telecommunication Interconnection Usage Charges (Tenth Amendment) Regulations, 2009. Also, while conducting costing exercises for determination of Interconnection Usage Charges (IUC), it was noticed that the costs of the network elements deployed by the service providers were declining steadily with the passage of time and advancement of technology. At the same time, the minutes of usage

(MOU) were rising steadily implying that the current incremental cost for roaming would be lower than the incremental cost for roaming prevailing in the year 2006-07. In sum, many of the cost components of charges for the national roaming service witnessed a reduction since 2007 when ceilings for call charges for national roaming services were last prescribed. In the light of the above, it was deemed necessary to undertake an exercise to review the tariff for national roaming service. An additional consideration for carrying out this review was to address the objective of 'Working towards One Nation - Free Roaming' stated in the National Telecom Policy (NTP)-2012.

3. As a prelude to the review exercise, on 26.10.2012, the wireless access service providers were asked to furnish information on usage, revenue and cost in respect of the national roaming service in a prescribed format to TRAI. Further, in order to seek inputs from stakeholders on the broad framework of tariff for the national roaming service, TRAI issued a 'Pre-consultation Paper on Review of Tariff for National Roaming' dated 20.12.2012.

4. Based on the comments of the stakeholders on the issues raised in the Pre- consultation paper, a comprehensive Consultation Paper (No.2/2013 dated 25.02.2013) was issued by the Authority on 'Review of Tariff for National Roaming' to seek the views of stakeholders on various aspects of tariff for the national roaming service. The stakeholders were to submit written comments by the 18th March,2013. On the request of some stakeholders, the date for submission of written comments was extended till the 5th April, 2013. Written comments were received from Cellular Operators Association of India (COAI), ten telecom service providers (TSPs), three consumer organizations and two individuals. The comments and the counter-comments received from the stakeholders were placed on the TRAI's website– www.trai.gov.in. An Open House Discussion was held on 07.05.2013 in Delhi with the stakeholders. The issues raised in the Consultation Paper and the views of the stakeholders thereupon are examined in the succeeding paragraphs.

B- Analysis of the Key Issues Raised in the Consultation Paper

5. In the Consultation Paper on 'Review of Tariff for National Roaming', the Authority had sought the views of stakeholders on the following broad alternative approaches to regulate the tariff for national roaming service:
(i) Tariff for national roaming service should be under forbearance.

(ii) The ceiling tariff for national roaming service should be reduced in line with the current costs
(iii) The tariff in national roaming service should be the same as that in home service area - Home Price Rule (HPR) for national roaming service
Variant 1: The tariff for incoming calls while on national roaming should be made zero for the roamer and the costs should be recovered from the calling party.

Variant 2, with only incoming calls free for the roamer: The tariff for incoming calls while on national roaming should be made zero and the costs should be recovered from the tariff of outgoing calls while on national roaming.

6. An analysis of these alternative approaches based on comments and inputs received from stakeholders is presented below.

Tariff for national roaming service should be under forbearance.

7. The majority of access service providers and one of their industry associations have favoured leaving the tariff for national roaming service under forbearance. They have argued that there is fair competition in the national roaming service in India; roaming tariffs are already well below the ceiling tariff prescribed by TRAI in 2007. They have also opined that the presence of 6-9 operators in each service area coupled with the availability of Mobile Number Portability (MNP) service provides enough impetus for competition in the marketplace. On the other hand, a few stakeholders, including one major service provider, have stated that they are not in favour of leaving the tariff for national roaming service under forbearance because there is still a substantial difference between home tariffs and roam tariffs.

8. As described in the Consultation Paper, the bouquet of telecom services offered to a subscriber can be classified in the following two broad categories:
(i) Flagship services: viz. voice calls and SMSs in the home service area
(ii) Also-on-offer services: viz. national roaming service, international roaming service and other value added services

An individual mobile subscriber carefully examines the tariff offered by various service providers for flagship services before choosing a particular service provider. There is intense price competition between telecom service providers (TSPs) for flagship services. As a result, the market for flagship services is highly competitive. The same is not equally true for the 'also-on-offer services' which the subscriber receives as a part of the bouquet. For also-on-offer services such as the national roaming service, the subscriber is, in a sense, tied to the TSP from whom he has taken the flagship services. This feature of subscription for 'also-on-offer services' restricts the choice available to the subscriber and his ability to move from one service provider to the other. The empirical evidence also suggests that while the tariff for flagship services has responded actively to the changes in the number of players in the wireless market, the tariff for 'also-on-offer' services has remained relatively unaffected by such changes. Service providers generally keep the tariff for national roaming at a relatively higher level than the tariff in the home service area.

9. Stakeholders have argued that national roaming tariffs are well below the ceilings prescribed and have reasoned, on this basis, that there is vigorous competition in the market. The Authority notes that while it is indeed true that the prevailing prices for national roaming are well below the ceilings prescribed, this feature is largely a consequence of the decline in costs and charges since the time when the ceilings were last set. This fact has been recognized as one of the main reasons for undertaking the review exercise for national roaming tariff.

10. Regulatory forbearance in the matter of fixing tariff for flagship services such as voice calls and SMSs in the home service area has been an important factor in the remarkable growth of Indian telecommunications over the last decade. However, an identical paradigm of regulatory forbearance for national roaming service may not necessarily yield similar results, as the markets are dissimilar and arguably the Page **9** of **24**

market for roaming services is less competitive. With a view to protect the interests of the consumers the Authority has decided, for the time being, not to adopt a regime of full regulatory forbearance for national roaming service as has been done in the case of mobile home tariffs.

The ceiling tariff for national roaming service should be reduced in line with the current costs.

11. The tariff for national roaming service was being regulated in the form of a ceiling tariff prescribed through the TTO (44th Amendment), 2007. The following cost components were used to arrive at the ceiling tariff for various types of voice calls while on national roaming:
(i) Origination charge
(ii)
Interconnection Usage Charges (IUC) viz. termination charge, carriage charge and access deficit charge (ADC)
(iii) Incremental cost for roaming

12. The Authority has estimated the incremental cost for roaming at present costs as Re. 0.10 per minute based on the information on usage and revenue in respect of national roaming service furnished by the wireless telecom service providers in the formats prescribed through TRAI's letter dated 26.10.2012. A summary of calculations of incremental cost estimates for national roaming service is placed as 'Annexure'.

Tariff Ceiling for Outgoing calls while on national roaming

13. In the exercise for calculation of ceiling tariffs for national roaming calls undertaken in 2006-07, the work done by the service provider in case of originating a call was assumed as equal to the work done for terminating a call. During the present consultation, stakeholders have argued that the origination charge is under regulatory forbearance and the cost of originating a call cannot be assumed to be equal to the cost of terminating a call as the cost of origination should contain the cost of acquisition of subscribers and other marketing costs which are not included in the cost of terminating a call.

14. In light of the fact that the origination charge is under forbearance, the Authority is of the view that, fixing a tariff ceiling for outgoing calls while on national roaming based on the assumptions adopted during the previous review of 2006-07 may lead to irrational results that run counter to the actual situation prevailing in the market. In the Consultation Paper no. 2/2013 dated 25.02.2013, the Authority had assessed the generally prevailing tariff for outgoing local calls and outgoing STD calls while on national roaming at Re. 1 per minute and Rs. 1.50 per minute respectively. The Authority also noted that the ceilings prescribed through TTO (44th Amendment), 2007 were Rs. 1.40 per minute for outgoing local call and Rs. 2.40 per minute for outgoing STD call. The Authority has, therefore, decided that the ceiling tariff for outgoing local calls and outgoing STD calls while on national roaming should be brought down and fixed at the levels of the prevailing tariffs for outgoing local call and outgoing STD call while on national roaming i.e. at Re. 1.00 per minute and Rs. 1.50 per minute respectively.

Ceiling for incoming calls while on national roaming

15. As distinct from an outgoing call, in case of an incoming call while on national roaming, origination charge and termination charge are not part of cost components recoverable from the roaming subscriber. As discussed in the Consultation Paper (2/2013), in case of an incoming call to a subscriber on national roaming, the service provider has to recover from the subscriber only two cost components viz. carriage charge and incremental cost for roaming, both of which are easily determined. Taking into account the fact that a cost based ceiling on incoming calls while roaming can be reasonably estimated and given the possible disruptive consequences that removal of charges on incoming roaming calls is likely to have on telecom markets (this is discussed in detail in the analysis that follows), the Authority has decided to fix a cost based ceiling tariff for incoming calls while on national roaming. As per the Telecommunication Interconnect Usage Charge Regulation, 2003, the carriage charge has a ceiling of Re. 0.65 per minute and incremental cost for roaming has been estimated as Re. 0.10 per minute; accordingly, the Authority has fixed a ceiling of Rs. 0.75 per minute for incoming call while on national roaming.

The tariff for national roaming service should be the same as that in home service area.

16. The third possible approach for regulating the tariff for national roaming is by prescribing a Home Price Rule (HPR) regime. The concept of HPR is closest to the policy scenario envisaged in the NTP 2012 and its declared intent to move towards a one-nation free-roaming situation across the country. As per the HPR regime proposed in the Consultation Paper, incoming calls while on national roaming would be free of charge whereas outgoing calls/ SMS while on national roaming would be charged at the same tariff as applicable for outgoing calls/ SMS made from the home service area. The feasibility of such a regime is examined below.

17. From the comments of the stakeholders, it clearly emerges that the majority of the access service providers are not in favor of HPR in the national roaming service. Stakeholders are strongly averse to a regime in which incoming calls while on national roaming would become free.

Free incoming calls while on national roaming

18. The fact that there are significant costs involved for TSPs in respect of incoming calls terminated on their network was already recognized in the Consultation Paper issued on 25.02.2013. In the simplest case, the removal of charges for incoming calls while roaming could result in non-recovery of charges for the work done by the TSPs in carrying the call from home service area to the visited service area. The Consultation Paper had, in fact, included an analysis of the financial impact of the HPR (including free incoming calls) with and without taking into account price elasticity of demand for national roaming. Now, based on the comments received from stakeholders, it is clear that removal of charges for incoming calls while on national roaming would create arbitrage opportunities that could lead to SIM1 movement behaviour in the market which would have potential market distorting effects.

1 SIM is an abbreviation of 'Subscriber Identity Module'.

19. The following example illustrates the inherent problem. Let us take the case of a migrant worker working in a particular licensed service area, who makes frequent STD calls to his family residing in another licensed service area. If incoming calls while on national roaming become free of charge, he would have the incentive to purchase a SIM card from the licensed service area where he works and give it to his family residing in another service area. In this eventuality, the calling party (i.e. the migrant worker) would save money by paying for a local call instead of an STD call and the called party (i.e. the family of the migrant worker) would not have to pay to receive the call as the incoming calls while on national roaming would have become free of charge. As a result, many subscribers would be incentivised to move SIMs across licensed service areas in order to gain from such an arbitrage opportunity and the TSPs would lose revenue because they would not be able to recover the carriage charge and incremental cost for roaming.

20. The access service providers have also argued that a regime in which an incoming call becomes free of charge while on national roaming would adversely impact the health of the national long distance operators (NLDOs). On removal of incoming call charges while on national roaming, TSPs would not be able to recover and pass on to NLDOs the carriage charges that cover the latter's costs of carrying the call from home service area to the visited service area. This will have an impact on the long- term sustainability of the NLDOs.

21. The Authority has carefully considered the comments of the stakeholders with regard to removal of the charges for incoming roaming calls. The Authority had earlier raised the issue of direct revenue losses to TSPs due to non-recovery of costs under such a regime. While such losses may possibly be mitigated by the price elasticity of demand for national roaming services, the Authority has come to the conclusion that the more serious implication of such a step is that it could provoke consumer behavior that could lead to perverse outcomes and have unintended distortionary effects in the market for telecom services. These effects would manifest themselves in any regime in which incoming roaming calls are made free of charge. The difficulties pointed out would, therefore, apply equally to Variant 2 under Approach (iii) described in para 4 above in which the tariff for incoming calls while

on national roaming is made zero and the costs recovered from the tariff for outgoing calls while on national roaming.

22. The loss of revenue due to non-recovery of costs in a national roaming regime in which incoming calls are free was recognized by the Authority in the Consultation Paper issued on 25.02.2013. The impact on revenue was calculated as ranging from Rs. 1800 crores to Rs. 2200 crores under various scenarios. In order to address the issue and mitigate the adverse impact on the service providers, a variant of the HPR while on national roaming (Variant 1 under Approach (iii) listed at para 4 above) was also proposed in the Consultation Paper in which incoming roaming calls would remain free to the called party but the carriage charge for such calls would be paid by the calling party. In this variant of HPR, when a call is made to a national out roamer, the calling party would be provided with an announcement informing it that (i) the called party is on national roaming, and (ii) the calling party would have to pay 'additional charges' in case it wished to speak to the called party (the roamer).

23. From the comments of the stakeholders, it emerges clearly that access service providers are not in favour of this option as it would require considerable investment in network and IT systems. It would also need establishment of complex inter- operator settlement mechanisms since the service provider collecting the tariff may not be the one that pays the carriage fee to the NLDO. Besides, this regime may result in reduction of TSPs' revenue because the arrangement of pre-announcement may reduce the volume of incoming calls to the national out-roamer as the calling party may not necessarily complete the call. Further, the proposed pre- announcement may also result in high call set-up time and, therefore, reduced quality of consumer experience.

24. The Authority recognizes the fact that such a regime would call for a significant investment in the network and IT systems. Since the home service provider may not be aware of the location of the called party, the system may give rise to a number of billing and settlement disputes. The Authority is also mindful of the fact that the present regime in which the work done in carrying the call from the home service area to the visited service area is paid for by the called party has been in vogue for a

long time and, therefore, any alteration would require significant customer education.

25. Summing up the analysis in the preceding paragraphs, the Authority has decided not to mandate the implementation of a system in which the calling party pays for a national roaming call in view of the high costs and operational complications involved. The Authority has also concluded that it may not be feasible to remove charges for the incoming call while on national roaming. However, in view of the expectations of consumers raised on account of the declared objective of NTP, 2012 to work towards free national roaming, the Authority is putting in place an option for roaming subscribers to avail of free incoming calls while on national roaming in lieu of payment of fixed charges. This mechanism would address the concerns raised by the stakeholders with regard to arbitrage opportunities resulting out of removal of charge for incoming call while on national roaming. The mechanism is discussed in detail in the subsequent paragraphs.

HPR for outgoing calls while on national roaming

26. On the issue of making the tariff of outgoing calls while on national roaming (hereinafter referred to as 'roam tariff') equal to the tariff for outgoing calls in the home service area (referred to as 'home tariff'), variety of views have been expressed by stakeholders. Some stakeholders have considered that home tariffs may not be sustainable in the visited licensed service area due to a wide variation in costs in such as spectrum costs, CAPEX, operational costs viz. energy, fuel, right of way (RoW), wages and salaries across licensed service areas, and prevalence of different tax structures. On the other hand, a few stakeholders have opined that such variations in costs are not significant enough to prevent the subscribers from enjoying the socio-economic benefits that would accrue from such a regime. Some stakeholders, mainly regional operators who do not have pan-India presence, have stated that a regime in which home tariffs are equal to roam tariffs will put them at a competitive disadvantage vis-a vis pan India operators, since they have to depend on such pan-India operators for roaming connectivity. A related issue raised by some access providers is about regulation of wholesale roaming charges payable by the home network provider to the visited network provider.

27. The Authority has carefully examined the possibility of keeping roam tariff equal to home tariff as such a regime can potentially remove the premium charged by the access service providers on outgoing calls while on national roaming. The Authority recognizes the fact that keeping roam tariff equal to home tariff not only simplifies the tariff structure but also removes the fear of 'bill shock' while on national roaming from the minds of the subscribers. On the other hand, this regime compels the access service providers to match their roam tariff with the home tariff and has two potential consequences:

(i) A tariff regime mandating 'roam tariff equal to home tariff' may result in cross subsidization of roaming subscribers at the expense of non-roaming subscribers. It is worth mentioning here that only about 13% subscribers use national roaming service. Implementation of 'roam tariff equal to home tariff' across-the–board may result in some costs incurred for the national roaming service, remaining unrecovered. TSPs may resort to increase in home tariffs to recover these unrecovered costs, if any.

(ii) This regime could impact the access service providers who do not have pan- India presence. Such service providers depend upon incumbent TSPs for providing national roaming service to their subscribers and, therefore, they have to face market determined wholesale roaming charges in the service areas where they do not have a presence. In a regime mandating 'roam tariff equal to home tariff', their flexibility in fixing home tariff may be impacted.

28. The Authority has considered the comments and statements of the regional operators relating to wholesale charges. The Authority observes that there have been no alarming deviations reported from the wholesale roaming market so far. Besides, wholesale roaming charges were not a part of the consultation process. The Authority has therefore decided not to go into the matter at this stage.

29. The Authority notes that for outgoing calls while on national roaming, the main concern in a regime in which the roam tariff for outgoing voice calls (local as well as STD calls) are set equal to the home tariff for outgoing voice calls, is that TSPs could Page **16** of **24**

potentially increase the home tariff to compensate for diminished margins earned on outgoing roaming calls, resulting in the home tariff subsidizing the roam tariff. This concern can be addressed by allowing the principle of self-selection to operate so that roamers can pick out for themselves the tariff plan that best suits their needs. The cross subsidy in such a scheme would be confined to the roaming population instead of spilling over to general subscribers. Under such a system, the concerns expressed by regional operators about loss of flexibility in home tariff fixation would also be allayed. The Authority has therefore decided to mandate the service providers to provide roam tariff for outgoing voice calls equal to home tariff for outgoing voice calls (local as well as STD calls)' in one tariff plan which shall be called 'Roaming Tariff Plan' or 'RTP', each for post-paid and pre-paid services in every service area. The ceiling tariff prescribed for outgoing voice calls (local as well as STD calls) and incoming voice calls for national roaming will apply to the tariffs for the RTP as well.

30. As indicated earlier, as a special measure to provide the facility of free incoming calls, the Authority has also decided to mandate another tariff plan 'Roaming Tariff Plan-FR' or 'RTP-FR' each for post-paid and pre-paid services in every service area which would not only provide roam tariff for outgoing voice calls equal to home tariff for outgoing voice calls (local as well as STD calls) but also free incoming calls while on national roaming in lieu of fixed charges. In the case of RTP-FR, the ceiling tariff prescribed for outgoing voice calls (local as well as STD calls) while on national roaming will apply.

Prescription of tariff for outgoing SMS while on national roaming

31. Views of stakeholders had also been sought on tariff for outgoing SMS while on national roaming. In the earlier regime, this tariff was under regulatory forbearance. The specific question asked was whether it would be appropriate to prescribe that the tariff for an outgoing SMS while on national roaming should not be more than that for an outgoing SMS from home service area.

32. Many access service providers have argued that since the visited network is not realizing any fixed charges from the roaming subscriber, the usage charges would necessarily be higher than those in the home network in order to recover the Page **17** of **24**

additional cost e.g. signaling charges. On the other hand some stakeholders have stated that there is hardly any additional cost which can justify additional charges for an outgoing SMS while on national roaming and, therefore, the tariff for outgoing SMS while on national roaming should not be more than the tariff for outgoing SMS in home service area.

33. The Authority has analyzed the issue and has arrived at the conclusion that the work done for an outgoing SMS from the visited service area is, at best, only marginally higher than the work done in case of an outgoing SMS from the home service area. In the Consultation Paper no. 2/2013 dated 25.02.2013, the Authority had assessed the generally prevailing tariff for outgoing local SMS and outgoing STD SMS in home service area as Re. 1.00 per SMS and Rs. 1.50 per SMS respectively. The Authority has, therefore, decided to prescribe ceiling tariffs while on national roaming, of Re. 1.00 per SMS and Rs. 1.50 per SMS for outgoing local SMS and outgoing STD SMS respectively. Incoming SMS while on national roaming will, however, continue to remain free of charge.

34. The Authority has further decided to mandate the service providers, as in the case of outgoing voice calls, to provide tariff for outgoing SMS while on national roaming equal to tariff for outgoing SMS (local as well as STD) in home service area in the tariff plans 'RTP' and 'RTP-FR', for both post-paid and pre-paid services in every service area. The ceiling tariff prescribed for outgoing SMS (local as well as STD) for national roaming will apply to the tariffs for the 'RTP' and 'RTP-FR' as well. In all cases, incoming SMS will be free of charge.

Description of the scheme of tariff plan 'RTP' and 'RTP-FR'

35. As indicated earlier, the Authority has mandated the service providers to offer a tariff plan 'RTP' and a tariff plan 'RTP-FR', for both pre-paid and post-paid services in each service area. These tariff plans shall be within the ceiling of twenty five tariff plans prescribed through the Telecommunication Tariff (Forty Second Amendment) Order, 2006 dated 07.03.2006. How these tariff plans would operate, is described below:

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36. In the tariff plan 'RTP', the charges for outgoing (local and STD) voice calls and outgoing (local and STD) SMS shall be uniform for home service area and national roaming and shall be within the ceiling tariff prescribed for outgoing (local and STD) voice calls/ SMS and incoming voice calls for national roaming.

37. In the tariff plan 'RTP-FR', the charges for outgoing (local and STD) voice calls and outgoing (local and STD) SMS shall be uniform for home service area and national roaming and shall be within the ceiling tariff prescribed for outgoing (local and STD) voice calls/ SMS. In addition, incoming calls while on national roaming shall be free of charge in lieu of fixed charges.

38. The schemes described above for the tariff plans 'RTP' and 'RTP-FR' shall apply for all varieties of outgoing (local and STD) voice calls and outgoing (local and STD) SMS. Besides, any discounted or promotional tariffs in these tariff plans shall be applied on both home and roam tariffs. In order to simplify the presentation of the tariff plan and to aid consumer understanding, the charges for outgoing (local and STD) voice calls and outgoing (local and STD) SMS shall not be distinguished on the basis of whether these are for the home service area or for national roaming.

39. The operation of the tariff plans 'RTP' and 'RTP-FR' is illustrated with the help of the following example:
A service provider (TSP1) offers access service in two service areas (X and Y). TSP1 offers access service to the subscribers on CDMA only in the service area 'X' and on both GSM and CDMA in the service area 'Y'. The TSP1 offers both post-paid and pre- paid tariff plans in the service area 'X' and 'Y.

Service Area	GSM		CDMA	
	Post-paid	Pre-paid	Post-paid	Pre-paid
X	□	□	□□	□□
Y	□□	□□	□□	□□

40.	TSP1 would have to offer two separate tariff plans 'RTP' and 'RTP-FR' in each

category. For example, in the service area 'X', it would offer an 'RTP' and an 'RTP-

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FR' for CDMA (Pre-paid) category and a separate 'RTP' and an 'RTP-FR' for CDMA (Post-paid) category.

Prescription of tariff for video calls while on national roaming

41. In the Consultation Paper, stakeholder's views had also been sought on whether there is any need to prescribe tariff for video calls while on national roaming. A majority of the stakeholders have opined that video calls are at a very early stage of growth and therefore any prescription of tariff for video calls at this stage would undermine the huge investments made for provision of the service; however, market forces would ensure that these services are priced optimally to drive traffic and usage.

42. The Authority recognizes the fact that video calls are at a nascent stage of growth and, therefore, the Authority has decided, for the time being, to leave the tariff for video calls while on national roaming under forbearance.

Allowing Special Tariff Vouchers (STVs) and Combo Vouchers (CVs) with roaming benefits

43. As per the TTO (44th Amendment) 2007, TSPs were not allowed to charge any monthly access charge for national roaming services. As a corollary, they could not offer Special Tariff Vouchers (STVs) with roaming benefits, as STVs provide tariff benefits in lieu of fixed charges. In the Consultation Paper, stakeholders' views were solicited on whether there should be a re-think on this issue and whether STVs with roaming benefits should be allowed.

44. The majority of the stakeholders have favored allowing STVs and Combo Vouchers (CVs) with national roaming benefits. They have argued that such vouchers would not only boost market offerings to subscribers but also provide greater flexibility to the service providers. They have contended that STVs and CVs would play a big role in bringing down the tariff for national roaming service.

45. The Authority recognizes the fact that the STVs and CVs for home tariff have provided both flexibility and convenience to subscribers. The Authority has also analyzed the functionality of STVs and CVs for national roaming service and has come to the conclusion that such vouchers would blend well with the regime now being put in place for roaming calls and SMS and would enhance the capability of the system to respond to the short term needs of subscribers. The Authority has, therefore, decided to allow TSPs to offer STVs and CVs for national roaming service. There shall be no restriction on the service providers in offering STVs and CVs with combination of tariff benefits for both home service area and national roaming.

Review

46. The tariff regime, prescribed in this amendment to the TTO will be subject to review by the Authority after a year. The Authority will closely monitor the implementation of the regime and, in particular, its impact on competition and consumer interests and may intervene, if necessary, in the interim period.

Annexure

Summary of Calculations of Incremental Cost Estimates for National Roaming Service

1. The Authority, through its letter no. 301-10/2012-ER dated 26.10.2012, sought information on usage and revenue for the quarter ending March 2012 and cost for the F.Y. 2011-12 in respect of national roaming service in prescribed formats from all the wireless telecom service providers. Most of the service providers furnished information in the prescribed format. However, the data provided by two service providers was not amenable for analysis due to inconsistencies and absence of basis for apportionment and thus had to be excluded from the analysis. In order to estimate the incremental cost for roaming, recovery of both capital expenditure and operational expenditure in respect of national roaming service were taken into account as described below:

2. For estimating recovery of capital expenditure, depreciation on assets and return on capital employed (ROCE) were aggregated. The information on capital cost to support national roaming service was sought from the service providers in the following four sub-heads:
(i) Additional equipment/application in billing system to support roaming service (ii) Connectivity resources e.g. routers, modems etc.

(iii) Additional application in the MSC
(iv) Other costs attributable to national roaming service
Based on the information received from the service providers, an average life of 5 years for the capital cost components at (i) & (ii) above and an average life of 10 years for the capital cost components at (iii) and (iv) above was considered in the analysis. Accordingly, annual depreciation on the basis of straight line method was taken as 20% for cost components at (i) & (ii) above and 10% for cost components at (iii) & (iv) above. Further, an ROCE of 15% was considered in the exercise which has also been used in the recent costing exercises undertaken by the Authority.

3. The estimated recovery of average annual capital expenditure as above was added to the annual operating expenditure in respect of national roaming service based on the information furnished by the service providers. To this aggregate cost, license fee and spectrum charges at 12% (8% for license fee and 4% for spectrum charges) were also added to arrive at the total annualized cost for national roaming.

4. The total annualized cost so arrived was divided by the total minute of usage of national inroamers (annualized based on the information provided by the service providers) in order to estimate per minute incremental cost for national roaming. The following table presents the estimated incremental cost for national roaming for the various service providers:

Estimated Incremental Cost for National Roaming (Rs. per Minute)

Service Provider	**Incremental Cost for Roaming (Rs. per Minute)**
GSM Service Providers	
Service Provider-1	0.02
Service Provider-2	0.03
Service Provider-3	0.04
Service Provider-4	0.05
Service Provider-5	0.06
Service Provider-6	0.09
Service Provider-7	0.09
Service Provider-8	0.09
Service Provider-9	0.26
Service Provider-10	9.55

CDMA Service Providers	
Service Provider-1	0.01
Service Provider-2	0.02
Service Provider-3	0.09

5.	As can be seen from the above table, the lowest of the cost estimates is Re.0.01 per

minute (for CDMA) and Re. 0.02 per minute (for GSM) and the highest of the cost estimates is placed at Rs.9.55 per minute. Evidently, 0.26 per minute and Rs. 9.55 per minute are outliers. Thus the range of cost estimates falls between Re. 0.01 to

Re. 0.09 per minute. Accordingly, the Authority has considered the incremental cost for roaming as Re. 0.10 per minute in the present review exercise.

TELECOM REGULATORY AUTHORITY OF INDIA
THE TELECOMMUNICATION TARIFF (FIFTY SIXTH AMENDMENT) ORDER, 2013 No. 5 of 2013

NOTIFICATION
New Delhi, the 26th November, 2013

No. 301-26/2012-ER — In exercise of the powers conferred upon it under sub-section (2) of section 11, read with sub-clause (i) of clause (b) of sub-section (1) of the said section, of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), the Telecom Regulatory Authority of India hereby makes the following Order further to amend the Telecommunication Tariff Order, 1999, namely:

1. (1) This Order may be called the Telecommunication Tariff (Fifty Sixth Amendment) Order, 2013.

(2) This Order shall come into force on the 1st day of January, 2014.

2. In clause 2 of the Telecommunication Tariff Order, 1999 (hereinafter referred to as the principal tariff order), after sub-clause (r), the following sub-clauses shall be inserted, namely: ---
"ra. "USSD" or "Unstructured Supplementary Service Data" means a real-time or instant session-based messaging service;
rb. "USSD-based mobile banking services" means delivery of banking services through mobile phones over USSD;
rc. "USSD session for USSD-based mobile banking services" means a session over USSD between the mobile subscriber and the bank or its agent;"

3. In the Schedule II to the principal tariff order, the item (8) shall be numbered as item (9);

4. In the Schedule II to the principal tariff order, after item (7A), the following items and entries relating thereto shall be inserted, namely:

ITEM	**TARIFF**
"(8) Use of USSD for USSD-based mobile banking services	
(8.a) Charge for outgoing USSD session for USSD-based mobile banking services	Ceiling of Rs. 1.50 per USSD Session
(8.b) Other matters related to USSD-based mobile banking services	Forbearance."

(Manish Sinha)
Advisor (F&EA)

Note.1. – The Telecommunication Tariff Order, 1999 was published in the Gazette of India, Extraordinary, Part III, Section 4 under notification No.99/3 dated 9th March, 1999, and subsequently amended as given below:

Amendment No.	**Notification No. and Date**
1st	301-4/99-TRAI (Econ) dated 30.3.1999
2nd	301-4/99-TRAI(Econ) dated 31.5.1999
3rd	301-4/99-TRAI(Econ) dated 31.5.1999
4th	301-4/99-TRAI(Econ) dated 28.7.1999
5th	301-4/99-TRAI(Econ) dated 17.9.1999
6th	301-4/99-TRAI(Econ) dated 30.9.1999
7th	301-8/2000-TRAI(Econ) dated 30.3.2000
8th	301-8/2000-TRAI(Econ) dated 31.7.2000

9th	301-8/2000-TRAI(Econ) dated 28.8.2000
10th	306-1/99-TRAI(Econ) dated 9.11.2000

11th	310-1(5)/TRAI-2000 dated 25.1.2001
12th	301-9/2000-TRAI(Econ) dated 25.1.2001
13th	303-4/TRAI-2001 dated 1.5.2001
14th	306-2/TRAI-2001 dated 24.5.2001
15th	310-1(5)/TRAI-2000 dated 20.7.2001
16th	310-5(17)/2001-TRAI(Econ) dated 14.8.2001
17th	301/2/2002-TRAI(Econ) dated 22.1.2002
18th	303/3/2002-TRAI(Econ) dated 30.1.2002
19th	303/3/2002-TRAI(Econ) dated 28.2.2002
20th	312-7/2001-TRAI(Econ) 14.3.2002
21st	301-6/2002-TRAI(Econ) dated 13.6.2002
22nd	312-5/2002-TRAI(Eco) dated 4.7.2002
23rd	303/8/2002-TRAI(Econ) dated 6.9.2002
24th	306-2/2003-Econ dated 24.1.2003
25th	306-2/2003-Econ dated 12.3.2003
26th	306-2/2003-Econ dated 27.3.2003
27th	303/6/2003-TRAI(Econ) dated 25.4.2003
28th	301-51/2003-Econ dated 5.11.2003
29th	301-56/2003-Econ dated 3.12.2003
30th	301-4/2004(Econ) dated 16.1.2004
31st	301-2/2004-Eco dated 7.7.2004
32nd	301-37/2004-Eco dated 7.10.2004
33rd	301-31/2004-Eco dated 8.12.2004
34th	310-3(1)/2003-Eco dated 11.3.2005
35th	310-3(1)/2003-Eco dated 31.3.2005
36th	312-7/2003-Eco dated 21.4.2005
37th	312-7/2003-Eco dated 2.5.2005
38th	312-7/2003-Eco dated 2.6.2005
39th	310-3(1)/2003-Eco dated 8.9.2005
40th	310-3(1)/2003-Eco dated 16.9.2005
41st	310-3(1)/2003-Eco dated 29.11.2005
42nd	301-34/2005-Eco dated 7.3.2006
43rd	301-2/2006-Eco dated 21.3.2006

44th	301-34/2006-Eco dated 24.1.2007
45th	301-18/2007-Eco dated 5.6.2007
46th	301-36/2007-Eco dated 24.1.2008
47th	301-14/2008-Eco dated 17.3.2008
48th	301-31/2007-Eco dated 1.9.2008
49th	301-25/2009-ER dated 20.11.2009
50th	301-24/2012-ER dated 19.4.2012
51st	301-26/2011-ER dated 19.4.2012
52nd	301-41/2012-F&EA dated 19.09.2012
53rd	301-39/2012-F&EA dated 1.10.2012
54th	301-59/2012-F&EA dated 05.11.2012
55th	301-10/2012-F&EA dated 17.06.2013

Note.2. – The Explanatory Memorandum explains the objects and reasons for the Telecommunication Tariff (Fifty Sixth Amendment) Order, 2013.

Explanatory Memorandum

A- Introduction and Background

1. The purpose of the present amendment to the TTO is to design a mechanism and determine the terms and conditions under which mobile banking for financial inclusion can be facilitated. The amendment prescribes a ceiling tariff for conducting a banking transaction through a mobile phone over USSD. This explanatory memorandum aims to provide the rationale for this regulatory action.

2. Availability of banking services to the entire population of the country without any discrimination is a major objective of public policy. Banking services are in the nature of a public good. Financial inclusion based on the principle of equity and inclusive growth has been engaging the attention of policy makers around the world. The United Na tions broadly describes the main goals of financial inclusion as access to services such as savings, credit, insurance, remittance and other banking/ payment services to all ‘bankable’ persons at a reasonable cost.

3. However, a large section of the population in India has no access to banking services today. The barriers to financial inclusion in India include (a) the poor accessibility of banking services, mainly due to the reluctance on the part of the banks to invest in infrastructure and human resources in remote areas; and, (b) when accessible, the high costs incurred by households to access such services. There is an increasing realization that a sustainable solution to the problem could lie in technology-driven service delivery models. The mobile phone is evolving into another transaction mode for customers with bank accounts. The ease of use of a mobile phone could potentially draw the unbanked into opening bank accounts and undertaking banking transactions. On 30.09.2013, there were about 87 crore mobile subscribers in the country of which about 35 crore were in the rural areas. The fact that a large number of mobile subscribers in rural areas do not have access to banking facilities

presents an opportunity for leveraging the mobile telephone to achieve the goal of financial inclusion.

4. Technology adoption in India is proceeding apace. A large scale digitization of India is becoming visible. While there are about 87 crore mobile subscribers in the country, the number of subscribers who access Internet by wireless phones has grown to about 14.3 crore. With crores of people transacting faster, quicker and better, there is likely to be productivity improvement and GDP growth. With growth in household incomes, the demand for monetary and banking transactions is also likely to rise. The Government-to-citizen cash payments such as direct benefits transfers are also bringing in the unbanked population into the banking system. With bank accounts becoming universal and planned 80 crore Aadhar cards easing the Know Your Customer (KYC) norms, there is going to be an increase in the demand for banking services in the next few years. Even if the banks were prepared to invest heavily into building physical branches, it may be difficult to serve the requirements of the large and widely dispersed rural population. With a significant penetration of mobile telephony in rural India, the mobile phone has the potential to help provide basic banking and payment services to citizens on a model that supplements the conventional banking system.

5. With a view to leverage the strengths of mobile telephony for financial inclusion, the Government of India constituted an Inter-Ministerial Group (IMG) to submit a report on the framework for delivery of basic financial services using mobile phones. The framework proposed in the IMG report has been accepted as the basis for delivery of basic financial services using mobile technology by a Committee of Secretaries under the chairmanship of Cabinet Secretary in April 2010. The IMG framework envisages the opening of mobile linked ‘no-frills’ accounts, which would be operated using mobile phones. The customer would be able to perform five basic transactions - cash deposit, cash withdrawal, balance enquiry, transfer of money from one mobile-linked account to another, and transfer of money to a mobile-linked account from a regular bank account.

6. The IMG framework also proposes compensation to the key players after taking into account the actual costs incurred by them. One of the recommendations of the IMG is that the telecom service providers (TSPs) should provide prioritized secure communication for mobile banking and they should charge not more than Re. 1 per transaction from their subscribers viz. mobile linked ‘no-frills’ account holders/ Business Correspondents. TRAI has, however, been requested to devise a mechanism to support the operation of market forces for ensuring that telecom services of adequate quality are provided for mobile banking services at reasonable charges.

7. In countries where the financial services infrastructure is not sufficient to provide access to a large population, the mobile system can be an effective replacement mechanism to access the bank. The ecosystem in mobile banking thus comprises two distinct sectors i.e. the financial services sector and the telecom sector. The two sectors are governed by two separate sets of regulations.

8. To make financial services available for the unbanked population, USSD-based mobile channels can be effectively deployed. USSD based mobile banking services have already been launched by some banks in the country viz. State Bank of India, Canara Bank and ICICI Bank in partnership with some TSPs. However, the extent and scope of the USSD-based mobile banking services offered by these banks are limited on the following counts:

(i)

These services are, at present, not available to the subscribers of all TSPs.

(ii) These services are limited to the provision of value added banking services to the banks' existing customers and are not designed to meet the objective of providing banking services to the unbanked/ under- banked population i.e. financial inclusion.

9. On the other hand, the IMG framework envisages mobile banking services to cater to the banking needs of the masses in general and the unbanked/

under-banked population, in particular. This would require creation of an enabling environment where subscribers of all TSPs and customers of all banks would be able to avail of mobile banking services as per their requirement and at affordable prices. The business framework required for this purpose would have to transcend the simple model of one-on-one partnerships between banks and TSPs in areas of mutually perceived pecuniary advantage.

10. As a follow-up to the IMG report, the Department of Telecom (DOT) , through their letter no. 20-1/2011-AS-III/43/7/6 dated 09.12.2011, allocated the USSD code *99# to the Department of Financial Services for mobile banking services through the gateway of the National Payments Corporation of India (NPCI). TSPs were directed to connect to the gateway of the NPCI as per requirement of service and in consultation with NPCI. A copy of the letter is placed as **Annexure**. Perceiving that a certain extent of hand-holding would be required for the project to take-off, TRAI made concerted efforts to bring the banks and TSPs into a technical and commercial partnership model by evolving a mutually acceptable consensus regarding the terms and conditions of such a partnership. TRAI's efforts in this direction stretched over a period of 10 months. However, this attempt did not lead to the desired result, for two reasons. Firstly, the banks were not able to clearly articulate the business case embodied in the proposed venture. Secondly, it is also true that the TSPs view the IMG model as being in competition with their own efforts to diversify into the mobile money space. The lack of cash-out facility in the mobile money solutions has remained a sore point with the TSPs. Since the collaborative effort, focused as it was on business-to-business relationships, did not take off, the Authority decided to go in for a fresh round of consultations for enabling mobile subscribers to have an option to access financial services through the technology of their choice at an affordable price.

11. With a view to devising a framework for use of USSD for delivery of basic financial services through the mobile phone, a Consultation Paper (CP) on 'USSD-based Mobile Banking for Financial Inclusion' was issued on 20.09.2013. Stakeholders were invited to submit written comments by 04.10.2013 and counter-comments by 11.10.2013. The comments and the counter-comments received from the stakeholders were placed on TRAI's website– www.trai.gov.in. The issues raised in the CP and the views of the stakeholders thereupon are being examined in the succeeding paragraphs.

B- Analysis of the Key Issues Raised in the Consultation Paper

12. A summary description for each issue together with the comments of stakeholders and further analysis thereon is presented below:

(1) Suitability of USSD for mobile banking for financial inclusion

13. A majority of TSPs and their industry associations have not favoured USSD as the most appropriate mode for mobile banking service for financial inclusion. The primary concerns of these stakeholders are based on the following premises:

(i) USSD is not a main-stream commercial service.

(ii) USSD menus are currently available only in English.

(iii) USSD is not supported by CDMA.

14. These stakeholders have argued that USSD has primarily been deployed in a limited way in telecom networks for delivering various value added services (VAS) which do not need to follow the stringent and rigorous specifications for a financial transaction such as audit trail of transaction, storage of transaction data, interface with multiple third-party applications, and stringent quality-of- service (QoS) parameters; in order to make USSD as a main-stream technology for mobile banking services, significant investment in billing systems, transaction data storage, retrieval systems, dedicated USSD platform and the radio access network (RAN) would be required. Further, they have

contended that the fact that USSD menus are currently available only in the English language would act as an adoption barrier for financially excluded customers. They have also pointed out that a significant portion of mobile users would not be able to use USSD-based mobile banking services since CDMA does not currently support USSD. Owing to these issues, such stakeholders have favoured Interactive Voice Response (IVR) and SMS in place of USSD for mobile banking services for financial inclusion.

15. On the other hand, some TSPs and a majority of consumer advocacy groups, organizations and individual stakeholders have favored USSD as the most appropriate mode for mobile banking service for financial inclusion. These stakeholders have cited the following features of USSD in support of their view:

(i) Ubiquitous (Available across mobile handsets): A significant proportion of mobile phone users are still using ultra-low-cost-handsets (ULCH). USSD is available on nearly all GSM mobile handsets.

(ii) Inexpensive: USSD uses an inexpensive resource (signaling channel) of the TSPs.

(iii) Secure: USSD is the most reliable channel for making financial transactions because there is no potential risk of misuse of mPIN.

(iv) Convenient: USSD offers better user experience as it is menu-based and provides a continuous session for the transaction(s).

(v) It also supports vernacular/ regional languages.

16. In view of the fact that USSD has all the essential features required in a communication channel for mobile banking services for financial inclusion viz. it is ubiquitous, inexpensive, secure and convenient, the Authority is of the view that USSD is an appropriate channel for mobile banking service for financial inclusion.

17. The successful use of USSD for mobile banking transactions is likely to open a significant revenue stream for TSPs. They are already deploying USSD-based

services in their networks. Some of them are also using it to provide mobile banking services in partnership with banks. In existing USSD-based mobile banking models, one or more entities interface between the banks and the TSPs in channeling and processing transactions. On the TSPs' side, the requirement is for compiling the USSD messages and interfacing with the banks. On the banks' side, the requirement is for compiling transactions and interfacing with the TSPs. The entities which perform these functions for the TSPs and banks are generally referred to as aggregators. The TSPs and banks can have a common, single aggregator, or separate aggregators. For the sake of clarity, in this explanatory memorandum, the TSPs' aggregator is referred to as the gateway operator. The gateway provider provides equipment and services to TSPs who do not own the necessary infrastructure i.e. the USSD gateway and the capability to generate Call Data Records (CDRs) for USSD transactions. (The banks' aggregator has already been termed as the USSD aggregation platform provider in the CP dated 20.09.2013).

18. Some TSPs have contended that the use of USSD for mobile banking transactions would necessitate huge investments. However, the Authority observes that a large amount of capital expenditure can be avoided by employing the services of gateway operators who, inter-alia, can provide capability for billing USSD messages to the TSPs. The records that are created for billing will also help to satisfy the information needs of the customers. Besides, some TSPs are already making use of SMS-MT (Short Message service-Mobile Terminating) upon completion of USSD session for billing their subscribers.

19. To sum up, no excessively large capital expenditure is involved in extending the use of USSD-based channels for mobile banking services. It can be done economically, as has been demonstrated. Further, in most models where gateway operators are working for TSPs, the same gateway operator provides the required CAPEX for enhancing capabilities.

20. As regards the contention that a significant proportion of mobile users would not be able to use USSD based mobile banking service because USSD is not supported by CDMA systems, it is pertinent to point out that of the total wireless subscriber base of about 87 crore as on 30.09.2013, about 80.7 crore (92.77%) of the subscribers are GSM subscribers, and only about 6.3 crore (7.23%) are CDMA subscribers. The objective of financial inclusion is to cover a wide base of telephone users with mobile banking services. The Authority is of the view that this objective will be largely achieved if such a large percentage of wireless subscribers are enabled to use the USSD-based mobile banking service. Additionally, the possibility of work-around methods to cover CDMA subscribers can also be explored by banks and TSPs.

21. It is clarified that while considering USSD as an appropriate channel for mobile banking service for financial inclusion, the Authority, by no means, intends to exclude IVR and SMS-based mobile banking services. The use of USSD is only to supplement the already present IVR, SMS and mobile Apps- based offerings with a specific focus to cater to the needs of financially excluded citizens of the country.

(2) Should the access service providers collect charges from their subscribers for the use of USSD for mobile banking services?

22. A core issue is whether the customers should pay for the use of USSD for mobile banking services - the business-to-customer (B2C) pricing model or- should banks/ banks' agents pay for the use of USSD for mobile banking services- the business-to-business (B2B) pricing model.

23. A majority of TSPs, their industry associations, a few organizations, and a consumer advocacy group have not favored the B2C pricing model for the use of the USSD channel for mobile banking services. The primary concerns of these stakeholders are based on the following premises:

(i) Implementation of B2C pricing model for USSD-based mobile banking service would require a new billing system for which a huge investment would be needed. Without an assured USSD transaction volume, there can be no business case for investing in additional capacity.

(ii) In case charges are recovered by TSPs from their customers (B2C pricing model), they would be more inclined to contact the call centers of the TSPs instead of calling to banks. This would put an unnecessary burden on the call centre infrastructure of the TSPs.

(iii) Since the users are customers of the banks, the banks should recover charges from them directly or absorb the cost. However, the banks must compensate the TSPs for their cost in both the scenarios.

24. On the other hand, a few TSPs and a majority of consumer advocacy groups, organizations and individuals have favoured the B2C pricing model for the use of the USSD channel for mobile banking services. These stakeholders have cited the following reasons in support of their view:
(i) It is natural to expect the user of a service to pay to the providers of the service. In the present case, the TSPs are providing the service of 'air-time' through the USSD channel to their customers.

(ii) The USSD channel is just like any other channel of communication viz.

voice, SMS and data. For USSD transactions, the TSPs should collect charges from subscribers as they do in the case of SMS-based, Mobile App-based and Internet banking.

(iii) As the customer is benefited both in terms of cost and convenience by using the USSD-based mobile banking service, he would be willing to pay a reasonable amount for the use of USSD. The customer reduces the risk of carrying cash and the service is available everywhere irrespective of the location of the Bank/ATM. A charge on the customer would encourage proper use and avoid misuse of the service.

25. From the stakeholders' comments, it is evident that a majority of the TSPs prefer a B2B pricing model. One of their apprehensions about the B2C pricing

model is that it may require a significant investment on a new billing system to support USSD transactions, which will not yield sufficient returns on investment (ROI). However, the present ecosystem provides a ready alternative solution. Many TSPs have already outsourced the USSD gateway service to gateway operators. The gateway operators can, in addition, help to build a billing and audit trail system to satisfy the customers and fulfill the regulatory requirement. The model of business that is currently in use incorporates a revenue share to the gateway operator that replaces the requirement of making fresh investments. The payment in exchange for the services provided by the gateway operator for the USSD channel ranges between 5-15% of the charges levied by the TSPs on their subscribers. The spread of the cost per transaction is very small and can easily be built into the end-user tariff.

26. In addition, the mobile banking service would add value to existing services and providing a new revenue stream, thereby increasing the average revenue per user.

27. The concern of TSPs that, in the event of adopting the B2C pricing model, they would be unnecessarily inundated with customer complaints of failed banking transactions at their call centers appears to be a misapprehension. The TSP is providing a communication channel to the mobile customer, not the banking service per se, which is provided by the bank. This situation applies equally to mobile banking through SMS, IVR or the Internet, which are also used as modes for mobile banking. As such, customers are fully aware that they are making transactions out of their own accounts in the bank, for which the TSP cannot be held responsible.

28. The argument of TSPs that the banks should recover charges from citizens for the use of USSD because the citizens are customers of banks, does not appear to be reasonable. The mobile banking sector involves players from the financial services sector on the one hand and the telecom sector on the other.

Their respective roles in the process of delivering USSD-based mobile banking services are as follows:
(i) Banks facilitate their customers with banking over mobile. Thus mobile banking acts as another outlet of the banks.

(ii) TSPs provide their subscribers with a delivery channel (USSD) to execute banking transactions. Thus the USSD channel acts as a vehicle to help the customer reach the mobile banking outlet of the banks.

29. The Authority is of the view that the B2C model is logical. It is only appropriate that the TSPs receive adequate recompense from the customer for the facility of the USSD communication channel that they provide to help the customer (subscriber) access mobile banking services.

30. It is further observed that the B2C model has been successfully implemented in some of the existing mobile banking projects such as the partnerships between ICICI Bank and six TSPs, and that between SBI and five TSPs. A significantly strong argument in support of this model is that it is already working in the functioning systems.

31. Although the TSPs have argued strongly for a B2B model, it is a fact that the banks and TSPs have failed to reach agreement on terms and conditions of partnership, in spite of intensive parleys over the past year. In the meanwhile, the project of mobile banking for financial inclusion has been the casualty. The Authority is of the view that this situation cannot be allowed to continue indefinitely. As stated earlier, the present TTO is meant to fix the terms and conditions under which mobile banking for financial inclusion can be facilitated.

(3) Appropriateness of Rs. 1.50 per USSD session for mobile banking as a ceiling tariff

32. On the subject of the appropriate ceiling tariff for mobile banking service, significantly divergent views have been expressed by the stakeholders viz. (i) Tariff per USSD session for mobile banking should remain under forbearance.

(ii) A ceiling tariff of Rs. 1.50 per USSD session for mobile banking would be appropriate.

(iii) A tariff significantly higher than Rs. 1.50 per USSD session for mobile banking should be allowed.

(iv) The ceiling tariff should be much lower than Rs. 1.50 per USSD session.

(v) Subscription based pricing model instead of pay-per-use pricing model should be adopted.

33. Some TSPs and the industry associations have favoured the policy of forbearance in the tariff for the USSD session for mobile banking services. They have stated that mobile banking is at a very nascent stage of growth as the eco-system is still developing and, therefore, it would be premature to fix a ceiling tariff per USSD session at this stage.

34. On the other hand, many stakeholders have supported prescription of a ceiling tariff for the use of USSD for mobile banking services in view of the following:
(i) A ceiling tariff is necessary for customer protection and to encourage innovation to enable scale and volume of transactions on the USSD channel.

(ii) From the experience of usage of short codes in SMS-based banking, it seems necessary to prescribe a ceiling tariff for USSD-based mobile banking service. Since the TSPs charge Rs. 3 per SMS, the usage has not picked up in the lower end of the customer segment.

35. A few stakeholders have considered Rs. 1.50 per USSD session for mobile banking as an appropriate ceiling tariff in order to ensure that the TSPs do not charge an exorbitant or unreasonably high tariff per USSD session. They have also stated that voice and SMS services also operate near this price point.

36. A few access service providers have argued that they should be allowed to charge higher than Rs. 1.50 per USSD session (e.g. Rs. 3 or Rs. 5.50) in view of the following:
(i) Huge investment in the billing system and to meet the strict guidelines for quality of service for mobile banking;
(ii)
USSD session for mobile banking service involves multiple hits which would engage the signaling channel and core network for a long time.

37. On the other hand, a majority of consumer advocacy groups, organizations and individuals have contended that the TSP should charge much lower tariff per USSD session. Some of the comments offered by these stakeholders are as below:
(i) The price per USSD session should be at par with GPRS service i.e. Re. 0.20 to Re. 0.30 per USSD session.

(ii) The customers should be able to pay as low as Re. 0.50 per USSD session with no additional charges.

(iii) The ceiling should begin with Re. 1 per USSD session.

These stakeholders have opined that the real growth of the service will come out of ‘large volume of transactions and small value charges’ rather than from ‘high value charges and small volumes of transactions’.

38. One TSP has stated that a subscription-based pricing model instead of pay- per-use pricing model should be adopted for pricing the use of USSD for mobile banking services so that the TSPs do not require any investment in their network.

39. Though there are divergent views on the issue, most of the stakeholders consider tariff of USSD session for mobile banking service an important determinant of the success of USSD-based mobile banking service. Besides, it is clear, from the comments of the stakeholders, that the principle that the person seeking the service must pay for the service, is widely acceptable.

40. As the use of USSD for mobile banking service is not a main offering of the TSPs, the pricing of these services is not likely to be subjected to the same competitive pressure which the main offerings of the TSPs (viz. voice call and SMS) have to face in the marketplace. Besides, the use of USSD for mobile banking for financial inclusion carries definite socio-economic benefits to the target group i.e. unbanked/ under-banked population and, therefore, the price for the use of USSD for mobile banking needs to be reasonable and affordable. In the USSD-based mobile banking solutions already deployed in the country, subscribers are charged a pay-per-use charge in the range of Rs. 1 to 1.50 per USSD session regardless of the duration of the session.

41. It is noteworthy that while voice calls travel over traffic channels, USSD messages and SMS messages travels over inexpensive signaling channels. The prevalent tariff of outgoing SMS in the tariff plans offered by the TSPs is generally Re. 1 per local SMS and Rs. 1.50 per national SMS.

42. In the light of the above, the Authority is of the view that a ceiling tariff of Rs. 1.50 per USSD session would be reasonable to compensate the TSPs to meet the expenses incurred in the use of USSD for mobile banking service and also it would be affordable to the subscribers. Ordinarily, a USSD session shall comprise one banking transaction e.g. balance enquiry, transfer of money (Fund transfer) etc. However, the TSPs and banks/ banks’ agents may agree to accommodate more transactions in a USSD session. A pay-per-use charge within the ceiling tariff of Rs. 1.50 per USSD session would be payable by the subscriber upon establishment of an outgoing USSD session, regardless of whether the session results in a successful or a failed banking transaction.

Annexure

List of Acronyms

Sl. No.	Acronym	Expansion
1	ATM	Automated Teller Machine
2	B2B	Business-to-Business
3	B2C	Business-to-Customer

7	CAPEX	Capital Expenditure
4	CDMA	Code Division Multiple Access
5	CDR	Call Data Record
6	CP	Consultation Paper
8	DoT	Department of Telecommunications
9	GDP	Gross Domestic Product
10	GPRS	General Packet Radio Service
11	IMG	Inter Ministerial Group
12	IVR	Interactive Voice Response
13	KYC	Know Your Customers
14	m-PIN	Mobile Personal Identification Number
15	NPCI	National Payment Corporation of India
16	QoS	Quality of Service
17	RAN	Radio Access Network
18	ROI	Return on Investment
19	SMS	Short Message Service
20	SMS-MT	Short Message Service - Mobile Terminating
22	TRAI	Telecom Regulatory Authority of India
23	TSP	Telecom Service Provider
21	TTO	Telecommunications Tariff Order
24	ULCH	Ultra-Low-Cost-Handsets
25	USSD	Unstructured Supplementary Service Data
26	VAS	Value Added Services

TELECOM REGULATORY AUTHORITY OF INDIA

THE TELECOMMUNICATION TARIFF (FIFTY SEVENTH AMENDMENT) ORDER, 2014 No.4 of 2014

NOTIFICATION

New Delhi, the 14th July, 2014

No. 312-2/2013-F&EA — In exercise of the powers conferred upon it under sub-section (2) of section 11, read with sub-clause (i) of clause (b) of sub-section (1) of the said section, of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), the Telecom Regulatory Authority of India hereby makes the following Order further to amend the Telecommunication Tariff Order, 1999, namely:-

1. (1) This Order may be called the Telecommunication Tariff (Fifty Seventh Amendment) Order, 2014.

(2) This Order shall come into force on the 1st day of August, 2014.

2. For Schedule IV and its Annexures of the Telecommunication Tariff Order, 1999, the following Schedule and Annexure shall be substituted, namely: -

“Schedule IV

Domestic Leased Circuits

ITEM	**TARIFF**
(1) Date of implementation	01.08.2014
(2) Coverage	(a) All tariffs specified as ceilings (b) It is mandatory for domestic leased circuits to be

	provided through utilization of spare capacity when such capacity is available and when not available, on Rent and Guarantee Terms/ Special Construction/ Contribution basis. All service providers shall report to the Authority the commercial and economic basis of their terms and conditions with respect to Rent and Guarantee/ Special Construction/ Contribution basis etc. | schemes, | under | the | provisions | of | the Telecommunication Tariff Order, 1999 relating to reporting requirement. (c) Service providers may offer discounts on the ceiling tariffs. Discounts, if offered, shall be transparent and non-discriminatory, based on laid down criteria and subject to reporting requirement.
(3) (a) Ceiling tariffs for domestic leased circuits of E1 (2 Mbps), DS-3 (45 Mbps), STM-1 (155 Mbps) and STM-4 (622 Mbps) capacities	As specified in Annexure to this Schedule
(3) (b) Tariff for domestic leased circuits of other speeds/ capacities	Under forbearance
(3) (c) Chargeable distance for a domestic leased circuit	The chargeable distance for a domestic leased circuit shall not exceed 1.25 times the radial distance between the two ends of the domestic leased circuit.

(3) (d) Ceiling tariffs for domestic leased circuits of intermediate distances	The ceiling tariffs for distances lying in between the distances specified in Annexure to this Schedule shall be computed on pro-rata basis.
(4) Ceiling tariffs for end-links (or local leads)	(i) Tariffs for end-links shall be same as the ceiling tariffs for domestic leased circuits specified under item (3) of this Schedule. (ii) In case such leasing is technically not possible then on Rent and Guarantee Terms/ Special Construction/ Contribution Basis
(5) Ceiling tariffs for E1/R2 links for ISPs	(i) Tariffs for E1/R2 links for ISPs shall contain the Port charges as specified in the Telecommunication Interconnection (Port Charges) Regulation 2001 (6 of 2001) and tariff for domestic leased circuit/ end-link as specified under this Schedule. (ii)Each component of the tariff shall be specified separately in the bill.
(6) Other matters relevant to domestic leased circuits not specified in this Schedule	Under forbearance

Annexure to Schedule IV

Ceiling tariffs (in Rs. per annum) for
domestic leased circuits of E1 (2 Mbps), DS-3 (45 Mbps), STM-1 (155 Mbps) and STM-4 (622 Mbps) capacities

Table-I

Distance (in Km)	**Ceiling tariff for E1 (2 Mbps)**
5	12,086
10	19,117
20	33,180
30	47,243
40	61,305
50	75,368
60	89,431
70	103,493

Table-II

Distance (in Km)	**Ceiling tariff for DS-3 (45 Mbps)**	**Ceiling tariff for STM-1 (155 Mbps)**	**Ceiling tariff for STM-4 (622 Mbps)**
<50	584,000	1,610,000	4,188,000
50	584,919	1,610,973	4,188,531
60	690,388	1,887,831	4,908,361
70	795,858	2,164,689	5,628,191
80	901,327	2,441,546	6,348,020
90	1,006,797	2,718,404	7,067,850
100	1,112,267	2,995,261	7,787,680
150	1,317,960	3,459,645	8,995,077

80	117,556
90	131,618
100	145,681
150	169,353
200	193,750
250	218,147
300	242,544
350	266,941
400	291,339
450	315,736
500	340,133
>500	341,000

200	1,508,698	3,960,333	10,296,865
250	1,699,436	4,461,020	11,598,652
300	1,890,174	4,961,707	12,900,439
350	2,080,912	5,462,395	14,202,226
400	2,271,650	5,963,082	15,504,014
450	2,462,388	6,463,770	16,805,801
500	2,653,126	6,964,457	18,107,588
>500	2,654,000	6,965,000	18,108,000

”

(Manish Sinha)
Advisor (F&EA)

Note.1. – The Telecommunication Tariff Order, 1999 was published in the Gazette of India, Extraordinary, Part III, Section 4 under notification No.99/3 dated 9th March, 1999, and

subsequently amended as given below:

Amendment No.	**Notification No. and Date**
1st	301-4/99-TRAI (Econ) dated 30.3.1999
2nd	301-4/99-TRAI(Econ) dated 31.5.1999
3rd	301-4/99-TRAI(Econ) dated 31.5.1999
4th	301-4/99-TRAI(Econ) dated 28.7.1999
5th	301-4/99-TRAI(Econ) dated 17.9.1999
6th	301-4/99-TRAI(Econ) dated 30.9.1999
7th	301-8/2000-TRAI(Econ) dated 30.3.2000
8th	301-8/2000-TRAI(Econ) dated 31.7.2000
9th	301-8/2000-TRAI(Econ) dated 28.8.2000
10th	306-1/99-TRAI(Econ) dated 9.11.2000
11th	310-1(5)/TRAI-2000 dated 25.1.2001
12th	301-9/2000-TRAI(Econ) dated 25.1.2001
13th	303-4/TRAI-2001 dated 1.5.2001
14th	306-2/TRAI-2001 dated 24.5.2001
15th	310-1(5)/TRAI-2000 dated 20.7.2001
16th	310-5(17)/2001-TRAI(Econ) dated 14.8.2001

17th	301/2/2002-TRAI(Econ) dated 22.1.2002
18th	303/3/2002-TRAI(Econ) dated 30.1.2002
19th	303/3/2002-TRAI(Econ) dated 28.2.2002
20th	312-7/2001-TRAI(Econ) 14.3.2002
21st	301-6/2002-TRAI(Econ) dated 13.6.2002
22nd	312-5/2002-TRAI(Eco) dated 4.7.2002
23rd	303/8/2002-TRAI(Econ) dated 6.9.2002
24th	306-2/2003-Econ dated 24.1.2003
25th	306-2/2003-Econ dated 12.3.2003
26th	306-2/2003-Econ dated 27.3.2003
27th	303/6/2003-TRAI(Econ) dated 25.4.2003
28th	301-51/2003-Econ dated 5.11.2003

29th	301-56/2003-Econ dated 3.12.2003
30th	301-4/2004(Econ) dated 16.1.2004
31st	301-2/2004-Eco dated 7.7.2004
32nd	301-37/2004-Eco dated 7.10.2004
33rd	301-31/2004-Eco dated 8.12.2004
34th	310-3(1)/2003-Eco dated 11.3.2005
35th	310-3(1)/2003-Eco dated 31.3.2005
36th	312-7/2003-Eco dated 21.4.2005
37th	312-7/2003-Eco dated 2.5.2005
38th	312-7/2003-Eco dated 2.6.2005
39th	310-3(1)/2003-Eco dated 8.9.2005
40th	310-3(1)/2003-Eco dated 16.9.2005
41st	310-3(1)/2003-Eco dated 29.11.2005
42nd	301-34/2005-Eco dated 7.3.2006
43rd	301-2/2006-Eco dated 21.3.2006
44th	301-34/2006-Eco dated 24.1.2007
45th	301-18/2007-Eco dated 5.6.2007
46th	301-36/2007-Eco dated 24.1.2008
47th	301-14/2008-Eco dated 17.3.2008
48th	301-31/2007-Eco dated 1.9.2008
49th	301-25/2009-ER dated 20.11.2009
50th	301-24/2012-ER dated 19.4.2012

51st	301-26/2011-ER dated 19.4.2012
52nd	301-41/2012-F&EA dated 19.09.2012
53rd	301-39/2012-F&EA dated 1.10.2012
54th	301-59/2012-F&EA dated 05.11.2012
55th	301-10/2012-F&EA dated 17.06.2013
56th	301-26/2012-ER dated 26.11.2013

Note.2. – The Explanatory Memorandum explains the objects and reasons for the

Telecommunication Tariff (Fifty Seventh Amendment) Order, 2014.

Explanatory Memorandum

A- Introduction and Background

1. Tariffs for domestic leased circuits (DLCs) have been regulated in the form of ceiling tariffs prescribed by the Authority under Schedule IV of the Telecommunications Tariff Order, 1999 (hereinafter referred to as the TTO, 1999) as amended by The Telecommunication Tariff (Thirty Sixth Amendment) Order, 2005 (hereinafter referred to as the TTO (36th Amendment), 2005) dated 21.04.2005. Separate ceiling tariffs for DLCs of less than 2 Mbps capacities provided on Managed Leased Line Network (MLLN) technology utilizing Versatile-MUX and Transit Stations were also prescribed by the Authority through the Telecommunication Tariff (Thirty Eighth Amendment) Order, 2005 (hereinafter referred to as the TTO (38th Amendment), 2005) dated 02.06.2005.

2. Since 2005, the Indian telecom services market has witnessed a remarkable change – a huge increase in the demand for access services and national long distance (NLD) services including DLCs. In order to meet the increased demand, the national long distance operators (NLDOs) and access service providers (ASPs) in the country made substantial investments into building new transmission routes and augmenting their existing transmission infrastructure. Simultaneously, the advancements in the transmission technologies, such as Dense Wavelength Division Multiplexing (DWDM), made it possible to carry several hundred times more bandwidth capacities on the same transmission media. As a result of (i) increase in demand of telecommunication services, (ii) increase in transmission infrastructure and (iii) increase in the bandwidth carrying capacity of transmission media, the per unit cost of providing DLCs declined substantially. However, the prevalent tariffs for DLCs offered in the present market suggest that the benefit of reduction in cost has been passed on only those routes which are extremely competitive. The following facts demonstrate the structure of tariffs for DLCs in the country:

(i) On the dense routes connecting metros and large cities where competition is vigorous, the prevailing tariffs for DLCs are substantially below the ceiling tariffs prescribed by the Authority.

(ii) On the routes connecting small cities, remote and hilly areas where competition is much less, the prevailing tariffs for DLCs continue to remain near the ceiling tariffs prescribed by the Authority.

3. Further, several new methods of provisioning DLCs e.g. Multi-Protocol Label Switching - Virtual Private Networks (MPLS-VPN) and Internet Protocol - Virtual Private Networks (IP-VPN) etc. have emerged in the market which were not covered in the TTO (36th Amendment), 2005.

4. In light of the above, it was deemed necessary to undertake an exercise to review the tariff for DLCs in the country.

5. As a prelude to the review exercise, the Authority, on 22.11.2013, asked the telecom service providers1 (TSPs) to provide information on subscriber base, revenue and prevailing tariffs in respect of DLCs. On the basis of information received from the TSPs, a market analysis was conducted and it was felt that there is a need for review of tariffs for DLCs. Accordingly, the Authority, on 06.02.2014, asked the TSPs to provide information on transmission infrastructure used for providing DLCs including VPNs. Subsequently, the Authority issued a Consultation Paper (No. 1/2014 dated 24.03.2014) on 'Review of Tariff for Domestic Leased Circuits' to seek the views of stakeholders on various aspects of tariff for DLCs. The stakeholders were asked to submit written comments by 14.04.2014 and counter-comments by 21.04.2014. On the request of some stakeholders, the date for submission of written comments and counter-comments was extended till 25.04.2014 and 02.05.2014 respectively. Written comments were received from three industry associations, 17 TSPs, four consumer organizations and one individual. The comments and counter-comments

1As per the present licensing regime in the country, both NLDOs and ASPs can provide DLCs.

received from the stakeholders were placed on the TRAI's website – www.trai.gov.in. An Open House Discussion (OHD) with stakeholders was held on 15.05.2014 in Delhi. The following section examines the views of stakeholders on the issues raised in the Consultation Paper (CP) and presents an analysis thereof.

B- Analysis of the key issues raised in the Consultation Paper

6. In the CP on 'Review of Tariff for Domestic Leased Circuits', the Authority had, inter-alia, sought views of stakeholders on the following broad issues:
(i) Appropriateness of the cost basis and methodology used to estimate ceiling tariffs for DLCs in the TTO (36th Amendment), 2005 in the today's DLC market (ii) Need for separate ceiling tariffs for trunk segment and local lead
(iii) Need for separate ceiling tariffs for DLCs in remote and hilly areas
(iv) Capacities and distances of DLCs for which ceiling tariffs need to be prescribed
(v) Relevance of separate ceiling tariffs for MLLN based DLCs and
(vi) Need for bringing VPNs such as MPLS-VPN under tariff regulation

7. Based on the comments and inputs received from stakeholders, an analysis of the broad issues related to the tariff framework for DLCs is being presented below.

(1) Need for tariff regulation for DLCs

8. Since the year 1999, when the DLCs were brought under tariff regulation for the first time, the tariffs for DLCs have always been prescribed as ceilings by the Authority. In the year 2005, when the Authority reviewed the tariffs for DLCs, the need for tariff regulation for DLCs was again examined. Upon observing signs of inadequate competition in the then DLC market, revised ceiling tariffs for DLCs were prescribed through the TTO (36th Amendment), 2005. The Authority, in the present exercise also, has carefully examined the need for tariff regulation for DLCs.

9. In the present consultation process, majority of TSPs and their industry associations have favoured leaving the tariff for DLCs under forbearance. They have argued that presence of 7 to 10 ASPs in each licensed service area (LSA) and 31 NLDOs in the country provides sufficient competition in the DLC segment. These stakeholders have opined that, in case, the Authority feels that there is a lack of adequate competition in the DLC segment in remote and hilly areas such as Assam, North East and Jammu & Kashmir, it should regulate the tariffs for DLCs for such areas only and should leave tariffs for DLCs in the remaining areas under forbearance.

10. On the other hand, many stakeholders including a few TSPs have favoured prescription of ceiling tariffs for DLCs. They have argued that despite the presence of 7 to 10 ASPs in each LSA and 31 NLDOs in the country, only a few ASPs and NLDOs offer DLCs to the customers; as a result, in a major part of the market, the customers find only a small number of providers of DLCs. They have contended that on the thin routes and remote and hilly areas, the customers face challenges in getting DLCs at competitive prices.

11. During the OHD held on 15.05.2014, a few stakeholders stated that lack of adequate competition in DLC segment is not restricted to Assam, North East and Jammu & Kashmir only; there are several geographical pockets within other states such as Himachal Pradesh, Uttarakhand, Jharkhand, Orissa etc. where level of competition in DLC segment is extremely low.

12. Upon the analysis of tariffs for DLCs reported to the Authority by the TSPs in compliance to the reporting requirement mandated in the TTO, 1999, it has been observed that while DLCs on the dense routes viz. Delhi – Mumbai, metros and large cities are being offered at a substantial discount with respect to the ceiling tariffs prescribed by the Authority, in many cases, the tariffs for DLCs in Circle - A and Circle - B are nearly at the level of ceiling tariffs prescribed by the Authority. It has been observed that although the number of NLDOs has increased from 4 to 31 after the liberalization of NLD license in 2006, not many of the new NLDOs have created transmission infrastructure in the country. About half of the 27 new entrants have

reported to the Authority that they do not own any transmission infrastructure in the country and most of these NLDOs have reported ‘nil’ or negligible revenue from NLD operations in the country. Hence the contention of some of the TSPs that the DLC market is sufficiently competitive, owing to the presence of a large number of ASPs and NLDOs, does not hold good.

13. Upon analysis of the information on revenues from DLC business for the financial year (F.Y.) 2012-13 furnished by the TSPs to the Authority, it has been observed that six TSPs together command about 90% of the DLC market (in terms of revenue) in the country. Understandably, these large players in the DLC market have deployed transmission infrastructure in the country as per their business strategies and, thus the coverage of transmission infrastructure in the country is highly asymmetric. As a result, competition in the DLC segment is almost non-existent on the thin routes connecting small cities, remote and hilly areas. It has been observed that the thin routes are not restricted to some specific geographical regions. Indeed, they may be predominant in some geographical regions but they exist in almost every service area. Thus if we attempt to visualize the map of the country in terms of level of competition in DLC segment, the map would have some patches and routes having heavy competition, some other patches and routes with moderate competition while a substantial part of the country would depict low and scant competition.

14. Regulatory forbearance in the matter of fixing tariff for access services has been an important factor in the remarkable growth of Indian telecommunication services over the last decade. As the market for DLCs is much less competitive than that for access services, the Authority, with a view to protect the interests of the consumers, has decided, for the time being, to continue with the regime of ceiling tariffs for DLCs.

(2) Methodology for estimation of ceiling tariffs for point-to-point DLC

15. Through the TTO (36th Amendment), 2005, the Authority had prescribed ceiling tariffs for point-to-point DLCs (P2P-DLCs) on the basis of a bottom-up methodology using fully allocated cost of setting up a new optical fiber cable (OFC) system. The method is equivalent to calculating full replacement cost of the system.

16. In the present consultation process, a few TSPs including a state owned company have favoured the use of bottom-up fully allocated cost (BU-FAC) method for computation of ceiling tariffs for P2P-DLC. As indicated before, most of the TSPs and their industry associations have opined that in case the Authority believes that competition is inadequate in certain areas in the country, BU-FAC method may be used to compute ceiling tariffs for DLC for such areas. On the other hand, one TSP has favoured the use of long run incremental cost (LRIC) method to compute ceiling tariffs for DLCs.

17. While regulating tariffs for telecommunication services in the country, the Authority has always aimed to balance the following twin objectives, viz.

(i) to protect interests of consumers (by ensuring adequate choice and affordable tariffs to them by promoting competition and efficiency in the market), and;
(ii) to create incentives for TSPs (by ensuring adequate returns on investment to them).

18. The BU-FAC method is appropriate for determining ceiling tariffs in those markets which are at early stages of maturity and where level of competition is inadequate. In view of the fact that (i) the TSPs in the country are still in the process of building transmission networks, (ii) different parts of the DLC market are at different stages of maturity and (iii) a substantial part of the market is witnessing lack of adequate competition, the Authority has decided to continue to use BU-FAC method for computation of ceiling tariffs for DLCs in the present exercise.

(3) Need for separate ceiling tariffs for trunk segment and local lead

19. In the present consultation process, majority of the TSPs and their industry associations have opposed introduction of separate ceiling tariffs for local lead and trunk segment of DLC for the following reasons:
(i) Most of the TSPs have integrated networks and there is no demarcation between local lead and trunk segment.

(ii) Provisioning of DLC is done end-to-end and, therefore, separate ceiling tariffs may put the customers in disadvantageous position during negotiation of rates.

20. On the other hand, some stakeholders including a few TSPs have favoured a regime in which separate ceiling tariffs for local lead and trunk segment are prescribed since the underlying cost of setting up local lead is generally higher than that for trunk segment.

21. Based on the comments of the stakeholders and further discussions with them, it has been observed that in the today's DLC market, customers, generally, seek an end-to-end solution from TSPs. Accordingly, the Authority has decided to prescribe ceiling tariffs for end-to-end DLCs.

(4) Need for separate ceiling tariffs for remote and hilly areas

22. Through the TTO (36th Amendment), 2005, the Authority had prescribed ceiling tariffs for P2P-DLCs regardless of the location of the end-points of the DLC. Thus no separate ceiling tariff for remote and hilly areas was prescribed.

23. In the present consultation process, many TSPs and their industry associations have opined that in case the Authority feels that there is a lack of adequate competition in the DLC segment in remote and hilly areas such as Assam, North East and Jammu & Kashmir, it should regulate the tariffs for DLCs for such areas only and should leave

tariffs for DLCs in the remaining areas under forbearance. They have also stated that there should be a clear classification of remote and hilly areas; further, the Authority should recommend some fiscal/ regulatory incentives to encourage more investments and easy entry in such areas.

24. On the other hand, many stakeholders including a few TSPs, one of their industry association and an individual have opposed prescription of separate ceiling tariffs for remote and hilly areas. One industry association has stated that the Authority should follow the 'death of distance concept' for DLCs in line with other segments such as carriage charge.

25. The Authority examined the issue carefully and observed that the lack of adequate competition is not limited only to some specific geographical regions such as Assam, North East and Jammu & Kashmir but is also prevalent in pockets of Himachal Pradesh, Uttarakhand, Jharkhand, Bihar, Madhya Pradesh etc. and in small cities of the country. Any attempt to classify such areas would essentially be a challenging task. Further, while 'higher' ceiling tariffs for DLCs for areas characterized by low level of competition are likely to discourage customers from subscribing DLCs in such areas, 'lower' ceiling tariffs are likely to disincentivize the TSPs who chose to invest there. Besides, dissimilar ceiling tariffs on the basis of geography would run counter to the principle followed by the Authority in prescription of uniform interconnection usage charges, ceiling tariff for national roaming service, tariffs for rural wire-line services etc. in the country.

26. Further, based on the information submitted by the NLDOs, who are present in North East and Assam, it has been observed that the present capital cost of setting up an OFC system in such areas is more or less same as that in the remaining parts of the country. In view of the above, the Authority has decided to continue with the practice of prescribing ceiling tariffs for DLCs regardless of the location of the end points of the DLC.

(5) Which capacities of P2P-DLCs should be under tariff regulation?

27. Through the TTO (36th Amendment), 2005, the Authority had prescribed ceiling tariffs for DLCs of 64 kbps, 128 kbps, 256 kbps, E1 (2 Mbps), DS3 (45 Mbps) and STM-1 (155 Mbps) capacities.

28. In the present consultation process, the stakeholders have expressed a wide range of views on the issue of 'which capacities of P2P-DLCs should be under tariff regulation'. Nevertheless, there is a near consensus on leaving the tariffs for P2P- DLCs of 'below 2 Mbps' capacity under forbearance. Because, in their opinion, 2 Mbps is, generally, the minimum capacity being offered in the present market for P2P-DLC.

29. Many TSPs have opined that in case the ceiling tariffs for DLCs need to be prescribed, capacities of E1, DS-3, STM-1, STM-4, STM-16, STM-64 and 10 Gbps may be considered. One TSP has stated that ceiling tariffs for 64 Kbps, 128 kbps, 1 Mbps, 4 Mbps, 8 Mbps, 10 Mbps, 16 Mbps, 34 Mbps, 100 Mbps, 1 Gbps should also be prescribed.

30. Based on the information on revenue from P2P-DLCs in the F.Y. 2012-13 submitted by the TSPs and their inputs during the consultation process, the following observations have emerged:
(i) The market for P2P-DLCs of 'below 2Mbps' capacities is very small (less than 2%) and is on a constant decline.

(ii) Most of the P2P-DLC market comprises DLCs of capacities in the range of E1 (2 Mbps) to STM-4 (622 Mbps).

(iii) The market for P2P-DLCs of capacities greater than STM-4 is competitive due to high deal size. Besides, demand for DLCs of such high capacities is mainly on the dense routes where competition is vigorous.

31. In view of (i) very small demand for P2P-DLCs of 'below 2Mbps' capacities and (ii) presence of high level of competition on the routes on which P2P-DLCs of capacities greater than STM-4 capacity are generally sought by the customers, the Authority has decided to prescribe ceiling tariffs for only E1, DS-3, STM-1 and STM-4 capacities. Though the tariffs for higher capacities (>STM-4) have been kept under forbearance, the Authority is of the view that the ceiling tariffs for DLCs of STM-4 capacity would act as a reference point for the tariffs for DLCs of higher capacities and the customers would be able to get better tariffs owing to competition in the market for higher capacities.

(6) Distances for which ceiling tariffs should be prescribed

32. Through the TTO (36th Amendment), 2005, the Authority had prescribed ready- reckoner ceiling tariffs for DLCs for distances from 5 Km2 to 500 Km in the interval of 5 Km and for distance 'greater than 500 Km' (>500 Km). The ceiling tariffs for DLCs of intermediate distances were to be computed on pro-rata basis.

33. In the present consultation process, most TSPs have favoured the existing practice of prescription of ceiling tariffs for distances from 5 Km to 500 Km and for >500 Km. On the other hand, some stakeholders, including a few TSPs, have opined that ceiling tariffs for higher distances should also be specified. A few TSPs have stated that lower distance intervals such as 5 Km or 10 Km should be used for distances up-to 50 Km and higher distance intervals such as 50 Km should be used for distance above 50 Km.

34. Based on the comments of the stakeholders and further analysis, the Authority, in the present exercise, has decided to prescribe ceiling tariffs for DLCs from 5 Km3 to 500 Km and for >500 Km. With a view to help simplify the DLC tariff cards of TSPs,

2For DLCs of DS-3 and STM-1 capacities, the minimum distance band was 'less than 50 Km' (<50 Km) in the TTO (36th Amendment), 2005.

3	For the DLCs of DS-3, STM-1 and STM-4 capacities, the minimum distance band has been kept as 'less

than 50 Km' (<50 Km) in the present exercise.

ready-reckoner ceiling tariffs for DLCs have been prescribed for the distances given in the following table:

Table-1: Distances for which ready-reckoner ceiling tariffs for DLCs have been prescribed through this Amendment Order

S. No.	**Capacities of P2P-DLC**	**Distances**
1	E1	5 Km, 10 Km to 100 Km (in a distance interval of 10 Km), 100 Km to 500 Km (in a distance interval of 50 Km), >500 Km
2	DS-3, STM-1 and STM-4	<50 Km, 50 Km to 100 Km (in a distance interval of 10 Km), 100 Km to 500 Km (in a distance interval of 50 Km), >500 Km

35.	The ceiling tariffs for DLCs of distances, lying in between the distances for which

ceiling tariffs for DLCs have been specified in the Annexure to the Schedule IV of this Amendment Order, shall continue to be computed on pro-rata basis.

(7) Relevance of separate ceiling tariffs for MLLN based DLCs

36. Through the Telecommunication Tariff (38th Amendment) Order, 2005, separate ceiling tariffs for DLCs of 64 kbps, 128 kbps and 256 kbps capacities provided on Managed Leased Line Network (MLLN) technology utilizing Versatile-MUX and Transit Stations were specified. Presently, a couple of TSPs use MLLN technology to offer DLCs with improved quality-of-service (QoS), availability and reliability. Generally, MLLN technology is used for providing DLCs of capacities 'below 2 Mbps'.

37. In the present consultation process, most stakeholders opined that there is no need for separate ceiling tariffs for MLLN based DLCs. One TSP stated that MLLN technology is used for delivery of 'below 2 Mbps' capacities; the market for P2P-DLCs of 'below 2 Mbps' capacities is very small and, therefore, there is no requirement for prescription of separate ceiling tariffs for MLLN based DLCs.

38. On the other hand, two TSPs, who provide MLLN based DLCs in the country, have opined that MLLN based DLCs are premium services because these facilitate last mile monitoring and thereby provision of service level agreements (SLAs) with the end- customers and, therefore, a higher ceiling tariff for MLLN based DLCs should be considered.

39. The Authority, in the present exercise, has already decided to forbear the tariffs for DLCs of 'below 2 Mbps' capacities. In view of the fact that MLLN based DLCs are, generally, offered for capacities 'below 2 Mbps', requirement for separate ceiling tariffs for MLLN based DLCs does not arise.

(8) Need for bringing VPNs such as MPLS-VPNs under tariff regulation

40. Through the TTO (36th Amendment), 2005, the Authority had prescribed ceiling tariffs for P2P-DLCs. In the intervening period since the year 2005, new methods of provisioning DLCs such as Virtual Private Network (VPN) have emerged. While a P2P-DLC is offered on the basis of capacity and distance, a VPN is offered solely on the basis of capacity. Thus, the tariff regime prescribed by the Authority through the TTO (36th Amendment), 2005 was not directly applicable on the VPNs. As a result, the tariffs for VPNs were not regulated.

41. Upon the issue of bringing VPNs under tariff regulation, most TSPs and their industry associations have opined that there is no need to regulate tariffs for DLCs which are provided in the form of VPNs. They have cited following reasons in support of their view:
(i) VPN is a managed and customized service in which TSPs take full responsibility for providing and managing total solution to the customer unlike a P2P-DLC which provides merely a committed capacity to the customer.

(ii) Determining cost based ceiling tariffs for VPNs would be extremely challenging in view of the fact that -

(a) VPNs have many variants e.g. L2-MPLS, L3-MPLS, P2P-VPLS, P2MP- VPLS4 etc.

(b) The customers seek several network topologies to route their traffic e.g. hub and spoke, point-to-point, mesh etc.

(c) There are numerous commercial considerations for provisioning VPNs e.g. number of customer ports, redundancy required in the last mile, backbone network, overall volume of business etc.

42. Many TSPs have stated that VPN market is adequately competitive; there have been no signs of market failure and, therefore, there is no need of any regulatory intervention in this market at this stage. One TSP has contended that since VPN technology is constantly evolving, it should be left to the market forces to enable such innovation and advancement. On the other hand, some stakeholders including a few TSPs have argued in favour of bringing VPNs under tariff regulation.

43. In view of the comments of the stakeholders and analysis of tariffs for VPNs offered by the TSPs, the Authority has observed the following facts:
(i) VPN technology is, presently, in a stage of continuous improvement and innovation.

(ii) Unlike P2P-DLC market which is predominantly commanded by a limited number of large TSPs who possess their own transmission infrastructure (primarily built upon OFC), VPN market is fairly competitive owing to the presence of many other small-sized TSPs (apart from the large TSPs who possess their own transmission infrastructure). These small-sized TSPs lease- in transmission bandwidths from the owners of transmission infrastructure on major routes and provide customized VPN solutions to the end customers.

(iii) VPNs are preferred choice of knowledge based enterprises such as financial institutions where deal sizes are substantially high and competition is sufficient.

4L2-MPLS, L3-MPLS, P2P-VPLS, P2MP-VPLS are abbreviations of Layer 2 - Multi Protocol Label Switching, Layer 3 - Multi Protocol Label Switching, Point to Point - Virtual Private LAN Service and Point to Multi Point - Virtual Private LAN Service respectively.

44. In view of the above, the Authority has decided, for the time being, not to bring VPNs under tariff regulation. However, the Authority is of the opinion that a downward revision of ceiling tariffs for P2P-DLCs would result in a reduction of input costs for the TSPs who lease-in transmission bandwidths from other TSPs for providing VPNs and it is expected that such reduction in input costs would be passed on to the customers by way of lowering of tariffs for VPNs.

C- Methodology for determination of ceiling tariffs for DLCs

45. For computation of ceiling tariffs for DLCs, which were prescribed through TTO (36th Amendment), 2005, the Authority had used the following methodology:
(i) The underlying cost base was developed using an OFC system.

(ii) BU-FAC method was used to compute the ceiling tariffs for DLCs using present cost of setting up an OFC system. This method is equivalent to calculating full replacement cost of the OFC system.

(iii) The capital cost of the underlying OFC system was considered to be comprising three cost categories viz.

(a) Fixed Cost (capital cost of terminal equipment)
(b) Semi-variable Cost (capital cost of repeaters at a distance interval of 50 Km)
(c) Variable Cost (capital cost of OFC per Km)
(iv)
For computing the average capital cost of OFC per Km, the proportion of bituminous soil and non-bituminous soil was considered to be 15:85.

(v) The second lowest of capital costs provided by the TSPs in each cost category was used as normated cost.

(vi) The capital cost of OFC was amortized over 1.5 systems (i.e. amortization factor =1.5) as the average number of lit fiber pairs in OFC was considered to be 1.5.

(vii) The annual capital expenditure (Annual CAPEX) for the three cost categories was computed on the basis of (a) return on capital employed (ROCE)

@13.93% and (b) annual depreciation based on useful lives of terminal equipment, repeater and OFC separately.

(viii)Annual operating cost (Annual OPEX) for the three cost categories was considered to be equal to 10% of the capital costs of the respective cost categories.

(ix) For computation of ceiling tariffs for DLCs of E1, DS-3 and STM-1 capacity, the following benchmark capacity of underlying OFC system, percent capacity utilization and factor of use were considered:

Table-2: Benchmark capacity, percent capacity utilization and factor of use used in the tariff review exercise held in the year 2005

S. No.	**Capacity of a DLC**	**Benchmark capacity of underlying OFC system**	**Percent capacity utilization of underlying OFC system**	**Factor of use = No. of circuits per underlying OFC system**
1	**STM-1**	STM-4	40%	4
2	**DS-3**	STM-4	35%	12
3	**E1**	STM-1	50%	63

46.	(x)	License fee of 10% was considered.
	Based on the comments and inputs of the stakeholders and further analysis thereof,	

the Authority, in the present exercise, has decided to use methodology similar to the one which was used for computation of ceiling tariffs for DLCs in the review exercise held in the year 2005 with minor changes wherever necessary. The following paragraphs describe the methodology used in the present exercise.

(1) Cost basis for computation of ceiling tariffs

47. As outlined before, the Authority, in the present exercise, has decided to continue to use BU-FAC method for computation of ceiling tariffs for DLCs of E1, DS-3 and STM- 1 capacity and to use the cost of OFC system as the underlying base in view of the fact that OFC is still the most widely used transmission system and, therefore, its cost provides a rational justification for deriving the ceiling tariffs for DLCs.

48. Similar to the last tariff review exercise held in the year 2005, the Authority, in the present exercise, has considered the cost of the underlying OFC system to be made up of three cost categories viz. -
(i) Fixed Cost [i.e. present capital cost of terminal equipment (including accessories and associated powering and housing infrastructure) and annual operating cost thereof],
(ii) Semi-variable Cost [i.e. present capital cost of repeater (including accessories and associated powering and housing infrastructure) which would be incurred after a distance interval of 50 Km and annual operating cost thereof] and (iii) Variable Cost [i.e. present capital cost of OFC, High Density Polyethylene (HDPE) pipe, trenching and cable laying, project management, accessories and other related costs per Km and annual operating cost thereof]

49. Fixed Costs are the costs which are independent of distance. Semi-variable Costs are the costs which change after a specified distance (50 Km, in the present case) but remain unchanged within the distance interval. Variable Costs are directly linked to the distance covered.

50. An end-to-end DLC, generally, has to pass through both the city/town area, which is predominantly bituminous soil area, and highways, which are predominantly soft soil areas. The cost of laying cables in the two types of areas differs on account of difference in (i) charges for right of way (ROW) and (ii) cost of trenching and cable laying. Therefore, a proportion of the two soil types has to be assigned when costing the end-to-end DLC. The Authority, in the present exercise, has computed the cost

of OFC per Km on the basis of proportion of bituminous soil and non-bituminous soil **as submitted by the TSPs.**

(2) Computation of average cost of transmission equipment and OFC

51. In the present exercise, the Authority obtained information on transmission infrastructure to provide DLCs from both NLDOs and ASPs in the country. These TSPs were asked to furnish information on both historical costs and present costs of setting up transmission infrastructure. In view of the fact that most of the TSPs are still in the process of laying OFC in the country, the present cost of OFC system has been used for computation of ceiling tariffs for DLCs.

52. It is understood that the ASPs have built their transmission networks primarily to transport voice, SMS and data traffic originated from their telephony subscribers and have used the spare capacities of their transmission networks to provide DLCs. In F.Y. 2012-13, Adjusted Gross Revenue (AGR) from DLC business for the ASPs accounted for only about 2% of total AGR for the ASPs in the country. On the other hand, AGR from DLC business for the NLDOs accounted for about 24% of total AGR for the NLDOs in the country. It is worth noting that the market share of NLDOs in the DLC segment is about 72%. Based on the above and further analysis, the costs of only NLDOs have been considered in the present exercise. Further, costs of only those NLDOs have been considered who possess their own transmission infrastructure in the country.

53. Upon analysis of the information on transmission infrastructure to provide DLCs furnished by the TSPs, the Authority observed significant variations in the costs of NLDOs. One possible reason for the variation in costs could be that the NLDOs are at various stages of maturity, market penetration and, most importantly, the geography they operate in. The Authority observed that choosing costs of any one NLDO as the basis for computation of ceiling tariffs for DLCs would not be justified. In the tariff review exercise held in the year 2005, the second lowest cost for each cost element was considered. However, in the present exercise, the Authority has considered the

average of the costs submitted by the NLDOs (after excluding the outliers) as it better reflects the cost structure of an average NLDO. For determination of outliers from data sets, a statistical tool called 'Box Plot' has been used. The following table presents the average present capital cost and annual operating cost per terminal equipment of various capacities.

Table-3: Average present capital cost and annual operating cost per terminal equipment

Terminal Equipment	**Average cost per Terminal Equipment (in Rs.)**	
	Present capital cost	**Annual operating cost**
STM-1	90,382	23,975
STM-4	240,766	45,016
STM-16	528,270	85,877

54.	The information on annual operating costs of terminal equipment furnished by a few

NLDOs was not amenable for analysis for a number of reasons like information not furnished in the manner sought by the Authority, inconsistencies in the furnished data etc. and, therefore, such information had to be excluded while deriving the average annual operating costs.

55. In digital transmission systems, repeaters are used to regenerate signals attenuated by transmission losses after a specific distance. As per the discussions held with the TSPs, repeaters in OFC systems are, generally, used at a distance interval of 50 Km. Generally, the cost of repeaters (including accessories and associated powering and housing infrastructure) in SDH systems is comparable with the cost of terminal

equipment	(including	accessories	and	associated	powering	and	housing

infrastructure). In the present exercise, the benchmark capacity of the underlying OFC systems has been considered to be SDH system such as STM-1, STM-4 and STM-16 and, therefore, average present cost and average annual operating cost of

repeater have been considered to be the same as the average present cost and average annual operating cost respectively of terminal equipment.

56. The following table presents the average present capital cost and annual operating cost of OFC per Km based on the information furnished by the NLDOs.

Table-4: Average present capital cost and annual operating cost of OFC per Km

Item	**Average cost per Km (in Rs.)**
Present capital cost of OFC	739,530
Annual operating cost of OFC	10,999

57.	**(3)**	**Computation of annual costs of transmission equipment and OFC**
	While most of the stakeholders have opined that a return on capital employed	

(ROCE) of 13% to 15% would be appropriate, a few stakeholders have stated that a higher ROCE (in the range of 15.93% to 25%) should be considered for reasons such as increased risk in the telecom business environment, increased cost of capital and debts etc. It is noteworthy that the Authority has made use of ROCE @ 15% in various costing and valuation exercises conducted in the recent past. After analyzing the comments of the stakeholders, the Authority has decided to consider ROCE @ 15% (in place of 13.93% used in the previous tariff review exercise held in the year 2005) for computation of annual costs of the various cost categories. Further, on the basis of the comments and inputs of the stakeholders, the Authority has decided to continue to consider the useful lives of transmission equipment and OFC as 8 years and 18 years

respectively and thus rates of annual depreciation using straight line method (SLM) of 12.5% and 5.56% have been used for transmission equipment and OFC respectively. Accordingly, the Annual cost of terminal equipment and OFC has been computed as below:

(i) Annual cost of terminal equipment

= {(15% + 12.5%) * Average present cost per terminal equipment} +

Average annual operating cost per terminal equipment

(ii) Annual cost of OFC per Km

= {(15% + 5.56%) * Average present cost of OFC per Km} + Average annual

operating cost of OFC per Km

(4) Computation of Annual Fixed Cost per unit, Annual Semi-Variable Cost per unit and Annual Variable Cost per Km for computation of ceiling tariffs for DLCs of various capacities

58. Based on the comments of stakeholders and further analysis, the Authority has observed the following facts:

(i) The local leads are generally of upto 50 Km length beyond which the DLCs are transported through the trunk segment.

(ii) While underlying capacity in trunk segment is high, the underlying capacity in the local lead is relatively lower. Therefore, per unit cost of bandwidth capacity on local lead is relatively higher than per unit cost of bandwidth capacity on trunk segment.

59. In view of the above, the Authority has decided to prescribe the ceiling tariffs for end-to-end DLCs by considering the DLC of 'd' Km distance (in case, 'd' is greater than 100 Km) to be comprising the following -

(i) Two local leads each of 50 Km (Thus a total distance of 100 Km has been considered in the local leads on the two sides.)

(ii) One trunk segment of (d-100) Km

60. The following figure depicts transport of a P2P-DLC of 'd' Km distance (where 'd' is greater than 100 Km) through two points of presence (POP) of a TSP.

Figure-1: Transport of a P2P-DLC of 'd' Km, where 'd' > 100 Km

Trunk Segment of (d-100) Km
POP of TSP POP of TSP

Local lead Local lead (50 Km) (50 Km)

Customer Customer Office-A Office-B

61. On the other hand, a DLC of distance less than or equal to 100 Km (≤ 100 Km) has been considered to be comprising two local leads connected from a POP as depicted in the following figure:

Figure-2: Transport of a P2P-DLC of 'd' Km, where 'd' ≤ 100 Km

POP of TSP

Local lead Local lead
(Upto 50 Km) (Upto 50 Km)

62.	Customer Office-A	Customer Office-B
	Presently, most NLDOs have deployed OFC systems that contain 18 fibers or more.	

The NLDOs are, generally, able to light multiple pairs of fiber on any route. On the basis of the comments and inputs of the stakeholders and further analysis, the Authority has decided to consider average number of lit fiber pairs (i.e. amortization factor of Variable Cost) in the local lead and trunk segment as 4 and 3 respectively.

63. Based on the information on transmission infrastructure used to provide DLCs furnished by the NLDOs and further discussions with them, it has been observed that most NLDOs have built their core transmission networks using Dense Wavelength Division Multiplexing (DWDM) systems, in which capacity of a lit fiber is, generally, of the order of 100Gbps. On the other hand, in the aggregation network, metro networks and access networks, the fiber pairs have been lit with STM-64 (10 Gbps), STM-16 (2.5 Gbps) and STM-4 (622 Mbps) capacities depending upon the demand. However, based on the comments and inputs of the stakeholders in the present consultation process

and further analysis, the Authority, has adopted a conservative approach while considering benchmark capacities of the underlying OFC system in order to compute the ceiling tariffs for DLCs of various capacities. The following table presents the benchmark capacity of underlying OFC systems considered, in the present exercise, for computation of the ceiling tariffs for DLCs.

Table-5: Benchmark capacity of underlying OFC system
for computation of ceiling tariffs for DLCs of various capacities

Capacity of DLC	**Benchmark capacity of underlying OFC system**	
	For distance upto 100 Kms (50 Kms at each end)	**For distance >100 Kms**
E1 (2 Mbps)	STM-1	STM-4
DS-3 (45 Mbps)	STM-4	STM-16
STM-1 (155 Mbps)	STM-4	STM-16

64.	For example, the underlying OFC system for computation of ceilings tariffs for DLCs

of E1 capacity is a fiber pair lit with STM-1 capacity in local leads and STM-4 capacity in trunk segment.

65. For computation of ceiling tariffs for DLCs of various capacities viz. E1, DS-3 and STM-1, the allowance for capacity utilization and redundancy is necessary for full cost recovery. For this purpose, similar to the tariff review exercise held in the year 2005, the percent capacity utilizations of 50%, 35% and 40% of the underlying OFC

system have been considered for computation of ceiling tariffs for E1, DS-3 and STM-1 capacities respectively in the present exercise also.

66. Further, in the present exercise, the Authority has considered same factor of use (i.e. number of circuits in the underlying OFC system) as that considered in the tariff review exercise held in the year 2005. For example, the factor of use for computation of ceilings tariffs for DLCs of E1 capacity is 63 in local lead (where underlying OFC system is STM-1) and 63*4 = 252 in trunk segment (where underlying OFC system is STM-4).

67. The following table summarizes the amortization factor of Variable Cost, percent capacity utilization and factor of use of the underlying OFC system.

Table-6: Amortization factor of Variable Cost, percent capacity utilization and factor of use of underlying OFC system for computation of ceiling tariff for DLCs of various capacities

Capacity of DLC	**For the first 100 Km of DLC**				**For the remaining distance of DLC i.e. (d-100) km**			
	Amortization factor of Variable Cost = No. of lit fiber pairs in the OFC	**Benchmark capacity of underlying OFC system**	**Percent capacity utilization of underlying OFC system**	**Factor of use = No. of circuits in underlying OFC system**	**Amortization factor of Variable Cost = No. of lit fiber pairs in the OFC**	**Benchmark capacity of underlying OFC system**	**Percent capacity utilization of underlying OFC system**	**Factor of use = No. of circuits in underlying OFC system**
E-1	4	STM-1	50%	63	3	STM-4	50%	63*4 = 252
DS-3	4	STM-4	35%	12	3	STM-16	35%	12*4 = 48
STM-1	4	STM-4	40%	4	3	STM-16	40%	4*4 = 16

68.	Annual Fixed Cost per unit and Annual Semi-variable Cost per unit in trunk segment

and local lead have been computed on the basis of percent capacity utilization and factor of use of the underlying OFC system. Further, Annual Variable Cost per Km in trunk segment and local lead have been computed on the basis of the percent capacity utilization and factor of use of the underlying OFC system apart from the

amortization factor of Variable Cost. The computation of the above costs has been

carried out in the following manner:

(i) Annual Fixed Cost per unit

= _Annual cost of terminal equipment_

(Percent capacity utilization * factor of use)

(ii) Annual Variable Cost per Km

= _____Annual cost of OFC per Km_____

(Amortization factor of Variable Cost*Percent capacity utilization*factor of use)

69. These costs, for determination of ceiling tariffs for DLCs of various capacities, have

been computed as below:

Table-7: Annual Costs in various categories

for determination of ceiling tariffs for DLCs

Capacity of DLC	Segment	Annual Fixed Cost per unit (in Rs.)	Annual Semi-variable Cost per unit (in Rs.)	Annual Variable Cost per Km (in Rs.)
E1	Local lead (First 100 Km)	1,550	1,550	1,294
	Trunk segment (Remaining distance)	883	883	431
DS-3	Local lead (First 100 Km)	26,483	26,483	9,703
	Trunk Segment (Remaining distance)	13,759	13,759	3,234
STM-1	Local lead (First 100 Km)	69,517	69,517	25,471
	Trunk segment (Remaining distance)	36,117	36,117	8,490

(5)	Computation of distance based ceiling tariffs for DLCs of E1, DS-3

and STM-1 capacities

70. On the basis of Annual Fixed Costs per unit, Annual Semi-variable Costs per unit and

Annual Variable Costs per Km for the two segments, distance based ceiling tariffs for

DLCs of E1, DS-3 and STM-1 capacities for various distances have been computed after making provision for expense on License Fee (LF). As per the present licensing regime, LF is 8% of Adjusted Gross Revenue (AGR). Accordingly, in the present exercise, provision for expense on LF @ 8% has been made while computing ceiling tariffs for DLCs as below:

(i) If distance 'd' is less than or equal to 100 Km,
Annual ceiling tariff for DLC of 'x' capacity and of 'd' Km distance (in Rs.) = [2*F1 + F1 + (d*V1)] / (1 – 0.08)

Where F1 andV1 are the Annual Fixed Cost per unit and Annual Variable Cost per Km respectively in local lead for DLC of 'x' capacity

(ii) If distance 'd' is more than 100 Km and less than or equal to 500 Km, Annual ceiling tariff for DLC of 'x' capacity and of 'd' Km distance (in Rs.) = [2*F1 + (100*V1) + 2*F2 + Floor of {(d-100-1)/50}*S2 + (d-100)*V2]/ (1 – 0.08)

Where F1 and V1 are the Annual Fixed Cost per unit and Annual Variable Cost per Km respectively in local lead and F2, S2 andV2 are theAnnual Fixed Cost per unit, Annual Semi-variable Cost per unit and Annual Variable Cost per Km respectively in trunk segment for DLC of 'x' capacity

(6) Ceiling tariffs for DLCs of distances greater than 500 Km

71. The Authority observed that the OFC systems on the key routes covering very long distances are of very high capacities like DWDM with several lambdas (ʎs) and such routes are intensively used. As a result, unit costs on the key routes covering distances greater than 500 Km are very much lower than those derived in the present exercise. Given the large reduction in unit costs on the key routes, the cost based tariffs for distances greater than 500 Km with very high capacities on such routes would be much lower than the ceiling tariffs for 500 Km derived in the present exercise. Therefore, the Authority has decided to prescribe distance-based

ceiling tariffs up-to 500 Km and to apply the ceiling tariff prescribed for 500 Km to distances greater than 500 Km (>500 Km). This is consistent with the methodology adopted in the TTO, 1999 and TTO (36th Amendment), 2005 also. The ceiling tariffs for distance >500 Km have been obtained by way of rounding up the ceiling tariffs for 500 Km distance to the nearest thousand.

(7) Ceiling tariffs for DLCs of STM-4 capacity

72. Through the TTO (36th Amendment), 2005, the ceiling tariffs for DLCs of capacities up-to STM-1 were prescribed. As outlined before, it has been observed that there is ample demand for DLCs of up-to STM-4 capacity in the market and, therefore, the Authority, in the present exercise, has decided to prescribe ceiling tariffs for STM-4 capacity also.

73. It can be seen that there is a ratio of 1 : 4 in the bandwidth capacities of STM-1 and STM-4. With a view to determine the ceiling tariffs for STM-4 capacity on the basis of ceiling tariffs prescribed for STM-1 capacity, the authority took note of the following facts:

(i) There is a ratio of 1 : 3.44 in the bandwidth capacities of DS-3 and STM-1. However, the ratio of the ceiling tariffs for DS-3 and STM-1 capacities for >500 Km distance prescribed through the TTO (36th Amendment), 2005 was 1 : 2.68. The ratio of the ceiling tariffs for DS-3 and STM-1 capacities for >500 Km distance, in the present exercise, is 1 : 2.62. This is in line with the principle of 'economies of scale' i.e. per unit cost reduces with increase in production.

(ii) From the information on base tariffs for DLCs submitted by the TSPs to the Authority, it can be seen that most of the TSPs use a multiplicative factor (i.e. coefficient) of about 2.6 on the base tariffs for STM-1 capacity to derive base tariffs for STM-4 capacity. The following table presents the multiplicative

factors used by the major TSPs to derive base tariff for STM-4 capacity from the base tariffs for STM-1 capacity:

Table-8: Multiplicative factor used by the major TSPs to derive base tariff for STM-4 capacity from the base tariffs for STM-1 capacity

TSP	**Multiplicative factor applied on the base tariff for STM-1 capacity to derive the base tariff for STM-4 capacity**
TSP-1	2.5
TSP-2	2.5
TSP-3	2.5
TSP-4	2.6
TSP-5	2.6
TSP-6	2.6
TSP-7	2.6
TSP-8	3.1
TSP-9	3.1
TSP-10	3.1

(iii)	In the 'International Telecommunication Cable Landing Station Access

Facilitation Charges and Co-location Charges Regulations, 2012' issued by the Authority on 21.12.2012, a multiplicative factor of 2.6 was applied on the Access Facilitation Charge (AFC) for STM-1 capacity in order to determine AFC for STM-4 capacity. This multiplicative factor of 2.6 was used keeping in mind (i) the economies of scale for higher capacities and (ii) prevailing multiplicative factor used in the DLC market.

74. In view of the above facts and further analysis, the Authority has decided to apply a multiplicative factor of 2.6 on the ceiling tariffs prescribed for DLCs of STM-1 capacity to determine the ceiling tariffs for DLCs of STM-4 capacity. Thus –
Ceiling tariff for DLC of STM-4 capacity and 'd' distance = 2.6 * Ceiling tariff prescribed for DLC of STM-1 capacity and 'd' distance

(8) Ceiling tariffs for DLCs of distances less than 50 Km for DS-3, STM-1 and STM-4 capacity

75. As discussed before, the minimum distance band for ceiling tariffs for DLCs of DS-3, STM-1 and STM-4 capacities have been kept as 'less than 50 Km' (<50 Km). The ceiling tariffs for DLCs of DS-3, STM-1 and STM-4 capacities for <50 Km distance have been obtained by way of rounding down the ceiling tariffs for DLCs of respective capacities for 50 Km distance to the nearest thousand.

D- Mandatory provision of DLCs

76. Similar to the last tariff review held in the year 2005, the Authority has specified that DLCs must be provided wherever capacity is available, and when such capacity is not available it should be provided on Rent and Guarantee Basis/ Special Construction/ Contribution Basis. All service providers are required to report to the Authority the commercial and economic basis of their terms and conditions with respect to Rent and Guarantee/ Special Construction/ Contribution basis etc. schemes, under the provision of the Telecommunication Tariff Order, 1999 relating to reporting requirement. Service providers may offer discounts on the ceiling tariffs. Discounts, if offered, shall be transparent and non-discriminatory, based on a laid down criteria and subject to reporting requirement.

E- Ceiling tariffs for end-links

77. As outlined in the Explanatory Memorandum of the TTO (36th Amendment), 2005, end-link (or local lead) is a circuit between subscriber's premises and the nearest Short Distance Charging Center (SDCC). Similar to the last tariff review exercise held in the year 2005, the Authority has specified that the first option for charging for end-links shall be as per the ceiling tariffs for DLCs specified in item (3) of Schedule IV of this Order. In case, such leasing is technically not possible, then tariffs could be on Rent and Guarantee Basis/ Special Construction/ Contribution basis i.e. on the basis of mutual agreement between the parties concerned about the extent of

contribution to costs that will be made by the party leasing the circuits. The Authority is of the view that such provisions should be invariably based upon costs and the terms and conditions need to be fair, just, reasonable and transparent. The providers of DLCs shall submit to the Authority the commercial and economic basis of various terms and conditions of the above-mentioned schemes including but not limited to the cost of capital, life of assets used, depreciation norms adopted with respect to their agreement with the customers as part of the reporting requirement mandated under the TTO, 1999. Besides, the providers of DLCs shall also make these terms and conditions known to the customers in a transparent manner.

F- Tariffs for E1/R2 Links for ISPs

78. Tariff for E1/R2 ports for ISPs has been incorporated in item (5) of Schedule IV of this Order. The overall tariff for E1/R2 ports for ISPs shall contain the following components, namely, Port charges and tariff for DLC/ end-link. As stated in the Explanatory Memorandum to the TTO (36th Amendment), 2005, Port charges are relevant in case of E1/R2 links to ISPs also, as the same direct costs are involved in this situation.

79. The Authority has specified Port charges in the Telecommunication Interconnection (Port Charges) Regulation 2001 dated 28.12.2001 as amended from time to time. The last amendment in these regulations was carried out through the

Telecommunication	Interconnection	(Port	Charges)	(Second	Amendment)

Regulations, 2012 dated 18.09.2012.

G- Review

80. The tariff regime, prescribed in this Amendment Order will be subject to review by the Authority after a period of three years. The Authority will closely monitor the implementation of the regime and, in particular, its impact on competition and consumer interests and may intervene, if necessary, in the interim period.

TELECOM REGULATORY AUTHORITY OF INDIA
THE TELECOMMUNICATION TARIFF (FIFTY EIGHTH AMENDMENT) ORDER, 2014
No. 7 of 2014
NOTIFICATION
New Delhi, the 1st August, 2014

No. 312-2/2013-F&EA — In exercise of the powers conferred upon it under sub-section (2) of section 11, read with sub-clause (i) of clause (b) of sub-section (1) of the said section, of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), the Telecom Regulatory Authority of India hereby makes the following Order further to amend the Telecommunication Tariff Order, 1999, namely:-

1. (1) This Order may be called the Telecommunication Tariff (Fifty Eighth Amendment) Order, 2014.

(2) This Order shall come into force on the 1st day of August, 2014.

2. In Schedule IV of the Telecommunication Tariff Order, 1999, in the Annexure, in Table-II, under column 'Ceiling tariff for DS-3 (45 Mbps)', --
(a)for the figure "584,000", the figure "613,000";
(b)for the figure "584,919", the figure "613,704";
(c) for the figure "690,388", the figure "719,174";
(d)for the figure "795,858", the figure "824,643";
(e)for the figure "901,327", the figure "930,113";
(f) for the figure "1,006,797", the figure "1,035,582"; and
(g)for the figure "1,112,267", the figure "1,141,052" --
shall be substituted.

(Manish Sinha)
Advisor (F&EA)

Note.1. – The Telecommunication Tariff Order, 1999 was published in the Gazette of India, Extraordinary, Part III, Section 4 under notification No.99/3 dated 9th March, 1999, and

subsequently amended as given below:

Amendment No.	**Notification No. and Date**
1st	301-4/99-TRAI (Econ) dated 30.3.1999
2nd	301-4/99-TRAI(Econ) dated 31.5.1999
3rd	301-4/99-TRAI(Econ) dated 31.5.1999
4th	301-4/99-TRAI(Econ) dated 28.7.1999
5th	301-4/99-TRAI(Econ) dated 17.9.1999
6th	301-4/99-TRAI(Econ) dated 30.9.1999
7th	301-8/2000-TRAI(Econ) dated 30.3.2000
8th	301-8/2000-TRAI(Econ) dated 31.7.2000
9th	301-8/2000-TRAI(Econ) dated 28.8.2000
10th	306-1/99-TRAI(Econ) dated 9.11.2000
11th	310-1(5)/TRAI-2000 dated 25.1.2001
12th	301-9/2000-TRAI(Econ) dated 25.1.2001
13th	303-4/TRAI-2001 dated 1.5.2001

14th	306-2/TRAI-2001 dated 24.5.2001
15th	310-1(5)/TRAI-2000 dated 20.7.2001
16th	310-5(17)/2001-TRAI(Econ) dated 14.8.2001
17th	301/2/2002-TRAI(Econ) dated 22.1.2002
18th	303/3/2002-TRAI(Econ) dated 30.1.2002
19th	303/3/2002-TRAI(Econ) dated 28.2.2002
20th	312-7/2001-TRAI(Econ) 14.3.2002
21st	301-6/2002-TRAI(Econ) dated 13.6.2002
22nd	312-5/2002-TRAI(Eco) dated 4.7.2002
23rd	303/8/2002-TRAI(Econ) dated 6.9.2002
24th	306-2/2003-Econ dated 24.1.2003
25th	306-2/2003-Econ dated 12.3.2003
26th	306-2/2003-Econ dated 27.3.2003
27th	303/6/2003-TRAI(Econ) dated 25.4.2003
28th	301-51/2003-Econ dated 5.11.2003
29th	301-56/2003-Econ dated 3.12.2003
30th	301-4/2004(Econ) dated 16.1.2004
31st	301-2/2004-Eco dated 7.7.2004
32nd	301-37/2004-Eco dated 7.10.2004

33rd	301-31/2004-Eco dated 8.12.2004
34th	310-3(1)/2003-Eco dated 11.3.2005
35th	310-3(1)/2003-Eco dated 31.3.2005
36th	312-7/2003-Eco dated 21.4.2005
37th	312-7/2003-Eco dated 2.5.2005
38th	312-7/2003-Eco dated 2.6.2005
39th	310-3(1)/2003-Eco dated 8.9.2005
40th	310-3(1)/2003-Eco dated 16.9.2005
41st	310-3(1)/2003-Eco dated 29.11.2005
42nd	301-34/2005-Eco dated 7.3.2006
43rd	301-2/2006-Eco dated 21.3.2006
44th	301-34/2006-Eco dated 24.1.2007
45th	301-18/2007-Eco dated 5.6.2007
46th	301-36/2007-Eco dated 24.1.2008
47th	301-14/2008-Eco dated 17.3.2008

48th	301-31/2007-Eco dated 1.9.2008
49th	301-25/2009-ER dated 20.11.2009
50th	301-24/2012-ER dated 19.4.2012
51st	301-26/2011-ER dated 19.4.2012
52nd	301-41/2012-F&EA dated 19.09.2012
53rd	301-39/2012-F&EA dated 1.10.2012
54th	301-59/2012-F&EA dated 05.11.2012
55th	301-10/2012-F&EA dated 17.06.2013
56th	301-26/2012-ER dated 26.11.2013
57th	312-2/2013-F&EA dated 14.07.2014

Note.2. – The Explanatory Memorandum explains the objects and reasons for the Telecommunication Tariff (Fifty Eighth Amendment) Order, 2014.

Explanatory Memorandum

This Order is being issued to rectify the typographical errors under the column 'Ceiling tariff for DS-3 (45 Mbps)' in the Table-II in the Annexure to the Schedule IV of the Telecommunication Tariff Order, 1999.

TELECOM REGULATORY AUTHORITY OF INDIA

NOTIFICATION

New Delhi, the 21st November, 2014

No. 310-5(2)/2013-F&EA — In exercise of the powers conferred upon it under sub-section (2) of section 11, read with sub-clause (i) of clause (b) of sub-section (1) of the said section, of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), the Telecom Regulatory Authority of India hereby makes the following Order further to amend the Telecommunication Tariff Order, 1999, namely:

THE TELECOMMUNICATION TARIFF (FIFTY NINTH AMENDMENT) ORDER, 2014 No. 8 of 2014

1. (1) This Order may be called the Telecommunication Tariff (Fifty Ninth Amendment) Order, 2014.

2. In clause 7 of the Telecommunication Tariff Order, 1999, in sub-clause (i),---

(a) in the first proviso, after the words ―access provider‖, wherever appearing, the words ―or Internet service provider‖ shall be inserted;

(b) after the second proviso, the following proviso shall be inserted, namely:-

―Provided also that nothing contained under this sub-clause shall apply to any Internet service provider during a financial year if the total number of its subscribers is less than ten thousand on the last day of the preceding financial year‖.

(Manish Sinha)
Advisor (F&EA-I)

Note.1. – The Telecommunication Tariff Order, 1999 was published in the Gazette of India, Extraordinary, Part III, Section 4 under notification No.99/3 dated 9th March, 1999, and subsequently amended as given below:

Amendment No.	**Notification No. and Date**
1st	301-4/99-TRAI (Econ) dated 30.3.1999
2nd	301-4/99-TRAI(Econ) dated 31.5.1999
3rd	301-4/99-TRAI(Econ) dated 31.5.1999
4th	301-4/99-TRAI(Econ) dated 28.7.1999
5th	301-4/99-TRAI(Econ) dated 17.9.1999
6th	301-4/99-TRAI(Econ) dated 30.9.1999
7th	301-8/2000-TRAI(Econ) dated 30.3.2000
8th	301-8/2000-TRAI(Econ) dated 31.7.2000
9th	301-8/2000-TRAI(Econ) dated 28.8.2000

10th	306-1/99-TRAI(Econ) dated 9.11.2000
11th	310-1(5)/TRAI-2000 dated 25.1.2001
12th	301-9/2000-TRAI(Econ) dated 25.1.2001
13th	303-4/TRAI-2001 dated 1.5.2001
14th	306-2/TRAI-2001 dated 24.5.2001
15th	310-1(5)/TRAI-2000 dated 20.7.2001
16th	310-5(17)/2001-TRAI(Econ) dated 14.8.2001
17th	301/2/2002-TRAI(Econ) dated 22.1.2002
18th	303/3/2002-TRAI(Econ) dated 30.1.2002
19th	303/3/2002-TRAI(Econ) dated 28.2.2002
20th	312-7/2001-TRAI(Econ) 14.3.2002
21st	301-6/2002-TRAI(Econ) dated 13.6.2002
22nd	312-5/2002-TRAI(Eco) dated 4.7.2002
23rd	303/8/2002-TRAI(Econ) dated 6.9.2002
24th	306-2/2003-Econ dated 24.1.2003
25th	306-2/2003-Econ dated 12.3.2003
26th	306-2/2003-Econ dated 27.3.2003
27th	303/6/2003-TRAI(Econ) dated 25.4.2003
28th	301-51/2003-Econ dated 5.11.2003
29th	301-56/2003-Econ dated 3.12.2003
30th	301-4/2004(Econ) dated 16.1.2004
31st	301-2/2004-Eco dated 7.7.2004
32nd	301-37/2004-Eco dated 7.10.2004
33rd	301-31/2004-Eco dated 8.12.2004
34th	310-3(1)/2003-Eco dated 11.3.2005
35th	310-3(1)/2003-Eco dated 31.3.2005
36th	312-7/2003-Eco dated 21.4.2005
37th	312-7/2003-Eco dated 2.5.2005
38th	312-7/2003-Eco dated 2.6.2005
39th	310-3(1)/2003-Eco dated 8.9.2005
40th	310-3(1)/2003-Eco dated 16.9.2005
41st	310-3(1)/2003-Eco dated 29.11.2005
42nd	301-34/2005-Eco dated 7.3.2006
43rd	301-2/2006-Eco dated 21.3.2006
44th	301-34/2006-Eco dated 24.1.2007

45th	301-18/2007-Eco dated 5.6.2007
46th	301-36/2007-Eco dated 24.1.2008
47th	301-14/2008-Eco dated 17.3.2008
48th	301-31/2007-Eco dated 1.9.2008
49th	301-25/2009-ER dated 20.11.2009
50th	301-24/2012-ER dated 19.4.2012
51st	301-26/2011-ER dated 19.4.2012
52nd	301-41/2012-F&EA dated 19.09.2012
53rd	301-39/2012-F&EA dated 1.10.2012
54th	301-59/2012-F&EA dated 05.11.2012
55th	301-10/2012-F&EA dated 17.06.2013
56th	301-26/2012-ER dated 26.11.2013
57th	312-2/2013-F&EA dated 14.07.2014
58th	312-2/2013-F&EA dated 01.08.2014

Note.2. – The Explanatory Memorandum explains the objects and reasons for the Telecommunication Tariff (Fifty Ninth Amendment) Order, 2014.

Explanatory Memorandum

1. The clause 7 of the Telecommunication Tariff Order, 1999 (hereinafter referred to as the TTO, 1999) stipulates that all service providers shall comply with the reporting requirement in respect of tariffs specified for the first time and also all subsequent changes; provided that in respect of tariff plans offered by a telecom access provider to bulk customers, such as corporates, small and medium enterprises, institutions, etc. either in response to a tender process or as a result of negotiations between the access provider and such bulk customer, the reporting requirement shall not apply. The reporting requirement has been defined in clause 2 (l) of TTO, 1999 as obligation of a service provider to report to the Authority, any new tariff for telecommunication services and/ or any changes therein within seven working days from the date of implementation of the said tariff for information and record of the Authority after conducting a self-check to ensure that the tariff plan(s) is/are consistent with the regulatory principles in all respects which inter-alia include IUC compliance, non-discrimination and non-predation.

2. With regard to the tariff reporting requirement, Internet Service Providers Association of India (ISPAI) requested the Authority for the following:

(i) Exemption from tariff reporting requirement for small Internet Service Providers (ISPs) as there are large number of small ISPs, who are providing internet services under Category - B or C in a limited manner and they have neither huge subscriber bases nor high revenues.

(ii) Exemption from tariff reporting for the tariffs offered to bulk customers, similar to the one that exists for access service providers for all ISPs.

3. In this regard, the Authority had issued a draft TTO (59th Amendment), 2014 on the 24.09.2014 exempting the small ISPs (having subscribers <10,000)

from the reporting requirement and extending the existing exemption given to access providers in respect of tariff schemes offered to bulk customers in response to a tender process or as a result of negotiations between the access provider and such bulk customer to the ISPs, for comments of the stakeholders to be submitted by the 14.10.2014.

4. Comments have been received by the Authority from 10 stakeholders (3 Industry Associations, 5 TSPs, 1 Consumer association and 1 other). The comments received have already been uploaded on the website of TRAI. The comments received from the stakeholders are summarized as under:

a)Most of the stakeholders have supported the extension of the existing exemption for access providers in respect of tariff schemes offered to bulk customers in response to a tender process or as a result of negotiations between the access provider and such bulk customer to the ISPs.

b)Some of the stakeholders have supported and welcomed the decision of the Authority to exempt the small ISPs from tariff reporting requirement. c)One of the stakeholders has opined that the subscriber criteria for small ISPs with less than 10,000 should be for each licensed service area instead of pan India.

d)One of the stakeholders (ISPAI) has requested that all the category-C ISPs be exempted from reporting requirement irrespective of their number of subscribers.

e)Some of the stakeholders have opined that the tariff reporting requirement should be uniform across all service providers irrespective of the services offered by them/size of their subscriber base. They have also opined that there is no linkage between the number of subscribers of an operator and the regulatory obligation of tariff reporting.

f)Some of the stakeholders have opined that the market is highly competitive which ensures the consumer interest with regard to tariffs is protected; therefore, all the service providers should be exempted from tariff reporting and not just those ISPs with minimum 10,000 subscriber base.

g)One of the stakeholders has opined that there are several consumers' complaints against these small ISPs and therefore, no exemption should be granted to them. It may be noted that the complaints enumerated by the stakeholder are related to quality-of-service, billing, etc., which cannot possible be addressed through reporting of tariff to TRAI.

5. With regard to the issue of exemption of tariff reporting requirement for small ISPs, the Authority took note of the following:

a)The Authority has been relaxing the reporting requirement alongside the evolution of competition in the market. Regulation has moved from a regime where tariffs were to be filed at least five days before the implementation, to the current regulatory regime, in which the tariffs have to be reported within seven working days after implementation.

b)The main objective intended to be achieved through the process of tariff reporting is to have a check on the tariff schemes from the point of view of their being consistent with the regulatory principles in all respects including IUC compliance, non-discrimination and non-predation.

c)On 31.03.2014, there were about 25.2 crore Internet subscribers in the country. Top 10 ISPs command about 97.87% of the entire ISP market, in terms of number of subscribers. Top 18 ISPs have subscriber bases greater than 1 lakh and top 43 ISPs have subscriber bases more than 10,000. The ISPs, who have a subscriber base greater than 10,000, together hold 99.93% of the total ISP market.

d)The small ISPs with subscriber bases less than 10,000, operate in small pockets only and account for just 0.07% of the total ISP market. Given the extent of their scale of operation and market reach, it is quite unlikely that these small-sized ISPs would violate the regulatory principles sought to be achieved by way of tariff reporting, especially in the competitive environment.

e)Exemption from tariff reporting requirement granted to these small ISPs does not mean that the regulatory principles, guidelines, etc. would not

apply to these small ISPs. Keeping in view the small size of operations and resultant turnover of these small ISPs, the Authority feels that such exemption would help them in reducing their compliance costs and once they achieve a subscriber base of 10,000 they will come under the ambit of tariff reporting requirement.

6. After detailed deliberations and further examination, the Authority has decided the following:

(i) To exempt any ISP from the reporting requirement during a financial year if the total number of its subscribers is less than ten thousand (<10,000) on the last day of the preceding financial year. However, such Internet service providers shall ensure that the tariffs offered by them are consistent with the regulatory principles and comply with all the regulatory requirements.

(ii) To extend the existing exemption given to access providers in respect of tariff schemes offered to bulk customers in response to a tender process or as a result of negotiations between the access provider and such bulk customer to the ISPs also.

TELECOM REGULATORY AUTHORITY OF INDIA

THE TELECOMMUNICATION TARIFF (SIXTIETH AMENDMENT) ORDER, 2015

No. 3 of 2015

NOTIFICATION

New Delhi, the 9th April, 2015

No. 301-16/2014-F&EA — In exercise of the powers conferred upon it under sub-section (2) of section 11, read with sub-clause (i) of clause (b) of sub-section (1) of the said section, of the Telecom Regulatory Authority of India Act, 1997(24 of 1997), the Telecom Regulatory Authority of India hereby makes the following Order further to amend the Telecommunication Tariff Order, 1999, namely:-

1. (1) This Order may be called the Telecommunication Tariff (Sixtieth Amendment) Order, 2015 (3 of 2015).

(2) This Order shall come into force on the 1st May, 2015.

2. In clause 2 of the Telecommunication Tariff Order, 1999 (hereinafter referred to as the principal tariff order), after sub-clause (lb), the following sub-clause shall be inserted namely:-
"lc. "Special Roaming Tariff Plan" or "SRTP" means a tariff plan in which, on payment of fixed charge, if any, the incoming voice call while on national roaming is free.";

3. In clause 6 of the principal tariff order, for sub-clause (x), the following sub-clause shall be substituted, namely:
"(x) Every service provider shall offer a Special Roaming Tariff Plan to its pre-paid and post-paid subscribers.";

4. In the Schedule II to the principal tariff order, under item (14), for sub-items (14.a) and entries thereto, the following sub-items and entries relating thereto shall be substituted, namely:--

Schedule-II
Cellular Mobile Telecom Services (CMTS)

ITEM	**TARIFF**
"(14.a) National roaming	
(14.a.i) Fixed charge for national roaming	Nil provided that Special Tariff Voucher and Combo Voucher shall be permitted and in case of SRTP, the fixed charge shall be under forbearance.
(14.a.ii) Charge for outgoing local voice call while on national roaming	Ceiling of Re. 0.80 per minute
(14.a.iii) Charge for outgoing long distance (inter-circle) voice call while on national roaming	Ceiling of Re. 1.15 per minute
(14.a.iv) Charge for incoming voice call while on national roaming	Ceiling of Re. 0.45 per minute
(14.a.v) Charge for outgoing local Short Message Services (SMS) while on national roaming	Ceiling of Re. 0.25 per SMS
(14.a.vi) Charge for outgoing long distance (inter-circle) Short Message Services (SMS) while on national roaming	Ceiling of Rs. 0.38 per SMS
(14.a.vii) Charge for incoming Short Message Services (SMS) while on national roaming	Nil

(14.a.viii) Surcharge while national roaming	Nil
(14.ab) International roaming	Forbearance
(14.ac) Any other item related to roaming but not falling under sub-item (14.a) and (14.ab) above	Forbearance.”.

(Maruthi P. Tangirala)
Advisor (F&EA)-I

Note.1. – The Telecommunication Tariff Order, 1999 was published in the Gazette of India, Extraordinary, Part III, Section 4 under notification No.99/3 dated 09.03.1999, and subsequently amended as given below:-

Amendment No.	**Notification No. and Date**
1st	301-4/99-TRAI (Econ) dated 30.3.1999
2nd	301-4/99-TRAI(Econ) dated 31.5.1999
3rd	301-4/99-TRAI(Econ) dated 31.5.1999
4th	301-4/99-TRAI(Econ) dated 28.7.1999
5th	301-4/99-TRAI(Econ) dated 17.9.1999
6th	301-4/99-TRAI(Econ) dated 30.9.1999
7th	301-8/2000-TRAI(Econ) dated 30.3.2000
8th	301-8/2000-TRAI(Econ) dated 31.7.2000
9th	301-8/2000-TRAI(Econ) dated 28.8.2000
10th	306-1/99-TRAI(Econ) dated 9.11.2000
11th	310-1(5)/TRAI-2000 dated 25.1.2001
12th	301-9/2000-TRAI(Econ) dated 25.1.2001
13th	303-4/TRAI-2001 dated 1.5.2001
14th	306-2/TRAI-2001 dated 24.5.2001
15th	310-1(5)/TRAI-2000 dated 20.7.2001
16th	310-5(17)/2001-TRAI(Econ) dated 14.8.2001
17th	301/2/2002-TRAI(Econ) dated 22.1.2002
18th	303/3/2002-TRAI(Econ) dated 30.1.2002
19th	303/3/2002-TRAI(Econ) dated 28.2.2002
20th	312-7/2001-TRAI(Econ) 14.3.2002
21st	301-6/2002-TRAI(Econ) dated 13.6.2002
22nd	312-5/2002-TRAI(Eco) dated 4.7.2002
23rd	303/8/2002-TRAI(Econ) dated 6.9.2002
24th	306-2/2003-Econ dated 24.1.2003
25th	306-2/2003-Econ dated 12.3.2003
26th	306-2/2003-Econ dated 27.3.2003
27th	303/6/2003-TRAI(Econ) dated 25.4.2003

28th	301-51/2003-Econ dated 5.11.2003
29th	301-56/2003-Econ dated 3.12.2003
30th	301-4/2004(Econ) dated 16.1.2004
31st	301-2/2004-Eco dated 7.7.2004
32nd	301-37/2004-Eco dated 7.10.2004
33rd	301-31/2004-Eco dated 8.12.2004
34th	310-3(1)/2003-Eco dated 11.3.2005
35th	310-3(1)/2003-Eco dated 31.3.2005
36th	312-7/2003-Eco dated 21.4.2005
37th	312-7/2003-Eco dated 2.5.2005
38th	312-7/2003-Eco dated 2.6.2005
39th	310-3(1)/2003-Eco dated 8.9.2005
40th	310-3(1)/2003-Eco dated 16.9.2005
41st	310-3(1)/2003-Eco dated 29.11.2005
42nd	301-34/2005-Eco dated 7.3.2006
43rd	301-2/2006-Eco dated 21.3.2006
44th	301-34/2006-Eco dated 24.1.2007
45th	301-18/2007-Eco dated 5.6.2007
46th	301-36/2007-Eco dated 24.1.2008
47th	301-14/2008-Eco dated 17.3.2008
48th	301-31/2007-Eco dated 1.9.2008
49th	301-25/2009-ER dated 20.11.2009
50th	301-24/2012-ER dated 19.4.2012

51st	301-26/2011-ER dated 19.4.2012
52nd	301-41/2012-F&EA dated 19.09.2012
53rd	301-39/2012-F&EA dated 1.10.2012
54th	301-59/2012-F&EA dated 05.11.2012
55th	301-10/2012-F&EA dated 17.06.2013
56th	301-26/2012-ER dated 26.11.2013
57th	312-2/2013-F&EA dated 14.07.2014
58th	312-2/2013-F&EA dated 01.08.2014
59th	310-5(2)/2013-F&EA dated 21.11.2014

Note.2. – The Explanatory Memorandum explains the objects and reasons for the

Telecommunication Tariff (Sixtieth Amendment) Order, 2015.

Explanatory Memorandum

1. Section 11(2) of the Telecom Regulatory Authority of India Act, 1997 empowers the Telecom Regulatory Authority of India (hereinafter referred to as the Authority) to notify rates for various telecommunication services. In exercise of these powers, the Authority has been notifying tariffs for telecommunication services including national roaming services.

2. The tariffs for national roaming services have been regulated in the form of ceiling tariffs prescribed by the Authority under item 14(a) of Schedule II of the Telecommunication Tariff Order 1999 (hereinafter referred to as the TTO, 1999) as amended from time to time. The most recent amendment in the tariff regime for national roaming services was carried out through the Telecommunication Tariff (Fifty Fifth Amendment) Order, 2013 dated 17.06.2013 (hereinafter referred to as the TTO (55th Amendment), 2013).

3. While formulating the revised tariff regime for national roaming services through the TTO (55th Amendment), 2013, the Authority had indicated that the new tariff regime will be subject to review by the Authority after a year. Further, one of the objectives of National Telecom Policy (NTP) 2012 is to work towards One Nation - Free Roaming. In this backdrop, the Authority issued a Draft Telecommunication Tariff (60th Amendment) Order, 2015 on 27.02.2015 (hereinafter referred to as the Draft TTO (60th Amendment), 2015), through which the following ceiling tariffs for voice calls and SMS while on national roaming were proposed for comments of the stakeholders.

Table-1: Ceiling tariffs for national roaming services proposed through the Draft TTO (60th Amendment), 2015

Item	**Proposed Tariff**
Charges for outgoing local voice call while on national roaming	Ceiling of Re. 0.65 per minute
Charges for outgoing long distance (inter-circle) voice call while on national roaming	Ceiling of Re. 1.00 per minute
Charges for incoming voice call while on national roaming	Ceiling of Re. 0.45 per minute
Charges for outgoing local Short Message Services (SMS) while on national roaming	Ceiling of Re. 0.20 per SMS
Charges for outgoing long distance (inter-circle) Short Message Services (SMS) while on national roaming	Ceiling of Re. 0.25 per SMS

4.	The stakeholders had to furnish their comments on the Draft TTO (60th Amendment),

2015 by 13.03.2015. In response, one industry association, seven telecom service providers (TSPs), one organization and two individuals furnished their comments. Many stakeholders submitted that in case the ceiling tariffs as proposed in the Draft TTO (60th amendment), 2015 are implemented, the home tariffs would become higher than the roaming tariffs, which would result in market distortions. A few stakeholders contended that origination charges have been under forbearance and a transition to the prescribed origination charges regime would deprive the industry of the flexibility with respect to a major source of revenue that has hitherto led to increased innovation and affordability in the Indian telecom market. Some stakeholders argued that since wholesale national roaming charges are not being regulated in the country, reduction of retail national roaming tariffs would adversely impact the small and regional access providers in the country to the extent of jeopardizing the level playing field.

5. It is worth pointing out that the wholesale roaming charges are not being regulated in the country. As per the Unified License, licensees may enter into mutual commercial agreements for national roaming facilities.

6. In view of the comments of the stakeholders and the competitive position of the small and regional players in particular, the Authority has decided to allow a mark-up on the ceiling tariffs for outgoing voice calls and SMS which were proposed through the Draft TTO (60th amendment), 2015. The Authority is of the opinion that the wholesale national roaming charges would thereby undergo adjustments such that these remain lower than the ceiling tariffs for national roaming. The following table depicts the ceiling tariffs for national roaming service prescribed through this amendment to the TTO, 1999.

Table-2: Revised ceiling tariffs for national roaming services through this amendment to the TTO, 1999

Item	**Tariff**
Charges for outgoing local voice call while on national roaming	Ceiling of Re. 0.80 per minute
Charges for outgoing long distance (inter-circle) voice call while on national roaming	Ceiling of Rs. 1.15 per minute
Charges for incoming voice call while on national roaming	Ceiling of Re. 0.45 per minute
Charges for outgoing local Short Message Services (SMS) while on national roaming	Ceiling of Re. 0.25 per SMS
Charges for outgoing long distance (inter-circle) Short Message Services (SMS) while on national roaming	Ceiling of Re. 0.38 per SMS

7.	In the case of outgoing voice calls, a mark-up of 15 paisa per minute (over the ceiling

tariff proposed in the Draft TTO (60th Amendment), 2015) has been provided. The mark-up in the case of ceiling tariffs for outgoing SMS has been arrived at by decrementing the existing ceiling tariffs (prescribed in the TTO (55th Amendment), 2013) in each case by 75% (and rounding off to the next higher paisa in the case of long distance (inter-circle) SMS).

8. The Authority also examined the appropriateness of the Roaming Tariff Plan (RTP) and Roaming Tariff Plan-FR (RTP-FR) which were mandated through the TTO (55th Amendment), 2013. In RTP, charges for outgoing voice calls and outgoing SMS, both local as well as long distance (inter-circle), do not change with the location of the

subscriber within the country. RTP-FR is a special type of RTP, in which there is no charge for incoming voice calls while on national roaming, on payment of fixed charge, if any, as may be determined by the service provider. These tariff plans were mandated through the TTO (55th Amendment), 2013 keeping in view the expectation of frequent roamers for reasonable roaming tariffs.

9. The Authority is of the opinion that since the ceiling tariffs for outgoing voice calls and SMS while on national roaming have been reduced to reasonable levels through this amendment to the TTO, 1999, the need for mandating separate tariff plans, in which roam tariffs are equal to home tariffs, no longer exists. Accordingly, the Authority has decided to remove the existing mandate to the TSPs for providing RTP and RTP-FR to their pre-paid and post-paid subscribers in each licensed service area (LSA). However, the TSPs would have to ensure the tariff protection to the existing subscribers enrolled in such tariff plans as per the provisions of the Telecommunication Tariff (43rd Amendment) Order, 2006.

10. Further, the Authority is of the view that a tariff plan in which there is no charge for incoming voice calls while on national roaming would still be required. Accordingly, the Authority has decided to mandate the TSPs to offer a Special Roaming Tariff Plan (SRTP), to their pre-paid and post-paid subscribers in each LSA. In SRTP, the incoming voice calls while on national roaming would be free of charge, on payment of fixed charge, if any, as determined by the TSP. Needless to say, the national roaming tariffs for outgoing voice calls and SMS in SRTP also would be within the ceiling tariffs prescribed through this amendment to the TTO, 1999.

11. The revised tariff regime for national roaming service shall come into force on the 1st May, 2015. The Authority will closely monitor the implementation of the regime and, in particular, its impact on competition and consumer interests.

TELECOM REGULATORY AUTHORITY OF INDIA

THE TELECOMMUNICATION TARIFF (SIXTY FIRST AMENDMENT) ORDER, 2016 No. – 1 of 2016

NOTIFICATION

New Delhi, the 22nd November, 2016

No. 301-30/2016-F&EA — In exercise of the powers conferred upon it under sub-section (2) of section 11, read with sub-clause (i) of clause (b) of sub-section (1) of the said section, of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), the Telecom Regulatory Authority of India hereby makes the following Order further to amend the Telecommunication Tariff Order, 1999, namely:

1. (1) This Order may be called the Telecommunication Tariff (Sixty First Amendment) Order, 2016.

2. In clause 2 of the Telecommunication Tariff Order, 1999 (hereinafter referred to as the principal tariff order),-

(a) for sub-clause rb, the following sub-clause shall be substituted, namely:-

"rb."USSD based mobile banking and payment services" means delivery of banking and payment services through mobile phones over USSD";

(b) for sub-clause rc, the following sub-clause shall be substituted, namely:-

"rc. "USSD session for USSD based mobile banking and payment services" means a session over USSD between the mobile subscriber and the bank or its agent or any entity authorized by the Reserve Bank of India for delivery of banking and payment services through mobile phones over USSD";

3. In the Schedule II to the principal tariff order, after item (7A), the following items and entries relating thereto shall be inserted, namely:

ITEM	**TARIFF**
"(7B) Use of USSD for USSD-based mobile banking and payment services	
(7.a) Charge for outgoing USSD session for USSD-based mobile banking and payment services	Ceiling of Re. 0.50 per USSD Session
(7.b) Other matters related to USSD-based mobile banking and payment services	Forbearance."

(Vinod Kotwal)

Advisor (F&EA)

Note.1. – Hindi version will follow.

Note.2. – The Telecommunication Tariff Order, 1999 was published in the Gazette of India, Extraordinary, Part III, Section 4 under notification No.99/3 dated 9th March, 1999, and subsequently amended as given below:

Amendment No.	**Notification No. and Date**
1st	301-4/99-TRAI (Econ) dated 30.3.1999
2nd	301-4/99-TRAI(Econ) dated 31.5.1999
3rd	301-4/99-TRAI(Econ) dated 31.5.1999
4th	301-4/99-TRAI(Econ) dated 28.7.1999
5th	301-4/99-TRAI(Econ) dated 17.9.1999
6th	301-4/99-TRAI(Econ) dated 30.9.1999
7th	301-8/2000-TRAI(Econ) dated 30.3.2000
8th	301-8/2000-TRAI(Econ) dated 31.7.2000
9th	301-8/2000-TRAI(Econ) dated 28.8.2000
10th	306-1/99-TRAI(Econ) dated 9.11.2000
11th	310-1(5)/TRAI-2000 dated 25.1.2001

12th	301-9/2000-TRAI(Econ) dated 25.1.2001
13th	303-4/TRAI-2001 dated 1.5.2001
14th	306-2/TRAI-2001 dated 24.5.2001

15th	310-1(5)/TRAI-2000 dated 20.7.2001
16th	310-5(17)/2001-TRAI(Econ) dated 14.8.2001
17th	301/2/2002-TRAI(Econ) dated 22.1.2002
18th	303/3/2002-TRAI(Econ) dated 30.1.2002
19th	303/3/2002-TRAI(Econ) dated 28.2.2002
20th	312-7/2001-TRAI(Econ) 14.3.2002
21st	301-6/2002-TRAI(Econ) dated 13.6.2002
22nd	312-5/2002-TRAI(Eco) dated 4.7.2002
23rd	303/8/2002-TRAI(Econ) dated 6.9.2002
24th	306-2/2003-Econ dated 24.1.2003
25th	306-2/2003-Econ dated 12.3.2003
26th	306-2/2003-Econ dated 27.3.2003
27th	303/6/2003-TRAI(Econ) dated 25.4.2003
28th	301-51/2003-Econ dated 5.11.2003
29th	301-56/2003-Econ dated 3.12.2003
30th	301-4/2004(Econ) dated 16.1.2004
31st	301-2/2004-Eco dated 7.7.2004
32nd	301-37/2004-Eco dated 7.10.2004
33rd	301-31/2004-Eco dated 8.12.2004
34th	310-3(1)/2003-Eco dated 11.3.2005
35th	310-3(1)/2003-Eco dated 31.3.2005
36th	312-7/2003-Eco dated 21.4.2005
37th	312-7/2003-Eco dated 2.5.2005
38th	312-7/2003-Eco dated 2.6.2005
39th	310-3(1)/2003-Eco dated 8.9.2005
40th	310-3(1)/2003-Eco dated 16.9.2005
41st	310-3(1)/2003-Eco dated 29.11.2005
42nd	301-34/2005-Eco dated 7.3.2006
43rd	301-2/2006-Eco dated 21.3.2006
44th	301-34/2006-Eco dated 24.1.2007
45th	301-18/2007-Eco dated 5.6.2007
46th	301-36/2007-Eco dated 24.1.2008

47th	301-14/2008-Eco dated 17.3.2008

48th	301-31/2007-Eco dated 1.9.2008
49th	301-25/2009-ER dated 20.11.2009
50th	301-24/2012-ER dated 19.4.2012
51st	301-26/2011-ER dated 19.4.2012
52nd	301-41/2012-F&EA dated 19.09.2012
53rd	301-39/2012-F&EA dated 1.10.2012
54th	301-59/2012-F&EA dated 05.11.2012
55th	301-10/2012-F&EA dated 17.06.2013
56th	301-26/2012-ER dated 26.11.2013
57th	312-2/2013-F&EA dated 14.07.2014
58th	312-2/2013- F&EA dated 01.08.2014
59th	310-5 (2)/2013-F&EA dated 21.11.2014
60th	301-16/2014-F&EA dated 09.04.2015

Note.3. – The Explanatory Memorandum explains the objects and reasons for the Telecommunication Tariff (Sixty First Amendment) Order, 2016.

Explanatory Memorandum

A- Introduction and Background

1. The purpose of the present amendment to the TTO is to lay down a revised framework for Unstructured Supplementary Service Data (USSD) based mobile banking and payment services. The amendment prescribes a revised ceiling tariff for conducting a banking transaction including payment services through a mobile phone over USSD. This explanatory memorandum aims to provide the rationale for this regulatory action.

2. The recommendations of an Inter-Ministerial Group (IMG) were considered by the Committee of Secretaries under the chairmanship of Cabinet Secretary in April 2010 to approve a framework for delivery of basic financial services using mobile phones. As per this framework, the mobile linked 'no-frills' accounts can be used by the consumers for five basic transactions - cash deposit, cash withdrawal, balance enquiry, transfer of money from one mobile-linked account to another, and transfer of money to a mobile-linked account from a regular bank account. However, in the recent past, the policy and regulatory thrust has widened from a mere plain vanilla banking transactions to a broader 'Financial inclusion' agenda. Financial inclusion is now generally understood to mean access to a wide range of financial services at a reasonable cost, including banking products as well as other financial services like insurance and equity products.1

3. However, notwithstanding, the expansion of Business Correspondent Agent (BCA) network and thrust on opening bank branches and ATMs in rural areas, the 'last mile' service delivery continues to remain a matter of concern. There were only 7.8 bank branches per 100,000 of population in rural and semi-urban areas, less than half of 18.7 bank branches per 100,000 of population in urban and metropolitan areas as of June, 20152.

4. The Pradhan Mantri Jan Dhan Yojana (PMJDY) announced in August, 2014 addresses many of these issues by ensuring that the benefits of financial access are extended to the weaker sections and low income groups. The scheme recognizes that deep penetration at affordable cost is possible only with effective use of technology3. Along with this, the Jan Dhan-Aadhaar-Mobile (JAM) trinity offers a comprehensive solution for targeted delivery of government benefits and subsidies to the intended beneficiaries through the use of mobile phones.

1A Hundred Small Steps: Report of the Committee on Financial Sector Reforms, Planning Commission, Government of India, 2009, http://planningcommission.nic.in/reports/genrep/rep_fr/cfsr_all.pdf.

2https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/FFIRA27F4530706A41A0BC394D01CB4892CC.PDF 3 About Pradhan Mantri Jan Dhan Yojana, http://www.pmjdy.gov.in/about

5. RBI constituted Committee on 'Medium-term Path on Financial Inclusion' in its report of December 20154 suggested that a low-cost solution based on mobile technology can be a good option for improving financial inclusion by enhancing the effectiveness of 'last mile' service delivery. The Committee was of the view that to translate financial access into enhanced convenience and usage, there is a need for better utilization of the mobile banking facility and the maximum possible Government-to-Person (G2P) payments, which would necessitate greater engagement by the government in the financial inclusion drive.

6. In addition, in its endeavour to encourage digital transactions and move towards 'less cash' society, Government of India (GOI) has announced a number of steps. In February 2016, GOI initiated a drive towards promotion of payments through cards and digital means with the following objectives5:
(i) To improve the ease of conducting card/ digital transactions for an individual; (ii)
To reduce the risk and costs of handling cash at the individual level; (iii) To reduce costs of managing cash in the economy;
(iv) To build a transaction history to enable improved credit access and financial inclusion;
(v) To reduce tax avoidance; and
(vi) To reduce the impact of counterfeit money.

7. Government of India has in February 2016, issued 'Guidelines for the promotion of payments through cards and digital means'6. The Guidelines have, *inter-alia*, the following short term steps (to be implemented within one year):

"D. Encouraging Mobile Banking/ Payment Channels

i. Department of Telecommunications shall take appropriate steps for rationalization/ reduction of USSD charges and the feasibility of its being charged only on successful transactions.

ii. Department of Telecommunications/ Department of Financial Services/ RBI shall make a provision for a unified USSD platform which can support transactions across all payment mechanisms.

……"

8. RBI Vision-2018 too seeks to encourage greater use of electronic payments by all sections of society so as to achieve a 'less-cash' society. The vision, *inter-alia*, seeks to orient policies for mobile banking for facilitating faster payment services by way of enhancing options for customer registration for mobile banking services, enabling wider access to mobile banking services in multiple languages for non-smartphone users and encouraging innovative mobile based payment solutions.

4https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/FFIRA27F4530706A41A0BC394D01CB4892CC.PDF 5 F.No-01/02/2015-Cy.I Dated : 29th February, 2016 Government of India Ministry of Finance Department of Economic Affairs

6 ibid

9. This focus of RBI and GOI is in line with trend around the globe where it is increasingly being acknowledged that moving from purely mobile banking services to other payment services is important as these

form critical components of the overall package of financial services. Not only do they facilitate access to other financial services but can also be critical to the efficient provision of those services.7

10. Subsequent to the laying down of the IMG framework for delivery of basic financial services using mobile phones, various stakeholders have taken several steps towards achieving the goal of financial inclusion.

11. In December, 2011, DoT allocated a USSD code *99# to Department of Financial Services (DFS) for mobile banking services through the USSD gateway of NPCI and asked the telecom service providers (TSPs) to connect to it as per the requirement of service in consultation with NPCI. In April, 2012, TRAI mandated that every TSP shall facilitate the banks to use SMS, USSD and IVR to provide banking services to its customers and deliver the message generated by the bank or the customer in not more than two stage transmission of message in the case of SMS or in not more than two stage entry of options in the case of USSD and IVR. In November, 2012, NPCI launched a USSD Gateway (National Unified USSD Platform) for enabling mobile banking through the USSD channel. The Authority through the Mobile Banking (Quality of Service) (Amendment) Regulations, 2013 dated 26.12.2013, increased the maximum number of stages for completing a mobile banking transaction from two to five.

12. In November 2013, with a view to facilitate mobile banking for financial inclusion, TRAI prescribed a ceiling tariff of Rs. 1.50 per USSD session for USSD-based mobile banking service and established a framework to facilitate the agents of the banks to interface with the access service providers for use of SMS, USSD and IVR channels to provide mobile banking services. By August 2014, all GSM cellular mobile telephone providers got connected to the National Unified USSD Platform (NUUP) platform of NPCI; as a result, all GSM subscribers were enabled to make use of USSD-based mobile banking services provided through the USSD code *99#.

13. However, all these initiatives did not lead to the desired result. In May 2016, only about 37 lakh mobile banking transaction attempts (over USSD channel) reached NPCI's platform (*99#) out of which about 54% were successful. Also, during 2015, there were references to TRAI from Department of Financial Services and RBI to consider following steps to increase the use of USSD based mobile banking financial services:

- Permit up-to 8 steps in one USSD session from the current limit of 5
- Increase in session timer limitation

7Payment aspects of financial inclusion, Committee on Payments and Market Infrastructures (Bank for International Settlements) and World Bank Group Task Force, April 2016, http://www.bis.org/cpmi/publ/d144.pdf

- Reduce the ceiling tariff of Rs. 1.50 per USSD session for USSD-based mobile banking
- Enable USSD push messages for dropped USSD sessions
- Make provisions for a unified USSD platform-which can support transactions across all payment mechanism

14. A series of discussions/meetings were held with the relevant stakeholders' viz., NPCI, TSPs and DFS over a period of several months. However, no common ground could be reached and thus the Authority decided to embark upon a comprehensive consultation process. A Consultation Paper (CP) on the "Review of regulatory framework for the use of USSD for mobile financial services" was issued on 02.08.2016 and was placed in public domain on TRAI's website (www.trai.gov.in) and mygov platform (mygov.in)of GOI. Stakeholders were invited to submit written comments by 14.09.2016 and counter-comments by 28.09.2016. The comments and the counter-comments received from the stakeholders were placed on TRAI's website– www.trai.gov.in. An Open House Discussion (OHD) for the stakeholders was organized on 27.10.2016 at New Delhi. The issues raised in the CP and the views of the stakeholders thereupon were deliberated by the Authority and are being examined in the succeeding paragraphs.

B- Analysis of the Key Issues Raised in the Consultation Paper

15. A summary for each issue together with the comments of stakeholders and further analysis thereon is presented below:

(1) Adequacy of the present ceiling of five-stages for entry of options in a USSD session

16. Majority of TSPs and their industry associations did not favour increasing the present ceiling of five-stage for entry options in a USSD session. They have stated that if number of stages is to be increased from 5 to 8 then the ceiling tariff should also be increased proportionately as increase in the number of stages will put a significant load on their signalling infrastructure. It has also been contended that number of stages per session may require reconsideration and review in case there is a sudden surge in volumes. They have further opined that any increase from the present 5 stages should be on the basis of mutual agreement between the banks and TSPs. Some TSPs, however, are agreeable to increase the number of sessions from 5 to 8 as some transactions may require more than 5 stages.

17. Most of the banks and Reserve Bank of India (RBI) have supported increasing the number of steps to 8 and some have even proposed to have unlimited stages per USSD session. It has been contended by these banks that the current 5 stages per USSD session are not enough for certain transactions like fund transfer, which are prone to input errors and are time-consuming. On the other hand, a few banks have

suggested maintaining the present 5 stages only, as increasing the number of stages is likely to make the process cumbersome and user unfriendly.

18. Some organizations have also advocated for unlimited stages per USSD session as it would help in addressing the needs of the target consumer group, which is characterized by lower levels of literacy and awareness. It has also been highlighted that USSD is used by a majority of large-scale mobile money deployments across the world. Most of the individual stakeholders have also supported either 8 stages or unlimited number of stages per USSD session for mobile banking services.

19. The Authority is aware of the fact that USSD based mobile banking services were meant to drive the agenda of financial inclusion targeting a section of the population that is semi-literate and not very adept at the use of technology. Thus, the inputting by the consumer has to be kept to the minimum as human intervention leads to errors. Interface with the consumer has to be through a simple, minimalistic menu high on functionality. At the same time, in current scenario the current ceiling of 5 stages per USSD session poses a major handicap in undertaking certain transactions where the input errors are bound to happen. The input errors lead to failed/unsuccessful transactions and such customers are less likely to use USSD based mobile financial services again based on their poor service experience. NPCI and the banks therefore have to constantly strive to improve the software features and design to create a more user friendly menu for such USSD based mobile banking services as it would help in improving the customer experience and also the success rate of mobile banking transactions. Notwithstanding these facts, the Authority believes that at this inflection point there is merit in increasing the number of stages per USSD session to 8 from the present limit of 5 for giving an impetus to this service. Eight is the ceiling on the number of stages per USSD session and improvement in the software design should strive to reduce the number of stages for consumer convenience. Keeping this in mind, the Mobile Banking (Quality of Service) (Amendment) Regulations is being issued increasing the maximum number of stages for completing a mobile banking transaction from 5 to 8.

2) Deciding about the appropriate method for prescribing the tariff for USSD- based mobile banking and the issue regarding bearing of the cost for USSD session charges

20. Presently, the USSD sessions for banking are charged within the ceiling of Rs 1.50 per session as per the TTO (56th Amendment), 2013. The revenue realization for voice calls and SMS which have been under forbearance have undergone downward correction in the last three years. Keeping this in view, it was considered appropriate to review/decide about the appropriate method for determining the tariff in respect of USSD session for mobile banking and payment inthe given circumstances and also to determine the new price methodology or new tariff.

21. On the issue of choosing the correct method for prescribing the tariff for USSD based mobile financial services, divergent views have been expressed by the stakeholders for e.g.:-

a)The cost based tariff should be prescribed wherein a user is charged per transaction.

b)“Cost plus” tariff for both system and customer initiated USSD session.

c)TSPs should charge customers, or give option to customers, for this service either on a pay per session basis (for prepaid subscribers), or at a flat rate as built into their Value Packs every month for their post paid audience, or both.

d)TSPs should also be allowed to offer subscription based model, in line with data or SMS packs. For e.g. TSP can offer unlimited USSD transaction pack for Rs. 10, Rs. 20 & so on.

e)TRAI should adopt the policy of forbearance w.r.t. USSD tariffs for mobile banking to allow the inter-play of market forces in determining the most optimal business models between the Banks and the TSPs.

f)The ceiling tariff should be much lower than Rs. 0.50 per USSD session.

g)“Cost plus” tariff for both system and customer initiated USSD session.

h)There can also be wholesale price for thousands of sessions that can be purchased by financial service providers at a competitive market price where regulator may set a price ceiling based on component based costing under which a competitive market may develop similar to bulk SMS pricing.

i)Charges should be levied on the basis of time taken for conducting transactions. These charges should be benchmarked with voice calls.

22. Most of the banks and individuals have advocated the cost based method and/or mixed approach.

(a) Cost based Method. The cost based approach calculates cost per USSD session for tariff determination of the same. The cost shall consist of cost of clearly identified network, IT and other cost components including all relevant Capex and Opex involved in daily operations and maintenance for establishing end-to-end USSD session for mobile banking and payment session, and that is to be assessed and verified by subject matter experts and/or regulator.

While advocating the cost based method, it has been stated by one stakeholder that USSD Pricing, shall evolve in two stages towards maximum tariff efficiency and consumer benefits; the pricing should be done on full duration of USSD session and such an exercise would reveal a costing of less than 50 paisa per 180 seconds of USSD session. Another stakeholder has stated that mobile banking is to be viewed as a public service with a view to facilitating financial inclusion; a transparent cost-based tariff should be adopted for outgoing USSD sessions, since cost is a reasonable

indicator of fair prices, and can be the basis for intervention by TRAI. A few TSPs have also, advocated cost based method.

(b) Mixed Approach. The approach in which the customer is having choice for availing this service either on a pay per session basis, or at a flat rate as built into their value packs every month for post paid customers, or both have been advocated by the most of the TSPs and their associations. They have further suggested that these should be allowed keeping in mind usage patterns across mobile subscribers. One of the stakeholder has suggested that the USSD tariff for mobile banking and payment service should be that of one local SMS per USSD session and for frequent users, as is the case with SMS, there should be volume packs of USSD for mobile banking and payment services be made available e.g. 100 USSD session per month at price in the same range as 100 local SMS pack per month. RBI & NPCI have also supported the mixed approach stating that both options (either on a pay per session basis or at a flat rate as built into their value packs) are to be kept open.

23. Most of the TSPs and their industry associations have not favoured the cost based method and stated that a cost-based approach is not warranted, and that regulation should not preclude different arrangements between banks and TSPs. One stakeholder has stated that due to low levels of traffic on the USSD channel for mobile banking, there is not enough evidence/data to derive a cost estimate. Most of the TSPs have favoured the policy of forbearance in the tariff for the USSD session for mobile banking and payment services. Many of them have also stated that the Authority should de-regulate both retail and wholesale mobile banking access pricing and allow the TSPs and banks to offer all options to the consumers. Further, as per majority of them, the arrangements could be either B2B or B2C or a hybrid of both. They have stated that mobile banking and e-payment is at a very nascent stage of growth and the eco-system is still developing and, therefore, it would be premature to fix a tariff per USSD session for mobile banking and payment services based on the cost at this stage.

24.	Ideally, adoption of cost based approach could be a good choice when the tariff for

other services (voice call, data and SMS) is declining. It is also beneficial to the customer. But tracing costs accurately is a pre-requisite for this approach to be successful. Determining all the costs involved with USSD poses a challenge because they're not always immediately apparent coupled with the current low volume of USSD transactions.

25.	As regards to the arguments of the TSPs that mobile banking services are in the nature

of 3rd party (i.e. non-telecom B2B) services and the Authority should de-regulate both retail and wholesale mobile banking access pricing and allow the TSPs and banks to offer any or all options to the consumers. It would suffice to say that USSD service for mobile banking and payment service has not matured enough and cannot be left for B2B model of pricing at this stage. Therefore, the arrangement such as

B2B and forbearance may not be appropriate for the mobile based USSD financial services at this juncture.

26. In view of the revenue realization for voice calls (Re 0.49), SMS (Re 0.16/SMS) and data (Re 0.20/MB) for GSM services, charges for USSD session for mobile banking appear to be significantly high. For example, for checking the balance, the customer is charged Rs 1.50 each time he/she checks his/her balance. Compared to this, an account holder can make free requests through 'missed call' banking or even through ATMs, branches and other channels for checking the account balance. In addition, the banks have not made enough effort to promote USSD based banking services. Banks are actively promoting Apps for consumer convenience and thus limiting themselves to users with smartphone. The unique selling point (USP) of using USSD for banking services is the fact that it can be used by the consumer with a basic feature phone, which are still predominantly used by the Indian consumers and there is no need of having data-connectivity. In addition, it is a secure mode as the communication is real-time and no data is stored on the handset.

27.	Most of the banks and individual stakeholders have suggested revising the ceiling for

USSD session for mobile banking and financial service downward. Individual stakeholders have suggested that the ceiling for USSD session for mobile banking and payment service should be reduced to Rs 0.50 per session, but RBI, NPCI and some stakeholders have even suggested for keeping it in the range of Rs 0.25 to 0.50 per session. Suggestions also include that USSD session charges for mobile banking and payment service should be levied on the basis of time taken for conducting transactions and these charges should bebenchmarked with SMS as both USSD and SMS use signalling channel in GSM and not voice/data channels. One stakeholder has suggested that the USSD tariff should be that of one local SMS per USSD session, i.e. maximum 50 paisa per USSD session. These stakeholders have opined that the real growth of the service will come out of ‘large volume of transactions and small value charges’ rather than from ‘high value charges and small volumes of transactions’.

28.	TSPs and their industry associations, however, have cautioned that the charges should

not be reduced in view of the following:-

a)The increase in number of steps and/or increase in number of transactions may require them to incur additional capital expenditure attributable only to this service i.e. USSD.

b)Huge investment in the billing system and to meet the strict guidelines for quality of service for mobile banking and payment service have already been made but there were not commensurate returns.

c)USSD session for mobile banking and payment service involves multiple hits which would engage the signalling channel and core network for a long time.

d)Comparison with SMS, Voice, and USSD based customer service rates is unwarranted given the cost savings being attained by these channels, and the lack of any such value proposition for the TSPs in USSD based banking services.

29. Thus, as is evident from the discussions above there are divergent views on the issue. Most of the stakeholders are in favour of revising the ceiling downward other than TSPs and their industry association. Some stakeholders have also argued that tariff of USSD session for mobile banking and payment service is an important determinant of the success of USSD-based mobile banking and payment service. As the use of USSD for mobile banking and payment service is not a main offering of the TSPs, the pricing of these services is not likely to be subjected to the same competitive pressure which the main offerings of the TSPs (viz. voice call, data and SMS) face in the marketplace. Besides, the use of USSD for mobile banking and payment service for financial inclusion carries definite socio-economic benefits to the target group i.e. unbanked/ under-banked population and,therefore, the price for the use of USSD for mobile banking needs to be reasonable and affordable. It is noteworthy that while voice calls travel over traffic channels, USSD messages and SMS messages travels over inexpensive signalling channels. The average revenue collection of outgoing SMS by the TSPs is Re. 0.16 per SMS.

30. In the light of the above, the Authority is of the view that a ceiling tariff of Rs. 0.50 per USSD session for mobile banking and payment service (which may comprise of one or more banking transaction as per agreement between bank/bank agent) would be reasonable to compensate the TSPs, regardless of whether the session results in a successful or a failed banking transaction, to meet the expenses incurred in the use of USSD for mobile banking service. It would also be reasonable enough to compensate for the increase in number of stages from 5 to 8. At the same time, TSPs are at liberty to further reduce the charges and offer tariff below the prescribed ceiling.

31. There were divergent views/comments on the question: whether the present pricing model for USSD-based mobile banking in which consumers pay for the use of USSD should continue and if the answer is in the negative, then what should be alternative pricing models? One TSP has suggested that the banks can make the transaction charges free for initial few years or else they may follow subscription based service at nominal prices as per a formula decided by the bank. TSPs have also suggested that the charges between banks and telecom operators should be left for mutual negotiations. Most of the TSPs and their associations had opined that it should be left to the market forces to decide about who should pay for the charges. On the other hand, most of the banks were of the view that the charges should continue to be paid by the individuals as is being done presently. However, one bank was of the opinion that an optimal cost sharing model between banks and customers should be created for deciding this.

32. From the comments of the majority of the stakeholders, it can be concluded that the principle that the person seeking the service must pay for the service, is still widely

acceptable provided the ceiling for the charges is reduced. The customer is also paying the charges for mobile banking and payment services in other modes viz. through web based applications, SMS or applications. Therefore, the Authority is of the view that the current regulatory regime of customer paying for the USSD session charges (B2C) should continue.

(3) Appropriateness of mandating the service providers to levy charges for USSD session for mobile banking only if the customer is able to complete his/ her transaction.

33. Presently, a customer is charged for the service at the initiation of the session itself irrespective of the fact whether he/she is able to complete his /her transaction or not. Currently, the failure rates for these USSD service are as high as 50 percent and this leads to high customer dissatisfaction as the transaction may be unsuccessful for a variety of reasons at various levels viz., the bank, the NUUP platform, the TSP or even due to consumer reasons. Therefore, a question was raised in the consultation whether it would be appropriate to mandate the service providers to levy charges for USSD session for mobile banking only if the customer is able to complete his /her transaction?

34. Most of the TSPs and their industry association have highlighted the fact that any USSD based transaction has many points of failures which are beyond the telecom network or control of TSPs and in many cases, the TSPs does not have information about the failures caused at the bank/NPCI level. It has also been informed that the decision regarding session not getting completed / remaining incomplete can only be taken by the banks/NPCI servers as the TSP does not have the visibility / failure of the USSD Session. Internationally too, in some countries mobile operators charge the customer for the USSD session/ transaction regardless of success/failure. Some TSPs have also suggested that banks can buy bulk USSD sessions and compensate their consumers for such failed transactions. Therefore, the TSPs and their association believe that the current system should continue as TSPs systems may not be able to modify the billing system/IN on the basis of failures caused in the system, which are beyond their control.

35. Similarly, some banks have not supported the idea regarding levying of charges for only successful transactions. On the other hand, few banks have contended that customers should be charged only for successful transactions taking into account the financial inclusion aspects of the consumer using this platform; the connectivity issues across different parts of the country; and the awareness levels of the user. Some other stakeholders have opined that consumers should be charged for failed transactions but if the ceiling tariffs are brought down it they may not worry about them so much.

36. After carefully examining the stakeholders' comments on this point, the Authority is of the view that the issue is complex and deciding on the 'attributability' for failed transactions may lead to disputes as a USSD based session has a number of points which may not be entirely within the control of a single entity. Similarly, the transactions may also fail due to inputting errors by the consumers or any other factor at their end. Implementing this functionality would also require changes at the IN/billing platforms of the TSPs and design of a reverse flow system. Therefore, Authority is of the view that instead of further complicating the matter, it would be appropriate at this stage, if the problem is mitigated by reducing the transaction charges itself. In addition, steps would have to be taken by the NPCI to undertake a deep 'drill-down' of the factors responsible for transaction failures and take appropriate steps to address them.

(4) Requirement of allowing USSD push sessions in case the customer initiated USSD session is dropped.

37. TSPs and their industry association have not supported allowing the USSD push sessions in case, the customer initiated session is dropped as it poses a security risk to their networks. It has been strongly argued that this would expose their switching system to the aggregation platform providers / banks. It has been reiterated that signalling network cannot be permitted to be accessed by the third party as it can be potentially misused for disrupting the services of the entire network. It has also been opined that push USSD interface on different protocol like SMPP is not recommended as there is no control on the USSD content /number of transactions and the duration of session.

38. On the other hand, most of the banks have supported allowing USSD push sessions as it would help in enhancing the customer convenience and gaining their confidence in the system. Similarly, most of the individual stakeholders have also supported allowing USSD push sessions.

39. The responses received were examined and Authority has come to the conclusion that allowing USSD based push sessions may expose the networks of the telecom service providers to various security threats and the same cannot be allowed in the overall interest of the telecom network security. Therefore, Authority believes that USSD based push sessions may not be allowed at this point of time.

(5) Requirement of a Unified USSD platform which can support transaction across or payment platforms.

40. At present, only mobile banking transactions are permitted to be carried out on USSD aggregation platforms of the National Unified USSD Platform operated by NPCI. In the consultation paper, question was raised on whether all variety of mobile payment

services, including merchant payments, utility bill payments, mobile/ DTH recharges etc., should also be permitted on USSD aggregation platforms.

41. TSPs and their associations are of the view that only basic mobile banking should be allowed through USSD based platform as allowing other services would dilute focus as contemplated for providing basic financial services to the unbanked. It has further been stated that allowing other payment mechanism is beyond the purview of the goal of financial inclusion. It has also been argued that market forces should be allowed to determine the approaches on such opportunities rather than regulatory intervention as this may lead to suboptimal outcome. If payments beyond banking transactions are to be allowed through USSD platform then it should be a P2P decision between the TSPs and the aggregator platform. They are, therefore, of the view that inclusion of additional services should be on the basis of mutually negotiated arrangements between NPCI & TSPs.

42. On the other hand, other organizations are of the view that it is important to develop acceptance infrastructure and USSD aggregation platform being cashless/cardless can be used without card, merchant discount rate and internet and this would drive consumer behaviour to move to digital electronic payment via merchant acceptance and promotion. They have also suggested that important services like mobile recharge, utility bill payments, DTH payment, P2P money transfer should be allowed as they are the most popular payments by any category and would enhance the adoption of the USSD services.

43. Similarly, most of the banks including RBI have supported the inclusion of merchant payments, the Bharat Bill Payments System (BBPS) on the USSD platform. Banks have also requested for inclusion of Pre-Paid Instruments (PPIs) on the *99# platform as they are important in the payment ecosystem. RBI has also requested that all entities that are governed under the Payments and Settlement Act, 2007 of RBI should be allowed to offer the services on *99# interoperable USSD platform.

44. This question of allowing variety of mobile payment services, including merchant payments, utility bill payments, mobile/ DTH recharges etc. on NPCI USSD aggregation platform is particularly important in light of the importance of promoting digital payments as a critical part of the financial inclusion agenda. The G. Padmanabhan Committee8 set up by the Reserve Bank of India (RBI) to study the Feasibility of Implementation of GIRO based Payment Systems had estimated that over 30,800 million bills amounting to Rs. 6223 billion are generated each year in the top 20 cities in the country. Cash and cheque payments continue to be predominant form of payment of these bills, although other forms of payments are also being

8Report of the Committee to Study the Feasibility of Implementation of Giro Based Payment System in India, 07 May2013,https://rbi.org.in/scripts/PublicationReportDetails.aspx?UrlPage=&ID=701#R5

accepted. Demirguc-Kunt *et al9.* note that "*digitizing payments like these would enable account holders to make the payments in a way that is easier, more affordable, and more secure*". The authors note that this can have the following advantages:

- It can improve the efficiency of making payments by increasing the speed of payments and by lowering the cost of disbursing and receiving them.
- It can enhance the security of payments and thus reduce the incidence of crime associated with them.
- It can increase the transparency of payments and thus reduce the likelihood of leakage between the sender and receiver.

45. It is well-understood that a less cash society is not only more financially inclusive but also is beneficial from the point of view of enhancing the national output. Management of cash is a significant operational expense for any financial institution. This cost item for the banks eventually becomes a cost item for the individual and in turn to the whole economy. Such cost items harm most to the poor and therefore, the goal of financial inclusion is inseparably linked with the vision of a less cash society. Thus, there is merit in moving towards a less-cash and more digital payment transaction society as is being promoted by the Government through its various guidelines and initiatives.

46. As per the Consultative Group to Assist the Poor (CGAP), at present, USSD is the best-available option to serve the payments needs of low-income customers, taking into account the factors of reach (compatibility with handsets), user experience, security, cost, and ease of deployment for the provider10.

47. Similarly, Bharat Bill Payment System (BBPS) an integrated and interoperable bill payment system to allow customers to pay a variety of bills in an efficient and convenient manner at a single point is being implemented by NPCI. It is expected to serve as an accessible bill payment system to the large segments of unbanked and under-banked population. It will also offer convenience to the billers. To begin with, only repetitive payments for everyday utility services such as electricity, water, gas, telephone and Direct-to-Home (DTH) have been covered within the scope of BBPS. Gradually, the scope would be expanded to include other types of repetitive payments, like school / university fees, municipal taxes etc. Allowing the use of USSD on the BBPS platform will ensure that users of basic phones, who do not have access to the Internet, are also able to participate in digital payments using this platform.

9Asli Demirguc-Kunt, Leora Klapper, Dorothe Singer, Peter Van Oudheusden, The Global Findex Database 2014:

Measuring	Financial	Inclusion	around	the	World,	World	Bank	Group,	April	2015,
http://documents.worldbank.org/curated/en/187761468179367706/pdf/WPS7255.pdf#page=3										

10CGAP, Promoting Competition in Mobile Payments: The Role of USSD, CGAP, February 2015, https://www.cgap.org/sites/default/files/Brief-The-Role-of-USSD-Feb-2015.pdf

48. In view of the above, the Authority is of the view that usage of USSD channel should be allowed for offering payment services to all the authorized entities regulated under the Payments and Settlement Act, 2007 of RBI and payments being received on Bharat Bill Payment System (BBPS).

(7) Any other issues.

49. A number of stakeholders have also raised a very important point that enough effort has not been made by the banks or the NPCI to raise awareness about the USSD based mobile banking services or promote this service by educating the consumers about its functionalities. A comprehensive marketing and communication strategy has to be devised to promote the service keeping in view the heterogeneity and spread of rural areas and behavioural aspects of the target population.

50. Some stakeholders' have also proposed discontinuation of USSD based approach and instead proposed utilizing encrypted SMS as transaction channel and carrying out encrypted data over the channel. It has also been contended that enough evidence is not available to confirm that low uptake of these services is due to challenges to the affordability of USSD access.

51. During interactions in the OHD it was also pointed out by some stakeholders that not all bank accounts are linked to a mobile phone. For linking their bank accounts, the consumers have to physically go to a bank branch. Some stakeholders have also highlighted the need for putting in place a robust consumer dispute resolution system.

52. After examining the above issues, the Authority is of the view that USSD can be used for delivering the mobile banking as well as other payment services. However, there are a number of other steps also that need to be taken, which inter-alia, include relooking at the architecture of the USSD framework by NPCI for improving the software design elements; increasing consumer awareness about this service through a time-bound, targeted communication strategy; putting in place a mechanism of linking bank accounts with mobile phones through a simplified process.

53. It has also been noted by the Authority that there is a high rate of failed transactions and the transactions have not scaled up. There can be a number of reasons for it as noted above; tariff being one of them. NPCI/banks/other stakeholders need to evolve a policy framework where the consumer does not have to pay for these transactions, particularly the failed ones and the cost of transactions is borne either by NPCI/banks/other stakeholders. This will eventually give an impetus to the service, which can contribute to the fulfillment of an important aspect of 'Digital India' by encouraging 'less cash' society.The Authority will continue to keep a watch on the progress of the service and take necessary steps from time to time.

List of Acronyms

Sl. No.	**Acronym**	**Expansion**
1	ATM	Automated Teller Machine
2	B2B	Business-to-Business
3	B2C	Business-to-Customer
4	BCA	Business Correspondent Agents
5	BBPS	Bharat Bill Payment System
6	CGAP	Consultative Group to Assist the Poor
7	DFS	Department of Financial Service
8	DoT	Department of Telecommunications
9	DTH	Direct-to-Home

10	GoI	Government of India
11	GSM	Global System for Mobile Communication
12	G2P	Government to Person
13	IMG	Inter Ministerial Group
14	IT	Information Technology
15	IVR	Interactive Voice Response
16	JAM	Jan Dhan-Aadhaar-Mobile
17	OHD	Open House Discussion
18	NPCI	National Payment Corporation of India
19	NUUP	National Unified USSD Platform
20	P2P	Peer to Peer
21	PPI	Pre-paid Instrument
22	PMJDY	Pradhan Mantri Jan-Dhan Yojana
23	QoS	Quality of Service
24	RBI	Reserve Bank of India
25	SMS	Short Message Service
26	SMPP	Short Message Peer to Peer
26	TRAI	Telecom Regulatory Authority of India
27	TSPs	Telecom Service Providers
28	TTO	Telecommunication Tariff Order
29	USP	Unique selling point
30	USSD	Unstructured Supplementary Service Data

TELECOM REGULATORY AUTHORITY OF INDIA

THE TELECOMMUNICATION TARIFF (SIXTY SECOND AMENDMENT) ORDER, 2016 No. 02 of 2016

NOTIFICATION

New Delhi, the 27th December, 2016

No. 301-30/2016-F&EA — In exercise of the powers conferred upon it under sub-section (2) of section 11, read with sub-clause (i) of clause (b) of sub-section (1) of the said section, of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), the Telecom Regulatory Authority of India hereby makes the following Order further to amend the Telecommunication Tariff Order, 1999, namely:

1. (1) This Order may be called the Telecommunication Tariff (Sixty Second Amendment) Order, 2016.

2. In the Schedule II to the Telecommunication Tariff order, 1999, the item (8) shall be deleted and item (7B) and entries relating thereto shall stand renumbered as item (8) and entries relating thereto.

ITEM	**TARIFF**
"(8) Use of USSD for USSD-based mobile banking services	
(8.a) Charge for outgoing USSD session for USSD-based mobile banking and payment services	Ceiling of Re. 0.50 per USSD Session
(8.b) Other matters related to USSD-based mobile banking and payment services	Forbearance."

(Vinod Kotwal)
Advisor (F&EA)

Note.1. – The Telecommunication Tariff Order, 1999 was published in the Gazette of India, Extraordinary, Part III, Section 4 under notification No.99/3 dated 9th March, 1999, and subsequently amended as given below:

Amendment No.	**Notification No. and Date**
1st	301-4/99-TRAI (Econ) dated 30.3.1999
2nd	301-4/99-TRAI(Econ) dated 31.5.1999
3rd	301-4/99-TRAI(Econ) dated 31.5.1999
4th	301-4/99-TRAI(Econ) dated 28.7.1999
5th	301-4/99-TRAI(Econ) dated 17.9.1999
6th	301-4/99-TRAI(Econ) dated 30.9.1999
7th	301-8/2000-TRAI(Econ) dated 30.3.2000
8th	301-8/2000-TRAI(Econ) dated 31.7.2000
9th	301-8/2000-TRAI(Econ) dated 28.8.2000
10th	306-1/99-TRAI(Econ) dated 9.11.2000
11th	310-1(5)/TRAI-2000 dated 25.1.2001
12th	301-9/2000-TRAI(Econ) dated 25.1.2001
13th	303-4/TRAI-2001 dated 1.5.2001
14th	306-2/TRAI-2001 dated 24.5.2001
15th	310-1(5)/TRAI-2000 dated 20.7.2001
16th	310-5(17)/2001-TRAI(Econ) dated 14.8.2001
17th	301/2/2002-TRAI(Econ) dated 22.1.2002
18th	303/3/2002-TRAI(Econ) dated 30.1.2002
19th	303/3/2002-TRAI(Econ) dated 28.2.2002
20th	312-7/2001-TRAI(Econ) 14.3.2002
21st	301-6/2002-TRAI(Econ) dated 13.6.2002
22nd	312-5/2002-TRAI(Eco) dated 4.7.2002
23rd	303/8/2002-TRAI(Econ) dated 6.9.2002
24th	306-2/2003-Econ dated 24.1.2003
25th	306-2/2003-Econ dated 12.3.2003
26th	306-2/2003-Econ dated 27.3.2003
27th	303/6/2003-TRAI(Econ) dated 25.4.2003
28th	301-51/2003-Econ dated 5.11.2003
29th	301-56/2003-Econ dated 3.12.2003
30th	301-4/2004(Econ) dated 16.1.2004
31st	301-2/2004-Eco dated 7.7.2004
32nd	301-37/2004-Eco dated 7.10.2004
33rd	301-31/2004-Eco dated 8.12.2004

34th	310-3(1)/2003-Eco dated 11.3.2005
35th	310-3(1)/2003-Eco dated 31.3.2005
36th	312-7/2003-Eco dated 21.4.2005
37th	312-7/2003-Eco dated 2.5.2005
38th	312-7/2003-Eco dated 2.6.2005
39th	310-3(1)/2003-Eco dated 8.9.2005
40th	310-3(1)/2003-Eco dated 16.9.2005
41st	310-3(1)/2003-Eco dated 29.11.2005

42nd	301-34/2005-Eco dated 7.3.2006
43rd	301-2/2006-Eco dated 21.3.2006
44th	301-34/2006-Eco dated 24.1.2007
45th	301-18/2007-Eco dated 5.6.2007
46th	301-36/2007-Eco dated 24.1.2008
47th	301-14/2008-Eco dated 17.3.2008
48th	301-31/2007-Eco dated 1.9.2008
49th	301-25/2009-ER dated 20.11.2009
50th	301-24/2012-ER dated 19.4.2012
51st	301-26/2011-ER dated 19.4.2012
52nd	301-41/2012-F&EA dated 19.09.2012
53rd	301-39/2012-F&EA dated 1.10.2012
54th	301-59/2012-F&EA dated 05.11.2012
55th	301-10/2012-F&EA dated 17.06.2013
56th	301-26/2012-ER dated 26.11.2013
57th	312-2/2013-F&EA dated 14.07.2014
58th	312-2/2013- F&EA dated 01.08.2014
59th	310-5 (2)/2013-F&EA dated 21.11.2014
60th	301-16/2014-F&EA dated 09.04.2015
61st	301-30/2016-F&EA dated 22.11.2016

Note.2. – The Explanatory Memorandum explains the reason for the Telecommunication Tariff (Sixty Second Amendment) Order, 2016.

Explanatory Memorandum

Telecom Regulatory Authority of India vide Telecommunication Tariff (Sixty First Amendment) Order dated 22nd November, 2016 has inserted item (7B) in the schedule II to the principle tariff order for revising the ceiling tariff downwards for USSD based Mobile Banking and Payment Services and other related aspects and therefore item (8) in the principle tariff order (inserted vide Telecommunication Tariff (Fifty Sixth Amendment) Order, 2013) becomes redundant and is deleted and item (7B) and entries relating thereto is renumbered as item (8) and entries relating thereto.

TELECOM REGULATORY AUTHORITY OF INDIA

THE TELECOMMUNICATION TARIFF (SIXTY THIRD AMENDMENT) ORDER, 2018

(No. 1 of 2018)

NOTIFICATION

New Delhi, the 16th February, 2018

No. 312-1/2017-F&EA —In exercise of the powers conferred upon it under sub-section (2) of section11, read with sub-clause (i) of clause (b) of sub-section (1) of the said section, of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), the Telecom Regulatory Authority of India hereby makes the following Order to further amend the Telecommunication Tariff Order, 1999, namely:-

1. (1) This Order may be called the Telecommunication Tariff (Sixty Third Amendment) Order, 2018 (1 of 2018).

(3) This Order shall apply to all telecommunication services provided throughout the territory of India including those originating in India and terminating outside India.

2. In clause 2 of the Telecommunication Tariff Order, 1999 (herein after referred to as the principal tariff order), for sub-clause (l), the following sub-clause shall be substituted, namely:-

l. ―Reporting Requirement‖ means the obligation of a service provider to report to the Authority any new tariff for telecommunication services under this Order or any change therein, within seven working days from the date of its implementation for information and record of the Authority, after conducting a self-check to ensure that the tariff, including promotional tariff, is consistent with the regulatory principles which, *inter-alia,* include transparency, non-discrimination and non-predation.‖

3. In clause 2 of the principal tariff order:-

(a) after sub-clause (b), the following sub-clause shall be inserted, namely:-

―ba. ―average variable cost‖ means total variable cost divided by total output during the relevant period;‖

(b) after sub-clause (db), the following sub-clause shall be inserted, namely:-

―dc. ―Distinct Telecommunication Services‖ include (i) Wireline Access Service, (ii) Wireless Access Service, (iii) National Long Distance Service and (iv) International Long Distance Service and any other telecommunication service for which licence is granted;‖

(c) after sub-clause (k), the following sub-clauses shall be inserted, namely:-
―ka. ―non-predation‖ means not indulging in predatory pricing by a service provider having significant market power;
―kb. ―predatory pricing‖ means the provision of a Distinct Telecommunication Service in the relevant market at a price which is below the average variable cost, with a view to reduce competition or eliminate the competitors in the relevant market, as determined by the Authority;‖
(d) the existing sub-clause ka shall be re-numbered as kc;
(e) after sub-clause (l), the following sub-clauses shall be inserted, namely:-
―la. ―relevant market‖ means the market which may be determined by the Authority with reference to the relevant product market for Distinct Telecommunication Service and the relevant geographical market; lb. ―relevant product market‖ means the market in respect of a Distinct Telecommunication Service for which the licensor grants license to the telecom service providers;
lc. ―relevant geographic market‖ means a market comprising the respective license service area for which the licensor grants license to the telecom service providers to provide Distinct Telecommunication Services.‖ (f) the existing sub-clauses la, lb and lc shall be re-numbered as ld, le and lg, respectively;
(g) after sub-clause (le) but before sub-clause (lg), as re-numbered, the following sub-clause shall be inserted, namely:-
―lf. ―significant market power (SMP)‖ means a service provider holding a share of at least thirty per cent. of total activity in a relevant market;
Explanation – Total activity shall be determined on the basis of either subscriber base or gross revenue.‖ (h) after sub-clause (r), the following sub-clause shall be inserted, namely:-
―ra. "Total cost' means the total cost with regard to telecom services, is the cost of provision of service including items such as employee cost, administrative cost, sales and marketing cost, maintenance cost, network operating cost, government charges, depreciation and amortization, finance charges and other cost attributable to the service during the referred period;
rb. "Total variable cost' means the total cost minus the fixed cost and share of fixed overheads, if any, during the relevant period.‖
rc. "Transparency' means the disclosure of all relevant information of every tariff plan by the service provider which enables the consumer to make an informed choice. The disclosed information, *inter alia*, is to be

accessible, accurate, comparable, complete, distinct and identifiable, explicit and non-misleading, simple and unambiguous.‖

(i) the existing sub-clauses ra, rb and rc shall be re-numbered as rd, re and rf, respectively;

4. In clause 7 of the principal tariff order, for exiting sub-clause (iii), the following sub-clause shall be substituted, namely:-

―(iii) If a service provider fails to comply with the Reporting Requirement, it shall, without prejudice to the terms and conditions of its licence, or the provisions of the Act or rules or regulations or orders made, or directions issued, thereunder, be liable to pay five thousand rupees, by way of financial disincentive for every day of delay subject to a maximum of two lakh rupees as the Authority may by order direct;

The Authority may, on reference from any person or *suo motu*, examine the tariffs of a SMP to determine the existence of predatory pricing. The Authority may, after providing detailed reasons, disallow the relevant tariffs if they are found to be predatory.

In case of tariff being found predatory, the service provider shall, without prejudice to the terms and conditions of its licence, or the provisions of the Act or rules or regulations or orders made, or directions issued, thereunder, be liable to pay by way of financial disincentive an amount not exceeding fifty lakh rupees per tariff plan for each service area as the Authority may by order direct.

Provided that no order for payment of any amount by way of financial disincentive shall be made by the Authority unless the service provider has been given a reasonable opportunity of representing against the contravention of the tariff order observed by the Authority.‖

5. For clause 10 of the principal tariff order, the following clause shall be substituted, namely:-

―10. Non-discrimination - No service provider shall, in any manner, discriminate between subscribers of the same class and such classification of the subscribers shall not be arbitrary:

Provided that every classification between subscribers shall be based on intelligible eligibility criteria where such criteria shall have a rational nexus to the purpose of the said classification.

Provided further that tariff in the nature of vertical price squeeze shall be a case of discriminatory tariff.‖

Sd/-

(Shailendra Kumar Mishra)
Principal Advisor (F&EA)

Note.1. – The Telecommunication Tariff Order, 1999 was published in the Gazette of India, Extraordinary, Part III, Section 4 under notification No.99/3 dated 9th March, 1999, and subsequently amended as given below:

Amendment No.	**Notification No. and Date**
1st	301-4/99-TRAI (Econ) dated 30.3.1999
2nd	301-4/99-TRAI(Econ) dated 31.5.1999
3rd	301-4/99-TRAI(Econ) dated 31.5.1999
4th	301-4/99-TRAI(Econ) dated 28.7.1999
5th	301-4/99-TRAI(Econ) dated 17.9.1999
6th	301-4/99-TRAI(Econ) dated 30.9.1999
7th	301-8/2000-TRAI(Econ) dated 30.3.2000
8th	301-8/2000-TRAI(Econ) dated 31.7.2000
9th	301-8/2000-TRAI(Econ) dated 28.8.2000
10th	306-1/99-TRAI(Econ) dated 9.11.2000
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13th	303-4/TRAI-2001 dated 1.5.2001
14th	306-2/TRAI-2001 dated 24.5.2001
15th	310-1(5)/TRAI-2000 dated 20.7.2001
16th	310-5(17)/2001-TRAI(Econ) dated 14.8.2001
17th	301/2/2002-TRAI(Econ) dated 22.1.2002
18th	303/3/2002-TRAI(Econ) dated 30.1.2002
19th	303/3/2002-TRAI(Econ) dated 28.2.2002
20th	312-7/2001-TRAI(Econ) 14.3.2002
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26th	306-2/2003-Econ dated 27.3.2003
27th	303/6/2003-TRAI(Econ) dated 25.4.2003
28th	301-51/2003-Econ dated 5.11.2003
29th	301-56/2003-Econ dated 3.12.2003
30th	301-4/2004(Econ) dated 16.1.2004
31st	301-2/2004-Eco dated 7.7.2004

32nd	301-37/2004-Eco dated 7.10.2004
33rd	301-31/2004-Eco dated 8.12.2004
34th	310-3(1)/2003-Eco dated 11.3.2005
35th	310-3(1)/2003-Eco dated 31.3.2005

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39th	310-3(1)/2003-Eco dated 8.9.2005
40th	310-3(1)/2003-Eco dated 16.9.2005
41st	310-3(1)/2003-Eco dated 29.11.2005
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44th	301-34/2006-Eco dated 24.1.2007
45th	301-18/2007-Eco dated 5.6.2007
46th	301-36/2007-Eco dated 24.1.2008
47th	301-14/2008-Eco dated 17.3.2008
48th	301-31/2007-Eco dated 1.9.2008
49th	301-25/2009-ER dated 20.11.2009
50th	301-24/2012-ER dated 19.4.2012
51st	301-26/2011-ER dated 19.4.2012
52nd	301-41/2012-F&EA dated 19.09.2012
53rd	301-39/2012-F&EA dated 1.10.2012
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55th	301-10/2012-F&EA dated 17.06.2013
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60th	301-16/2014-F&EA dated 09.04.2015
61st	301-30/2016-F&EA dated 22.11.2016
62nd	301-30/2016-F&EA dated 27.12.2016

Note.2. – The Explanatory Memorandum explains the reason for the Telecommunication Tariff (Sixty Third Amendment) Order, 2018.

Explanatory Memorandum

THE TELECOMMUNICATION TARIFF (SIXTY THIRD AMENDMENT) ORDER, 2018

1.0 **Introduction**

1.1 The purpose of the present exercise is to review some key regulatory principles of tariff, as laid down in the Telecommunication Tariff Order (TTO), issued in 1999 as amended from time to time and other related Regulations, in the light of changing market conditions and evolving product categories.

1. 2 The Telecom Regulatory Authority of India (TRAI) is mandated by the TRAI Act, 1997 to regulate the tariffs offered by the Telecom Service Providers (TSPs) for their various services. Section 11 (2) of TRAI Act, 1997 reads as under:

―Notwithstanding anything contained in the Indian Telegraph Act, 1985 (13 of 1885), the Authority may, from time to time, by order, notify in the Official Gazette the rates at which the telecommunication services within India and outside India shall be provided under this Act, including the rates at which message shall be transmitted to any country outside India:

PROVIDED that the Authority may notify different rates for different persons or class of persons for similar telecommunication services and where different rates are fixed as aforesaid, the Authority shall record the reasons therefor.‖

The telecommunications sector in India has witnessed tremendous changes in the telecom ecosystem consisting of technology, telecom service providers, range of telecom services, market composition, competition, user profile and usage pattern in the last nineteen years since the Telecommunication Tariff Order, 1999 (―TTO‖) was first notified. As a result, the TTO itself has gone through numerous amendments to account for these developments (Sixty-two amendments).

1.3 The background and the rationale for undertaking the current exercise is detailed below:

2.0 **Background:**

2.1 **Telecom Tariff Order (TTO)**. In exercise of the power under Section 11(2) of TRAI Act, 1997, Telecommunication Tariff Order (TTO), 1999 was first notified on 9th March, 1999. The main highlights of the TTO were the limits on tariff, reporting requirements on part of TSPs for new tariff in accordance with specific regulatory principles e.g. transparency, non-discrimination and non-predation to protect the interest of the consumers. In the last 19 years since the TTO was first notified, the telecommunication sector in India witnessed massive changes in the telecom ecosystem in respect of technologies deployed, types of telecom services, market composition, competition, user profile and usage pattern of various telecom services. Amendments to the TTO, 1999 have been made from time to time to reflect the evolving telecommunication landscape. As a result, the TTO was amended sixty two times as on date to reflect the developments in the sector.

2.2 **Other Regulations**. In addition to the TTO, various Regulations, Directions and Advisories were issued by TRAI from time to time to fulfill the regulatory requirements. For example, the Telecom Consumer Protection Regulations (TCPR), 2012, as amended, from time to time defines the features of various tariff products and also addresses related transparency issues.

2.3 **Regulation of Tariff: From Fixation to Forbearance.** TTO defines Tariff as ―rates and related conditions at which telecommunication services within India and outside India may be provided, including rates and related conditions at which messages shall be transmitted to any country outside India, deposits, installation fees, rentals,

free calls, usage charges and any other related fees or service charge.‖Initially from the regime of ‗Fixation of tariff rates', TRAI has moved over the years, to ‗Forbearance with prior Approval stage' and finally to a ‗Forbearance regime with post-facto reporting obligation' with regulatory oversight. Currently, except for the tariffs for national roaming, fixed rural telephony, USSD and leased lines, tariffs for all other telecommunication service are under forbearance. This policy of ‗light-touch' regulation for the tariff framework gives the TSPs, which include Internet Service Providers (hereinafter collectively referred to as TSPs) the freedom to design tariffs according to the prevailing market conditions. This has resulted in emergence of new and innovative products in the market that are designed to provide telecom services at affordable and competitive price to the consumers.

3.0 **Regulatory principles governing tariff**

3.1 Notwithstanding the extant principle of forbearance, regulatory oversight over tariff is required to ensure the observance of regulatory principles. Accordingly, TRAI examines the tariffs reported to it to ensure their consistency with the regulatory principles. Through the 30th (Thirtieth) Amendment to the TTO issued in 2004, TRAI revised the ―reporting requirement" to be followed by a TSP in respect of any new tariff launched by it and amendments therein. As per this, a TSP is required to report the details of each tariff to TRAI within seven days of its implementation, after conducting a self-check to ensure that the tariff plan(s) is/are consistent with the Interconnection Usage Charges (IUC) Compliance and regulatory principles in all respects which, *inter-alia,* include Transparency, Non-discrimination and Non-predation.

3.2 A TSP has the flexibility to decide various tariff components for different service areas of their operation subject to the reporting requirement and adherence to other regulatory guidelines in vogue. Flexibility given to the TSPs by tariff forbearance is a core feature of current tariff framework. At the same time, several regulatory principles have been laid down to ensure protection of consumer interest and orderly growth of the sector. Forbearance and flexibility in respect of tariff are, however, not unbridled and come with an express obligation on the part of TSPs to ensure adherence to the regulatory framework. The primary responsibility to ensure consistency of tariff with the regulatory principles, directions and guidelines rests with the TSPs. The tariff filing provision plays a critical role in this regard, enabling TRAI to monitor the prevalent reported tariffs and effectively intervene, wherever required.

4.0 **Requirement of consultation on „Regulatory Principles of Tariff"**

4.1 In the year 1999 when the TTO framework was put in place, the telecom sector was primarily voice centric. However, in the recent past, there has been a shift, from voice to data, driven by technological and other factors like change in user profile, proliferation of social media, development of innovative content and applications, falling cost of devices etc. Following are some of the factors that underline the need for a comprehensive review:

(a)The TTO was issued in the year 1999, when the telecom sector consisted mainly of fixed-line services and was dominated by Government operators – DoT (subsequently BSNL) and MTNL. Though in the last 19 years, TRAI carried out sixty-two amendments in the Principal TTO to keep pace with the changed circumstances, it was felt that a comprehensive review of the TTO is required to address the changes in the sector in an appropriate manner.

(b)The trend towards convergence of services too called for a comprehensive regulatory framework that supports seamless delivery of converged services in a technology neutral environment. The trend towards convergence has also resulted in parallel, but related, shifts in pricing strategies, in particular, the growing prevalence of bundled tariffs. For example, converged services like triple-play offerings (video, voice and data) are often accompanied by a bundled pricing approach. Initially, telecom services predominantly meant delivery

of voice through telecom network. In the recent past, offer of bundled services – voice and data – have become the main feature of tariff offerings by the TSPs. Bundled services are offered through composite tariff offer.

(c)There are certain principles that have been explicitly defined in the TTO, like the term ―non-discrimination‖, which is one of the key regulatory tariff principles. Clause 2(k)) of the TTO defines it as*, "k. „Non-discrimination" means that service providers shall not, in the matter of application of tariffs, discriminate between subscribers of the*

same class and such classification of subscribers shall not be arbitrary". The terms such as ―class‖ in the definition are to be explained and other principles like ‗transparency', ‗non-predation', required further elaboration in the context of retail tariff.

4.2 Despite the amendments made in the TTO and other regulations to factor in the various market developments, a need was felt by TRAI to undertake a comprehensive review of the regulatory framework of tariff, albeit in a phased manner, starting with a discussion on the core regulatory principles enshrined in the TTO, Directions and Advisories etc issued by TRAI. The consultation process was in line with the decision taken in the meeting held with the CEOs of the Telecom Service Providers (TSPs) on 6th January 2017 to discuss the annual calendar of activities of TRAI for the year 2017, which, *inter-alia* included developing a new framework for tariffs in evolving telecommunication sector and on which there was a consensus. The process aimed to bring about greater clarity in interpretation of various regulatory principles set out in the TTO and other related regulations etc. in consonance, *inter alia*, with the best global practices.

5.0 **Consultation Process**

5.1 The consultation paper titled **‗Regulatory Principles of Tariff Assessment'** dealing with emergent issues and challenges, *inter-alia*, related to regulatory principles of tariff assessment e.g. transparency, promotional offers, disclosures and non-discrimination, adherence to the principle of non-predatory pricing, meaning of predatory pricing, relevant market, assessment of dominant position etc., was uploaded on TRAI's website (www.trai.gov.in) on 17th February 2017. The written comments on the issues raised in the consultation paper were invited from the stakeholders by 17th March 2017 and counter-comments by 24th March 2017. The dates were extended twice on the request of the stake holders and last dates for forwarding comments and counter comments to TRAI, after the extensions were 21st April 2017 and 01st May 2017 respectively.

5.2 A total of 57 comments and 03 counter comments were received up to the extended dates e.g. 21st April 2017 and 01st May 2017 respectively and a summary of the same is placed at Annexure I. An Open House Discussion (OHD) on the Consultation Paper was held on 30th May 2017 at Scope Convention Centre, New Delhi.

5.3 Considering the importance of the subject matter from the perspective of stake holders and requests made in OHD, comments were accepted beyond the last date as research notes, as an exception. Further, efforts were also made by TRAI to obtain views of the other institutions/organizations, including the regulators of other countries. Regulators of other countries were also requested to share the experience, if similar exercise was undertaken by them in the past. The summary of views, comments and counter comments received after the due dates is placed at Annexure II. In addition, TRAI has also extensively studied the relevant articles and similar research literature available in the public domain.

5.4 National Institute of Public Finance and Policy (NIPFP), Delhi had also organized a full day seminar on 23rd May 2017on the issues raised in the Consultation Paper. The eminent scholars, economists, industry and erstwhile senior officers of regulatory bodies like TRAI and CCI along with officers of TRAI participated in the Seminar.

5.5 The Authority held a meeting with CEOs of Telecom Companies on 15th June 2017 and discussed, *inter alia*, the issue of floor prices. The issue was brought forth by Telecom Companies. Some operators were of the view

that there should be some form of floor price in the tariff so that the possibility of predatory pricing be avoided. At the same time this was not agreed by the other TSPs who said that forbearance should continue and there should not be any floor price. One of the operators mentioned that the fixation of floor price by the Regulator would distort the market.

5.6 The Authority had another meeting with the Telecom Service Providers on 21st July, 2017; to exclusively discuss the issue of floor price and whether IUC could be the floor for retail tariffs. After detailed discussion the TSPs were found to be generally in agreement that existing policy of forbearance in telecom tariff should continue for the present. Majority of the telecom players agreed that given the complexities involved in fixation of floor price by the Regulator, it is not an idea worth pursuing at this point of time and that IUC cannot be taken as a floor for the retail tariff.

6.0 **Analysis of Issues Raised in Consultation Paper**

The subsequent parts of this Memorandum present an analysis of the issues raised in the form of eight questions for consultation along with rationale for conclusion and consequent decision of the Authority.

7.0		**Adequacy of Transparency Measures and need for additional Measures.**
7.1		The following question was asked with reference to the issue of Transparency**.**
		Do you think that the measures prescribed currently are adequate to ensure transparency in the tariff offers

made by TSPs? If not, then, what additional measures should be prescribed by the TRAI in this regard? Kindly support your response with justification.

7.2 The stakeholders expressed their views through **their comments/counter comments and research notes** as detailed below:-

(a) Many TSPs (Idea, RCOM, Airtel, Aircel, Tata teleservices and MTNL), AUSPI and many individuals stated that ***current measures were adequate*** and found them of being of good standard. These TSPs listed all the steps taken by them to comply with the regulatory requirement and asserted that detailed regulatory compliance in the name of transparency will not be in the interest of industry and consumers. They have asked for certain relaxations in the existing provisions related to publication of tariff, offering to certain classes of consumers, reduction of protection period of six months for the tariff plan and removal of unnecessary restrictions imposed through regulations e.g. the Consumer Protection Regulation, 2012 which specifies types of vouchers that can be provided to pre-paid customers, to cite a few.

(b) On the other hand some TSPs (RJIL, Telenor and BSNL), organisations (MRF, Dua Consulting) and individuals have said that the ***current measures were not complete and therefore not adequate***. They stated that certain offers made by TSPs directly to the consumers through SMS etcwere not transparent. According to them, TSPs offering special plans to selective customers are not even filed with TRAI. According to BSNL, offering special tariff to specific filtered segment of customers which is conveyed only by SMS is a matter of concern. If there is a deviation from the offer, subscribers have no options to complain. Other suggestions by these group of stakeholders to further improve transparency received from stakeholders are listed below:-

(i) Instead of the complex term `Transparency', `Lack of transparency' should be defined by TRAI.

(ii) Easy access of information about tariff or services to make comparisons and informed decisions (**MRF, RJIL)**

(iii)Measures to make sure that an average consumer can interpret and understand the consequences of that information disclosure.

(Dua consulting)

(iv)Measures for rural consumers to follow the advice of retailers. (**Federation of Consumer And Service Organization)**

(v)Multiple plans can be best addressed by publishing tariff on TRAI website as done by IRDA**. (RJIL, MRF and Telenor)**

(vi)Authority can also offer a comparision tool to see all plans at similar MRP in an area. (**RJIL)**

(vii)Interactive web-based price tool/price calculator can be considered. The Authority may establish a system for the accreditation of such websites maintained by third parties. (**RJIL & MRF)**

(viii)For prepaid customers, the present stipulation of six months for protection against tariff hike may be modified to 12-24 months.

(ix)The Billing and Metering Audit should be carried out by the auditors appointed and paid by the Authority. (**MRF).**

(x)The tariff offers should be displayed in local languages. (**Federation Of Consumer And Service Organization)**

(xi)Considering customers who feel confused by the number of tariffs offered, it is not recommended that any further reductions be made on the cap applied on the number of tariffs offered by a given TSP, as it will hinder the TSP ability to innovate and compete. (**National Telecommunications Regulatory Authority, Egypt)**

7.3 During the **Open house discussion,** the aspect of transparency and adequacy of extant regulatory provisions/measures along with the related subject was deliberated at length:-

(a) Some TSPs (Airtel, Idea, Telenor and Aircel) raised the issue of tailor made plans and segmented offers and justified the same with example of similar practice in other industries such as Hotel and airline etc. It was argued that plans and discounts offered for promotion and/or for retaining the current customer(s) may not be required to be published and filed with TRAI as that would defeat the basic purpose of giving the discount. But at the same time they stated that this should be applicable to tariffs being offered to new customers. However, there were counter arguments from other TSPs (RJIL & BSNL) and consumers' side, who argued that the principle of transparency should be applicable to all tariff offers, whether it is for customer acquisition or for customer retention.

(b)From a consumers' perspective, there has to be a mechanism, where all the plans offered to consumers are available on a common platform. It should be possible for the consumer to study all the plans and choose what is best for him. Most customers are not well versed to understand the nuances of tariff plans and offerings. They should be able to ascertain in transparent manner, the services that would be provided for the amount paid by them. The regulatory authority can put all tariffs in one place and can ensures that nothing beyond that is offered to customer, on the basis of any arbitrary segmentation and offerings.

(c) Consumers have also cited some other issues e.g. TSPs not taking consent prior to change of plans, the issue of negative billing and adjustment of negative balance during next recharge without the customer knowing about it, misleading advertisement of unlimited plan with terms and conditions in fine print etc. It was requested that adequate protective measures be prescribed to deter such undesirable practices. The issue of use/sharing of consumers' details and related data by TSPs without prior consent of the consumers was also highlighted by consumer with concern.

7.4 **Analysis and Decisions**.

7.4.1 Transparency in tariff is and has always been an issue of prime concern for the Authority. To protect the interests of the consumers of telecommunications services, the Authority has issued several directions and guidelines in order to ensure transparency in tariff offers. However, despite these measures to ensure transparency in tariffs, the Authority has been receiving complaints from consumers and consumer organizations highlighting, *inter-alia,* lack of transparency in the tariff offers of TSPs. Common to all these feedbacks is the feeling amongst the consumers that the various tariff offers being made by the TSPs are difficult to comprehend and lack full disclosure.

7.4.2 It has been constant endeavor of the Authority to give due importance to the _transparency' which evident from the extant regulatory provisions and action taken in the past in this regard. The current consultation process, however, has raised certain specific issues which have been analysed as given below:

(a) To ensure transparency, the tariff offers of the Telecom Service Providers (TSPs) will be examined on the touchstone of the following criteria:

(i) **Accessible**: Is the information easy to access, find and use?

(ii) **Accurate**: Is it accurate, up to date and can it be checked for correctness?

(iii) **Comparable**: Is it presented in such a way by various providers which allows for easy and sensible comparisons?

(iv) **Complete**. Whether all required information is available?

(v) **Distinct and Identifiable**. Is the tariff offers have distinct characteristics so that it is identifiable by the consumer without any ambiguity?

(vi) **Explicit and Non-misleading.** The tariff offers should not have any implicit or hidden charges or conditions. They should also correctly convey what the consumer would pay and get in terms of service.

(vii)**Simple and unambiguous**: Is the information expressed in units, concepts or terminology that is unambiguous and easy to understand? Have the tariff offers has been communicated in simple terms?

(b) **Cap on Tariff Plans on Offer**. Some TSPs requested removal of the cap on the number of tariff plans. As per the extant regulatory provisions, the number of tariff plans that can be offered by a service provider in each licensed service area at any given point of time is subject to a cap of twenty-five plans, by virtue of the provisions of Twenty First Amendment to the TTO. This includes both postpaid and pre-paid tariff plans. The cap on the number of tariff plans has been prescribed on the premise that too many tariff plans on offer would confuse the consumer and make it difficult for consumers to make an informed choice.

Keeping in view of relevant factors, the issue has been further analyzed. It is to be noted that as of now, flexibility in the form of Special Tariff Vouchers (STV), Combo Vouchers (CV), Add on packs is available

to TSPs. They have freedom and opportunity to innovate and design their offer suitably to compete in the market. **The Authority accordingly has decided that the cap of 25 tariff plans is justified and it should continue**.

(c) **Protection to consumers against hike in tariffs.** On the issue of protection of consumers against the tariff hike, there were also divergent views. While most TSPs asked to reduce the protection time to three months as the need to revise the tariff plan is dynamic and there exists a restriction on number of tariff plans. However, consumers and consumer organizations demanded that the consumers may be given protection for a longer period of 12 months to 24 months. It may be relevant to mention here that the 43rdAmendment to the TTO seeks to prevent too frequent changes in the tariff plans to the consumers and assures tariff stability for a minimum period of six months after enrolment into a tariff plan. This TTO states:-

"A tariff plan once offered by an Access Provider shall be available to a subscriber for a minimum period of SIX MONTHS from the date of enrolment of the subscriber to that tariff plan. However, any tariff plan presented, marketed or offered as valid for any prescribed period exceeding six months or as having lifetime or unlimited validity in

lieu of an upfront payment shall continue to be available to the subscriber for the duration of the period as subscribed in the plan and in the case of lifetime or unlimited validity plans, as long as the service provider is permitted to provide such telecom service under the current license or renewed license. In the case of plans with lifetime or unlimited validity, the service provider shall also inform the subscribers of the month and the year of expiry of his current license".

Authority has deliberated the issue afresh and is of the opinion that six months‟ period (180 days) is optimal period in the existing scenario and it should continue.

(d) **Direction on publication of Tariff plans**. TRAI had issued a Direction on publication of Tariff plans on 16th Jan 2012 to facilitate the subscribers to choose plans that suit individual requirement best. Service providers are required to publish all tariff plans in a service area for prepaid and postpaid subscribers in the prescribed format in one regional and one English newspaper at an interval not more than six months. Full details are to be made available at Customer Care Centre, Point of Sale (PoS), and website in the given format with a view to facilitate easy and transparent comparison. In this respect, most TSPs suggested that TRAI discontinue the practice, as the same does not serve the purpose as the tariff plans are dynamic and need to be seen along with STVs/CVs/ Promotional offers in case of prepaid consumers and Add ons/Promotional offers in case of post paid consumers.

The Authority finds merit in the suggestion and has already asked TSPs to come up with alternate measures such as web site to display the tariff plans in English and vernacular languages, mobile applications in English and vernacular languages for the smart phone users and some SMS/USSD based solution for feature phone users (as an alternative to the news paper advertisement). **The Authority has found merit in the suggestion of discontinuing the direction for publication of tariffs in NEWS PAPER. Accordingly, Direction on publication of Tariff Plans dated 16th Jan 2012 is being withdrawn separately.**

(e) **Segmented Tariff Offers**.

(i) With reference to the demand of some of the existing TSPs for allowing segmented offers (as mentioned in paragraph above) and the counter argument of some other TSPs and consumers, the Authority has examined the issues in the light of the extant provision of TTO, TCPR, TRAI Act and the law reiterated by Hon‘ble Supreme Court from time to time.

(ii) Clause 7 (i) of the TTO provides:

―All service providers shall comply with the reporting requirement in respect of tariffs specified for the first time under this Order and also all subsequent changes; PROVIDED that in respect of tariff plans offered by a telecom access provider to bulk customers, such as corporate, small and medium enterprises, institutions etc., either in response to a tender process or as a result of negotiations between the access provider and such bulk customer, the reporting requirement as define in sub-clause (l) of clause 2 shall not apply.‖

The definition at Clause 2 (l) states:

―Reporting Requirement means the obligation of a service provider to report to the Authority any new tariff for telecommunication services under this Order and/or any change therein within SEVEN working days from the date of implementation of the said tariff for information and record of the Authority after conducting a self-check to ensure that the tariff plan(s)/are consistent with the regulatory principles in all respects which *inter-alia* include IUC compliance, non-discrimination and non-predation‖

This definition applies the requirement to ―any new tariff for telecommunication services under this Order or any changes therein‖. It is necessary to understand what precisely is required to be reported: new ―tariffs‖ and any ―changes‖ to these tariffs. We must determine whether, under existing law, segmented discounts may be referred to as ―tariffs‖ or whether they qualify as ―changes‖ to tariffs. Similarly, while the non-discrimination principle at Clause 10 of the TTO is a basic requirement placed on TSPs in relation with all kinds of treatment of subscribers, the definition of the term ―non-discrimination‖ at Clause 2 (k) of the same Order applies the principle ―in the matter of application of tariffs‖. The term ―tariff‖ is defined in the TTO at Clause 2 (r) and in the TCPR at Clause 2 (q). The definitions read as follows:

"Tariff(s)" mean(s) rates and related conditions at which telecommunication services within India and outside India may be provided, including rates and related conditions at which messages shall be transmitted to any country outside India, deposits, installation fees, rentals, free calls, usage charges and any other related fees or service charge[.]‖

(iii) The power of the Authority to regulate tariffs flows from Clause 11(2) of TRAI Act, 1997 which permits classification of customers. However, in the Authority‘s view, TSPs must also follow the aforesaid provision in letter and spirit. It has been laid down clearly therein that if different rates are offered for different person or class of persons for similar telecommunication services and where different rates are fixed, the reasons are to be recorded. Hon‘ble Supreme Court of India in *Cellular Operators Association of India & Ors. v. Telecom Regulatory Authority of India &Ors.* AIR 2015 SC 1297 had also upheld the view of TRAI in respect of not allowing arbitrary classification of customers in matters of tariff.

(iv) The phrase ―rates and related conditions‖ is a broad formulation and does not differentiate on the basis of the different marketing and sales objectives for which such rates and conditions are set and changed. The definition is comprehensive enough to include rates for international messaging, deposits, installation fees etc. within the meaning of the term. The inclusive list of charges that may be termed ―tariff‖ also includes the term ―free calls‖. This indicates that the term must be read to cover not just the application of some non-zero charge as a rate but also a rate that amounts to

zero rupees. *Reduction in a tariff changes the rate at which the service was being provided and applies a new rate altogether.* Thus, discounts, rebates and waivers when applied to a tariff would give rise to a new and distinct tariff as envisaged in the definition. **This would mean that the offer of a discount is effectively the offer of a new tariff.**

(v) In view of the foregoing, the Authority after having analyzed the issue is of the opinion that the issue brought out about the tariff plans offered to the individual customers/consumers and which are not filed with TRAI, is a cause of serious concern. Any justification with reference to such violation cannot be accepted. The argument of some TSPs that plans and discounts offered to counter the promotion effort of competitors and for retaining the existing customer(s) may not be required to be published and filed with TRAI as that would defeat the basic purpose of giving the discount, is not acceptable. It was conveyed to them during the OHD itself that the segmentation cannot be arbitrary and non transparent and the basis of segmentation should be clearly spelt out. **Therefore, the Authority is of the opinion that segmented offers which have to be necessarily transparent and non-arbitrary, either for retention or acquisition of new consumers, are to be transparently filed with the Authority in accordance with the reporting requirement. All such segmented tariffs are to be publically displayed, *inter alia*, on the website of the TSPs, for transparent and complete disclosure to consumers, without any discrimination. The Authority has already reiterated aforesaid regulatory requirement vide its Direction to TSPs dated 25th May2017.**

(f)**Independent Audit**. As of now the Metering and billing audit is carried out by the audit agencies selected from the panel approved by the Authority for the purpose. The selection of the auditor is done by the concerned TSP and the payment is also made and borne by the TSP. It has been pointed out by different stakeholders with the request that independent audit may be ordered by the Authority for bringing transparency, accountability and credibility of Metering and billing system of TSPs.

The Authority finds merit in the suggestion and has decided that in addition of routine metering and billing audit reports filed by the TSPs, snap audit of metering and billing will be carried out by independent auditors appointed by the Authority to check the observance of transparency, accountability and credibility and

protection of consumer interests by TSPs. The necessary orders in this regard will be issued separately.

(g)**Additional Transparency measures.** TRAI Direction dated 1st September, 2008, and 48th Amendment to TTO notified on 1st September, 2008 mandate several transparency measures including the restriction on number of black out days, passing the straight tariff reduction to consumers, provision for not insisting on recharge between periods lesser than six months in lifetime plans for remaining connected during the promised lifetime validity period and providing the tariff in vernacular language. Consumers have demanded more such measures whereas TSPs have asked for removal of many of these provisions. **The Authority, has decided that these are to continue. The Authority will continue to monitor and may direct additional transparency measures whenever it finds it necessary.**

(h)**Informed decision by consumers**. TRAI had issued a Direction for preventing misleading advertisements on 26th March, 2012.This Direction was intended to improve transparency in telecom tariff advertisements and to facilitate subscribers in choosing a plan that best suits an individual requirement. It was mandated that tariff advertisements published by service providers were to be transparent, not misleading and unambiguous, disclose all material information in an unambiguous manner, and contain the website address and customer- care number of the TSPs. The TSPs have to maintain an advertisement register which must include a copy of every tariff related advertisement, and carry out internal audit to ensure that they are

complying with all aspects of this Direction. **The Authority decides that in the interest of consumers, the existing provisions are to continue.**

8.0 **Adequacy of definition of non-discrimination and suggestion for additional measures**

8.1 The following question was asked with reference to the issue of ‗non-discrimination' and additional measures to ensure ‗non-discrimination'.

Whether current definition relating to ―non-discrimination‖ is adequate? If no, then please suggest additional measures/features to ensure ―non-discrimination‖.

8.2 The stakeholders expressed their views through comments and counter comments along with research notes on the issue of current definition of non-discrimination and on the suggestion for additional measures and features to ensure ‗non-discrimination':-

(a)Most of the **TSPs, NCHSE, ISPAI**, and some individuals stated that ***current definition and measures are adequate***. **NTRA, Egypt** in its comments has also stated that the current definition relating to nondiscrimination is adequate, and the same regulations have been issued by NTRA to prevent discrimination.

(b)Some of TSPs argued strongly in support the segmented and customised offers. They stated that the TSPs had a right to retain the customer and can offer them segmented offers. Some such comments are given below :-

(i)TSPs have a legitimate business right to attract more customers through introductory offers, as long as the offers are in compliance with the cardinal principles (of IUC compliance, Transparency, non-predation, and non-discrimination) and any other regulations as applicable.

(**Airtel)**

(ii)There is no need to provide information on all offers to all customers as :
a. Different subscribers get different offers based on their usage pattern and these are transparently communicated to them.

b. It is not in the competitive interest of the TSPs (**Airtel)**

(iii) The Authority's concern with regard to discrimination between the new and old subscribers or offers linked to specific handsets doesn't hold good. (**Telenor)**

(iv) To serve the market requirements, TRAI may only provide broad guidelines and allow the TSP's to tailor their products to individual subscribers needs. (**MTNL)**

(v) Plans for new subscribers do not amount to discrimination as these terms are applicable to all who come under the category of ―new consumer‖. (**Shri TV Ramachandran)**

(c)However, **MRF, BSNL** and many individuals stated that the current definition of non-discrimination is inadequate citing the following reasons:-

(i)Many TSPs offer special tariff to individual customers only. (**BSNL)** (ii)The criteria of such classification are not disclosed.

(iii) Offered only to selected customers via SMS/USSD or mobile app.

(iv) Definition of non-discrimination should be more elaborate and provide uniform opportunity for all customers to join a particular class or classification provided that they fulfil the criteria (**MRF)**
(v) Offers only meant for new subscribers and not the existing ones amount to discrimination.

(Federation of Consumer and Service Organization and MRF)

(d)**ICRIER** has observed that **"**With regard to approaching non-discrimination from a regulatory perspective, it would be better to offer a negative list of practices that are strictly prohibited. Given the highly dynamic nature of tariffs and consumer demand, it would be nearly impossible to envisage all types of permissible and non-permissible price discrimination. Therefore ex-ante regulations to restrict exploitation using price discrimination may not be the most efficient use of regulatory resources".

(e)Following additional measures/ improvements have been suggested:-

(i) **MRF** has suggested that Service provider should not bundle the tariff plan with particular brand or technology for customer end equipment. However, **NTRA, Egypt** has opined that preventing promotions or offers that are linked to specific handset or technology as long as effective competition is in place.

(ii) **Dua Consulting** has suggested that the present definition of non-discrimination can be further updated to add:
a. That the inter-class difference in the tariff for the same type of service should not exceed a fixed percentage.

b. That services of same type should not discriminate between the type, make or technology of the carrier product through which those services are being utilized by the consumer.

8.3 **Views of stake holders during OHD**. During the open house discussion also, the issue of non-discrimination was extensively discussed and most TSPs (Airtel, Idea and Aircel) argued that the customized offer as per profile of the consumer should be allowed for retaining the customer. It was also argued that the whole definition of discrimination needed to be reviewed because currently customizing offers to individual's requirement was possible since big data analytics could facilitate such customized application and service. RJIL stated that these customized offers were discriminatory and are also to be treated as promotional offer.

8.4 **Analysis and Decisions**:

(a) Most stakeholders believe that the current definition of non-discrimination is adequate. However there are consumer concerns relating to the monitoring and enforcement of the same. There have been specific concerns on how to understand the term "classes of consumers" with some stakeholders arguing that there is a need to differentiate

discriminatory classification as against reasonable classification.

(b) **Definition and Adequacy.**

(i) Clause 2(k)) of the TTO defines Non-discrimination as

"Non-discrimination" means that service providers shall not, in the matter of application of tariffs, discriminate between subscribers of the same class and such classification of subscribers shall not be arbitrary".

(ii) It is an obligation cast on a TSP that while offering retail tariffs to the consumers; it shall ensure that they (tariff) are not discriminatory. However, the issue which arises in the examination of non-discrimination is: what is fair and non-arbitrary classification?

(iii) **NTRA, Egypt** has suggested that the word ―arbitrary‖ in the non-discrimination definition is vague and clear customer classification criteria needs to be put in place so as to enrich the definition. It could be replaced by ―the classification of subscribers shall be based on objective criteria such as demographic data, geographical area, usage pattern/consumer profile, customers with special needs, ARPU level, and/or technology used‖.

(iv) While the expression *non-discrimination* has been defined in the TTO, it is felt that there is a need to add further clarity into the meaning and interpretation of this term, particularly in the context of distinguishing arbitrary conduct from that which is based on reasonable classification. The Authority had already provided the following in the explanatory memorandum to the 33rdAmendment to the TTO: *"Whenever differential tariffs are offered, it shall be the responsibility of the operators to define in a transparent and unambiguous manner the eligibility criteria for availing such differential tariff. The Authority would consider such criteria to assess their consistency with the provisions of TTO relating to non-arbitrary classification of subscribers".*

(v) Decisions of the Hon'ble Supreme Court of India on this issue are also instructive. The Supreme Court has laid down the twin test in *State of West Bengal v. Anwar Ali Sarkar* (AIR 1952 SC 75) which states that at first, classification must be based on intelligible differentia and second, the differentia must have a rational nexus to the purpose of classification. This principle has been applied by the Supreme Court in *Cellular Operators Association of India &Ors. v. Telecom Regulatory Authority of India &Ors.* AIR 2015 SC 1297 wherein it was held that the private telecom operators violated the obligation of non-discrimination set under the TTO, because the basis of classification of subscribers for imposing discriminatory tariffs failed to meet the reasonable classification test laid down in the *Anwar Ali* case.

(vi) Therefore, while retaining the current definition of non-discrimination, a need was felt to amend the TTO to explicitly state the principle which will govern TSPs in the process of classification of subscribers to avoid arbitrariness.

(vii) The Authority will apply the tests referred to in *Anwar Ali* case as discussed above to examine the classification adopted by TSPs and assess whether both the criteria and the purpose are legitimate and objective. **Accordingly, the Authority has decided to incorporate the test of reasonable classification as laid down by Hon‟ble Supreme Court of India in Clause 10 of the TTO by suitably amending the definition.**

9.0		**Promotional Offer: Definition, Features and Conditions**
9.1	□	**Issue (s) for Consultation:-**
		Which tariff offers should qualify as promotional offers? What should be the features of a promotional

offer?

□ Is there a need to restrict the number of promotional offers that can be launched by a TSP, in a calendar

year, one after another and/or concurrently?

9.2 Views of Stakeholders contained in Comments/Counter Comments

(a) **Definition of Promotional offers:** Suggestions regarding definition/features of the promotional

offers by various stake holders are summarized below:-

Stakeholder(s)	**Definition/Features**
Airtel, Federation Of Consumer And Service Organization, several individuals	Any benefit given over and above the regular/normal plan. Any offer which is substantially different from any company's ongoing offer (in terms of lower tariff, more data, waiver of any charges, or cross selling etc.)
BSNL	Should generally offer a rebate or concession in fixed cost of services i.e. concession in cost of SIM/concession in activation charges, reduced tariff offer for limited period. Maximum period of promotional offer should be 90 days and validity of concessional tariff should be limited to 60 days only.
RCOM	Only those tariff offerings, which are available for the consumers or a particular class of consumers with clearly defined eligibility criteria, for a fixed period of 90 continuous days from the date of launch of the offer, should be construed as a promotional offer.
Idea, Tata Teleservices, MTNL, Dua Consulting	Promotional offers may comprise of free or discounted voice calls, data, talk time, SMS benefits, rebate in rentals, free gifts, etc. subject to them meeting the TRAI cardinal principles of IUC Compliance, Non-discrimination and Non-predation.
MTNL	Offer given to customer for a limited time with a view to incentivize their subscription and increase their subscribers
MRF	A new or existing tariff plan which is offered by TSP, to new customers on discounted rate or free with some ingredients such SMS, DATA etc to increase the subscriber base.

NCHSE	Any tariff offers, over the cap of 25 plans, should be treated as promotional offers

RCOM, RJio, Tata teleservices, AUSPI	The promotional offers as defined by TRAI should be continued.
RJio	New player should be able to introduce introductory prices to attract consumers
Ms. Seema Chaudhary	The benefits offered to customers under packages on offer to a maximum of 90 days from the date of launch which can offer benefits like, unlimited free incoming calls while roaming on network, rebate in recharge, free internet access etc.
Shri Sekaram M Sundaram	Any extra benefits provided by TSPs to the consumers other than the regular plans, can be considered as Promotional Offers, there is a need to restrict the number of promotional offers.
NTRA, Egypt	According to the Egyptian situation, promotions are defined as temporary offers to grant additional benefits to valid tariff and are designed to stimulate and encourage demand. The promotional offers include, but are not limited to, obtaining a reduction in subscription prices or exemption from installation fees or access to additional service features such as higher upload/download speed or higher capacity/quota limits during the period of benefit from the offer. Accordingly, the following features could be used to identify promotions: the duration period (e.g. 30 days), the renewal period/times, eligibility conditions, opening and closing dates, benefit period, subscription process, and the discount rate.

(b) **Restrictions on Number of Promotional Offers:** With regard to the issue of necessity to restrict the number of promotional offers that can be launched by a TSP, in a calendar year, one after another and/or concurrently, the views of stakeholder(s) are given below :-

(i)Should be included in 25 plans: **Telenor, MRF**

(ii)Even though such discounts/freebies are part of the base plan, it should also be filed with TRAI as a separate tariff plan under the Promotional category: **Telenor**

(iii)The contours of the Tariff Plan (Promotional) such as the start and end date, price to be paid, subscription charges etc. should be clearly defined. The eligibility criteria and the exit condition should be mentioned: **Telenor**

(iv)Subsequent promotional plans including small modifications to existing plans should only be launched with approval of the authority: **Telenor**

(v)No two Tariff Plan (Promotional) can be offered to the same market segment or class of customers simultaneously: **Telenor**

(vi) Free offer of any kind should be limited to 30 days with no exceptions granted. (**Telenor**)

Completely free tariff plan should not be allowed. **MRF**

(vii)Promotional offers may also be available for existing customers/ subscribers : **MRF**

(viii) A promotional offer ***when combined with*** the other regular tariff offerings of the TSP should comply with these three principles (IUC compliance, non-discriminatory and non- predatory) of the telecom tariff: **AUSPI.**

(ix)There should not be any restriction regarding :
a. Number of offers in a year or
b. Offering promotional offer one after the other :**1.BSNL, 2.Aircel, 3.MTNL etc**

(x)TSPs should be allowed to offer simultaneous promotional offers for different categories of service i.e. voice, messaging and data: **Shri TV Ramachandran, AUSPI, R.Com**

(xi)TSPs should be allowed flexibility to extend or curtail promotional offers depending upon success or failure of the promotion. Ideal solution is to allow promotional offers to run for a period of maximum 6 months: **Aircel**

(xii) No continuous/concurrent/overlap launch for promotional offer should be permitted: 1. Telenor, 2. Dr. Deepa Kapoor, 3.Anita Verma, and Other Individuals.

(xiii) There should be a specified gap of say one month/three months between two promotional offers: Shri TV Ramachandran, 2.AUSPI, 3.RCOM, 4.MRF

(xiv) Restrictions on number of offers in a year should range from one offer to seven offers : **Several individuals**

(xv)―TRAI letter dated 19.06.2002 was merely advisory in nature and not binding whatsoever. Crystallized by direction dated 01.09.2008 where the Authority demonstrated that they have not barred announcing similar promotional offers at the completion of 90 days of a particular offer. The Authority's only point was that in such circumstances, the promotional offer may be considered a promotional plans and should be counter in the limit of 25….

… No bar on offering simultaneous or consecutive promotional offers, not does it bar it from offering benefits with validity for more than 90 days‖
(RJIL)

(xvi) **Dr Shekhar Shah of NCAER**, ―In goods markets, CCI does not control the number of promotional offers in a calendar year. It is also against the interest of consumers for the TRAI to restrict the number of promotional offers. By and large, consumers gain from promotional offer. By restricting promotional offers, TRAI would put barriers to new entrants who would like to increase market penetration. It basically due to the promotional offer of JIO that data price of internet pack have some come down‖.

(xvii) **ICRIER** stated that ―In a limited online search we found no evidence of stipulated time periods for implementation of promotional offers, except for one case of proposed legislation in Italy, which recommends the upper limit on contracts with a promotional offer to be two years‖….It further stated that ―there is no evidence to suggest that limiting the total number of promotional offers either

restricts abuse or promotes competition. Principle-based ex-post analysis would yield better results in controlling abusive practices, if at all, through promotional offers‖.

9.3 **Views during OHD.** These views were reiterated by the TSPs and other stake holders in the OHD.RJIL had raised another issue that all the tariff offers which are offered to the individual consumers and segmented offers should also be treated as promotional offers. It was stated by the RJIL representative that when an operator give promotional offer to all the customer, you want to put a 90 day condition, when an operator want to give it for select few customer without disclosing it, there is no limit or

time, that inconsistency is coming into and creeping into this, from our point of view as long as the rule says 90 days, current regulation says that benefits can extend beyond 90 days which is fine because it is transparently told to customer that anyone can come and subscribe to that promotional offer if they so desire, this is part of regular business practice. Every industry gives discount and that is what is being offered. Whatever is the regulation is in vogue should be transparently adhered to and customer should be made aware that this is the promotion which is being given. Beyond that on how many discounts, whether for SMS or data, operator does it with a purpose to either create a market or get new customer or retain existing ones, whatever works best in the business interest of the operator should be allowed.

9.4 **Analysis & Decisions**.

(a) **Definition and features of Promotional tariff**.

(i) Apart from regular Tariff offers that are launched by the various TSPs, ‗promotional offers' are launched with a view to incentivize consumers in order to retain or increase their subscribers' base. They are different from the routine tariff offers and are in the nature of benefits available to consumers for a limited period of time. Promotional offers are generally offered to subscribers on special occasions keeping in mind the criteria such as need, profile and usage trend etc. **The Authority after having analyzed the extant regulatory provisions, is of the opinion that promotional offers are beneficial to consumers in two ways. (a) They provide additional benefits to customers (b) Promotional Offer by one operator creates a ripple effect and other operators also extend counter offers leading to competition in the market, which in turn is beneficial for the consumers. The benefits offered under promotional offers may vary and can include aspects such as Free SMS, Free/reduced/local STD/ISD rates, Gifts, FMCG products/schemes/vouchers for other products and services etc. Therefore, promotional offers are innovative by nature, generate competition and defining promotional offers in a restricted manner may reduce the scope of designing such offers and benefit to the consumers.**

(ii) With regard to counting the promotional offers within the overall cap of twenty five if these are offered as tariff plan or Plan voucher**, the Authority, after having examined the comments and suggestions, is of the view that if the promotional offer has been offered as regular plan then it will be counted as tariff plans for the purpose of application of the cap of 25 plans and restrictions of minimum 180 days for benefits to consumers will apply for these plans too. However, such tariff plans cannot remain open for subscription for more than 90 days.**

(b)**Duration**.

(i) Any of the tariff offering in terms of startup kit, Prepaid/Postpaid Plan, STV, Combo Vouchers, Add on Pack, Top up Vouchers, Rental, etc can be offered as promotional, however the promotional offer should satisfy the twin condition as mentioned in Direction dated 1st September, 2008. In other words, all other conditions that are applicable on each of these products would have to be observed with any relaxation. The Authority in its Consultation Paper on ―Issues Arising out of Plethora of Tariff Offers in Access Service Provision‖ (29th January, 2008), noted that there are generally two kinds of promotional

tariffs. The first category is where both the offer as well as the promotional benefit so available for the customer is valid for a limited period and the second category is where the offer may be valid for a period limited to 90 days but the benefits available to the customers may exceed 90 days and can even be indefinite, just like a regular tariff offer. For example, a full-fledged tariff plan offered for subscription for a few days.

(ii)Promotional Offer, is not exempt from observance of TTO or TCPR or Directions.

(iii) Internationally, not much evidence came to our notice regarding stipulating time period restriction in respect of promotional offers except in few countries like Mauritius (restriction for duration of promotional offers for existing TSP 60 days, for new 30 days), Samoa (90 days total duration of promotional offers for SMPs only) and Rwanda (30 days). However, these are not comparable considering the significant difference in maturity level of telecom sector of these countries vis-à-vis Telecom Service Sector of our Country. In USA, the upper limit for duration promotional offer is 180 days.

(iv) **The Authority after considering all factors, including, *inter alia*, consumer interests, maturity of the telecom sector, competition, tariff forbearance and the fact that even promotional tariffs have to satisfy the Tariff principles of transparency, non-discrimination and non-predation opines there is no further need to alter the current minimal definition of the promotional offer as contained in Direction dated 1st September, 2008.The Authority is also of the view that there is no need to further restrict the time period of promotional offer from existing stipulation of 90 days. Currently, while the offer period is restricted to 90 days, there is no restriction on the period of benefit to consumers. Regulatory Principles applicable for regular tariff offers are equally applicable to promotional offers as well.**

(c)**Maximum Number and time lag**. The issues of restriction on number of promotional offers and gap between consecutive promotional offers have been examined. **The Authority is of the view that no restrictions need to be imposed on the number of promotional offers that can be simultaneously launched and time lag between same or similar promotional offers in a LSA. Restrictions may not be in the interest of consumers apart from possibly hindering competition. Promotional offers are reflection of maturity of competition at most of times and restricting them would amount to interference with market forces. In so far as a promotional offer meets the basic twin requirements in Direction dated 1st September,2008 and Tariff principles and other provisions of TTO/TCPR, it will be permissible.**

Predatory Pricing and Related Aspects

10.0 The Consultation Paper issued on 17th February, 2017, invited stakeholders to comment on the methods and processes that should be applied by the regulator to assess predatory pricing by a service provider in the relevant market. This was accompanied by related questions -on the manner in which the relevant markets should be delineated, criteria for assessing dominance/ SMP status in each relevant market, method to assess predatory pricing by service provider having SMP. These are discussed in subsequent Paragraphs.

11**.**0 **Relevant Markets**. The following question was asked with reference to Relevant Markets.

 What should be the different relevant markets – relevant product market and relevant geographic market – in telecom services? Please support your answer with justification.

11.1 **Relevant Product Market**.-

(a) **Stakeholders‟ Views.** The TSPs and other stakeholders offered different views on the subject and a summary of significant comments with respect to relevant product markets is given below.

(i)**BSNL, Idea, Aircel, Tata Teleservices and few individuals**, the relevant product market should be (a.) Wireless voice and data services and (b.) Wireline voice and broadband services. Idea also suggested that the relevant product market classification should further be divided based on technology e.g.2G/3G/4G etc.

(ii)**M/s Dua Consulting** suggested to delineate market primarily into retail and wholesale first and then further segment them into voice, data services and combination of voice and data services, which can then be further delineated on the basis of technology (2G, 3G or 4G), and mode of transmission.

(iii) **RJIL** has suggested that the relevant market should be based on the IUC regulations, UL adopted in 2005, the recommendations on spectrum management and licensing framework in 2010 etc. **MTNL and R Com** opined that the classification should be based on four different service categories, viz. Voice, SMS, Wireless data services and

Wireline data services and the same should be defined separately for all 22 relevant geographic markets (LSA). Tata Teleservices suggested that it should be based on retail and wholesale wherein retail market is for services provided to end-users and wholesale market is for wholesale services provided to Small, Medium Enterprises and Large Enterprise.

(iv) **One TSP (Telenor)** stated that current definition and measures are adequate on the basis of Demand side substitutability, Supply side substitutability and Potential Competition.

(v) **NTRA, Egypt** stated that regarding relevant product market, the proposed definition for relevant market is well defined and clear ―that market which comprises all the products or services that are sufficiently interchangeable or substitutable‖. In addition, the three main sources of competitive constraints identified by European Commission demand-side substitutability, supply- side substitutability and potential competition will be helpful for determining relevant market.

(vi) **ICRIER** stated that ―Relevant markets are defined by the end-user and cannot be ascertained ex-ante. It is a dynamic term that varies depending on the purpose of analysis – whether an academic exploration or competitive analysis‖.

(vii) **Dr Debdatta Saha, Faculty of Economics, South Asian University, Delhi** stated that ―……. a potential product market definition (given convergence in platforms and technologies) can be: (i) premium customers (4G data with voice with national roaming), (ii) medium category customers (2G, 3G data with voice with national roaming), (iii) basic services I (voice only (fixed line services with no roaming facilities) and (iv) basic services II (voice only, wireless and other mobile services, without roaming facilities). This categorization requires data refurbishment on actual consumer base, elasticities of demand with respect to tariff changes in the nature of a SSNIP test and different investments to be made on fixed and wireline services for data services‖.

(b)**Analysis and Decision**. The Authority has examined the issue in detail and found no rationale in delineating the market on the basis of products like voice, data and technologies like 2G, 3G or 4G due to fast changing nature of the technology and basic purpose being the transmission. It can be argued that consumers purchase services rather than a technology. Similarly, the pricing and costing policies are aligned with the

services for which the license has been obtained. **The Authority has considered all the suggestions and global best practices in this regard and acknowledges the fast changing nature of technology, dynamic nature of telecom services and products and bundled offer of services etc. It has been decided that the relevant product market for telecom services in India for the purpose of deciding predatory pricing should be in tune with distinct telecommunication services defined in Unified License and other Licenses granted by the licensing Authority i.e., DOT. Under the category of Access Service two distinct relevant product market (a) wireline access service and (b) wireless access service have been delineated as the services offered are not regarded as interchangeable or substitutable by the consumer, by reasons of characteristics of services, their intended use and price. Accordingly, the relevant product market for the instant purpose would be (i) Wireline Access Service, (ii) Wireless Access Service, (iii) National Long Distance Service and (iv) International Long Distance Service and any other distinct telecom service for which the licensing authority grants license to the Telecom Service Providers. This approach will be in line with the extant licensing regime and would be appropriate for the above mentioned purpose.**

11.2 **Relevant Geographical Market**.

(a)**Stakeholders" Views**. The following is a summary of stakeholder comments and views in OHD with respect to relevant geographical markets:-

(i)**Most TSPs** have suggested that Relevant geographical markets should be LSA based (LSA itself or categories of LSAs).**Shri Sekaran M. Sundaram** has also stated that ―Relevant geographic market should be the relevant market in telecom services, which means a market comprising the area in which the conditions of competition for supply of goods or provision of services or demand of goods or services are distinctly homogenous and can be distinguished from the conditions prevailing in the neighbouring areas‖.**Dr Debdatta Saha, Professor South Asian University**, Delhi has also supported this view by stating that ―The less controversial issue of relevant geographic market can be retained as ―the respective licensed service area (LSA)‖, as is in current usage at TRAI. This definition hinges on the fact that there is significant variation between LSA in terms of license fees to warrant differential market treatment by LSA‖.

(ii)Some Individuals have suggested that relevant geographical market should be based on boundary lines of region or state, as it might create discrimination in a state which is very large.

(b) **Analysis and Decision**. The Authority, after having examined the issue is of the view that in telecom service sector, the license to provide the telecom services have been awarded on the basis of the geographic area called as Licensed Service Area (LSA). The Country is divided into 22 LSA by the DoT and separate license agreements are required to be signed to operate in these LSAs by any TSP. **Hence, the relevant geographic market be defined as the LSA itself. This will be in line with the extant license regime**.

12.0 **Significant Market Player (SMP) in Relevant Markets and Method to determine SMP**

12.1 The following questions were asked with reference to the issue of dominance in the relevant markets and assessment of _Significant Market Power in each relevant market‘ and suggestion for relevant factors:-

 How to define dominance in these relevant markets? Please suggest the criteria for determination of dominance.

 How to assess Significant Market Power (SMP) in each relevant market? What are the relevant factors which should be taken into consideration?

12.2 **Views of Stakeholders**.

(a) The stakeholders‘ views in **comments/counter comments and research notes**are summarized below:-

(i) **NTRA, Egypt** stated that the factors such as market share in terms of number of subscribers or revenues, control of essential facilities, the ease of access to financial resources, the strength of the countervailing power of consumers, economies of scale and scope, barriers to entry and potential competition, barriers to expansion (spectrum, numbering, or right of ways), strength of brand & brand loyalty, switching customers, bundling offers, customer complaints, vertical integration, the number of direct and non-direct distribution outlets (distribution networks), could be taken into consideration, while assessing the SMP.

(ii) **AUSPI** has opined that the definition of SMP provided under IUC regulations should be applied in a relevant market to determine the SMP of a TSP. Along with the SMP, other factors (as suggested above) should be considered to establish a TSP as dominant in that relevant market.

(iii) Some individuals have also stated that the SMP can be assessed in each relevant market by the market share of enterprise and share in the services provided (IUC Regulations 2003).

(iv) **Aircel** opined that as per the significant market power (SMP) definition covering various services wherein the subscriber base, turnover, switching capacity and traffic volume should be seen. In consonance with the M&A guidelines, 25% share of the total spectrum held in the circle, 50% spectrum assigned in a given band and 50% market

share basis subscriber base and AGR should tantamount to qualification of an SMP. Therefore, SMP should be seen holistically to cover both M&A guidelines as well as SMP definition.

(v) **RJIL** opined that the existing provisions of the TRAI regulations sufficiently defines dominance and criteria for determination of dominance. Therefore, there is no need to redefine such criteria. However, there is an urgent need to define and address abuse of joint dominance emerging out of informal cartelization within the market.

(vi) **MTNL** stated that the ―dominance‖ criteria w.r.t. a ―relevant product market‖ may be based on market share, revenue, switching capacity, traffic volume etc. However to determine the dominant position of a TSP in the relevant market, the factors mentioned u/s 19(4) of The Competition Act, including ―size and resources of enterprise‖, ―economic power of the enterprise‖, ―dependence of consumers on the enterprise‖, should also be considered, to ensure application of Competition Act in the relevant market.

(vii)**Telenor** stated that the SMP Criteria is not relevant in today's market context and should be done away with. All the players in the market should be treated *at par* as far as compliance to tariff framework is concerned. This will increase competitive effectiveness and ensure level playing field. SMP criterion is no more relevant to Indian telecom market and should be abolished.

(viii) **ICRIER** stated that **"**In a multisided market using market share or profit margins to determine market power could lead to misleading results. For multisided platforms the economic rate of return is an appealing measure of market power because it assesses the extent to which the platform has been able, through setting prices for its multiple sides, to earn more than a competitive return‖.

(ix) **Dr Debdatta Saha, Professor South Asian University**, **Delhi** writes that ―In defining dominance/SMP, we clearly mention four categories/dimensions of activities over which data should be analyzed, namely: subscriber base, turnover, switching capacity and traffic volume. Of these, subscriber base and traffic volume are demand side variables (across both the service and access dimensions). For actual measurement of traffic volume, the total on-net and off-net calls should be analyzed to see if a TSP has more origination or destination calls. Switching capacity and turnover are linked to investments made in the network by the TSP and are a function of supply-side technological factors as well as the nature of competition. The measurement of these variables will require data on: spectrum allotted to each TSP per LSA, cost of spectrum, operational cost of each TSP, investment costs on infrastructure, traffic volume break-up (on-the-net and off-the-net calls for each TSP), subscriber base‖.

(b)**Views of stake holders during OHD**.

(i) During the open house discussion, most of the TSPs argued on the line of their written comments. Some operators argued that the financial strength or financial support should also be taken as one important parameter, while RJIL stated that joint dominance of the incumbent players should be considered while assessing/establishing dominance.

(ii) **Smt. Geeta Singh,** an independent consultant, stated that the while determining SMP, market share does not really help, as 31% or 29% should not matter. If it is significant as per characteristic of the industry and needs to be investigated we should not just go by market share.

12.3 **Analysis and Decisions.**

(a) Significant Market Power (SMP), as a regulatory concept, has evolved in the context of identifying players that hold a dominant position in a relevant telecommunication market and it imposes specific obligations on them. The concept of SMP flows from the concept of ‗dominance' developed under the competition laws. In some jurisdictions, such as EU, the definition of SMP is closely aligned with that of dominance under competition law. The Authority feels that the power to exclude, i.e., the ability of a dominant firm to engage in anti-competitive conduct such as predatory pricing, refusal to share an essential facility, etc. and exclude or deter competitors from the market by the SMP due to dominance is the core issue. An incumbent telecom operator who enjoys Significant Market Power (SMP) can distort the market. Therefore identification of SMP is critical. The basic objective behind this identification is to impose certain obligations on such an operator to ensure fair and sustainable competition in the telecommunication market.

(b) The term SMP was defined by the Authority in ―The Telecommunications Interconnection (Reference Interconnect Offer)‖ Regulations, dated 12th July 2002‖ which states that a ―Service Provider shall be deemed to have to have significant market power if it holds a share of 30% of total activity in a licensed telecommunication service area...‖. The term ―Total activity‖ here includes subscriber base, turnover, switching capacity and volume of traffic. The Authority after examining this aspect, has decided that percentage based determination is the best possible method and the same is in consonance with practice in many countries including the EU. Further, the Authority has determined that retaining the 30% threshold is appropriate. However, for the purpose of predatory pricing, determining SMP would be based on Subscriber base and Gross Revenue only as these two parameters are relevant and comparable across all the technologies. **Hence, the SMP**

for the relevant market should be defined based on any of the two parameters namely Subscriber Base and Gross Revenue. Revised Definition of „SMP" for the predatory pricing has been included in the TTO.

13.0 **Determination of Predatory Pricing**. The following issues was put up for consultation

What methods/processes should be applied by the Regulator to assess predatory pricing by a service

provider in the relevant market?

13.1 **Stakeholders" views**: Some important views with regard to appropriate cost measure, method and process are given below:-

(a) While commenting on the method, **Bharti Airtel** stated that "We believe that predatory pricing, as defined in the tariff orders, is directly related to the **absolute cost** of producing the service. Thus, predatory pricing can be defined as the offering of a service at a ‗below cost' rate to end customers by a service provider, irrespective of its market share and size, or the technology used. IUC is an important component of the cost since the originating operator is required to pay the same to the terminating operator for call termination. Therefore, IUC-compliance is important in the context of off-net calls. Thus, any non-IUC compliant off-net tariff is also a predatory tariff‖.

(b) **Reliance Communication** stated that:

―…….if any TSP leverages its SMP and (or) dominant position in a relevant market to price its services below the cost of provisioning of such services, then such tariffs / services should be considered as ―Predatory Pricing" by the Regulator.

Accordingly, TRAI should examine the cost an operator bears on its own network to provide the voice and data services (per min and per MB cost respectively) and examine the tariffs of the operators in view of such costing to decide whether the tariff is compliant to the principle of non-predatory or not‖.

(c)―TRAI must also assess predatory pricing not just on the basis of cost data submitted by the concerned TSP but this should be benchmarked against the industry so that a well-balanced average can be determined considering the costs of all players in the market‖ was the view intimated by **Aircel.**

(d)**Idea Cellular** stated that ―The main steps that are involved in assessment of predatory pricing are:

 Delineation of relevant market(s);

 Assessment of dominant position / SMP in relevant market;

 Evaluation of whether the dominant enterprise is resorting to pricing below average industry cost of production for the product/service; and all the mandatory regulatory costs put together such as, LF, SUC, IUC & Service tax and all other taxes/levies/fee in the operations.‖

It further stated that ―Dominance in one sector should not be used to leverage predatory pricing in another sector thereby foreclosing such a market‖.

(e)**RJIL** stated that ―Considering prevailing laws in India, position in international jurisdictions with regard to predatory pricing, the Authority's views on predatory pricing and fast changing technologies in the sector, we suggest that:

(i) While moving towards newer technology, convergence of network and services, large scale adoption of OTT services which are being offered free of cost, there is no need to get into the issue of predatory pricing in telecom sector in the current scenario unless a clear case of anti- competitive behaviour is established.

(ii) Assessment of dominant position/ significant market power (SMP) in the relevant market is pre- requisite to entertain any complaint of predatory pricing.

(iii) Pricing below cost is not merely sufficient to establish predatory pricing. The same must be coupled with an intent to eliminate competitors from the relevant market through this act of pricing over a sufficiently long period of time, with the ability to then recoup the losses through significantly higher pricing later.

(iv) Predation can be determined only when these conditions are satisfied: dominant operator, below cost, long enough period of time, driving out competition, ability to recoup losses later. Unless these are satisfied, no decision on predation can be taken even for a dominant operator. In the era of forbearance, the Authority must not form an opinion only on gut feeling of predation.‖

(f)**Dr. Debdatta Saha** opined that ―As far as predatory pricing is concerned, the regulator can implement the following practice:

(i) Provide to all stakeholders a common definition of predatory pricing which is in consonance with the Competition Act, 2002.

(ii) On a monthly basis, TRAI should conduct an exercise, where it checks the Average Variable Cost (AVC) of each TSP against its price offering for the relevant service category (product market) for each LSA (geographic market).

(iii) If the AVC is found to be less than the relevant price mentioned in the tariff order of the TSP, the regulator should invite the TSP to its offices to explain the reason for this low pricing. If the answers of the TSP are not found satisfactory by the regulator, the TSP must be warned and asked to withdraw its tariff order with immediate effect.

(iv) The immediate swing effect on consumer demand due to a low pricing below AVC by a TSP can be checked through the incremental addition in the subscriber base over the previous month's data and by checking the differential of origination and destination calls. Any substantial increase in this swing effect (more than 30 per cent), should be questioned by the regulator as this is likely to end in appreciable adverse effect on competition (AAEC) in the market.

(v) All free offers of services should be justified to the regulator (the business plan for break-even by the TSP offering such free services). Along with promotional offers, these free offers should have an upper cap of a month in order not to affect competition adversely in a dynamically changing market.

13.2 **Analysis and Decisions.** The deliberation referred above the general legal framework for dealing with

predatory pricing in India and abroad brings out that the determination of predatory pricing by a SMP, in a

relevant market, will be based on the following factors:-

(a) Price is below the cost;

(b) Intent to reduce competition or eliminate the competitors in the relevant market.

13.2.1 **Price is below the cost**.

(a)In general, prices are considered predatory when the Significant Market Players (SMP) sets its price so low that it can be considered rational only if it reduces competition, eliminate competitors or deters entry of new market players. Such a pricing strategy by SMP enables it to retain or enhance its Market Power. Predatory Pricing by a SMP involves deliberate sacrifice of profit in order to force competitors to exit the market. In a classic predatory pricing scenario, an incumbent SMP may react to entry of new Market Player by lowering its price below its average cost and sustaining it for a period long enough to ensure that the new entrant is forced to operate at a loss. The incumbent SMP may be in a position to incur the loss but the new entrant may not be able to continue its operation with sustained losses and, thereby, may exit the market. With the exit of the new entrant, the SMP may again raise its price to recover its losses and/or enhance its market power. As cost has many dimensions, the question of selection of best measure of cost in the context of price-cost analysis for deciding predatory pricing becomes important. The following cost concepts in this regard are often mentioned as possible cost benchmarks:

(i) **Marginal cost ("MC")** is the cost of producing the last unit of output;

(ii)**Average variable cost ("AVC")** describes how MC behaves, on average, over a given range of output. AVC is calculated by identifying those costs that vary with output, adding them together, and dividing the result by the total number of units produced;

(iii)**Average avoidable cost ("AAC")** is the sum of all costs that a firm can avoid by not producing a certain quantity of output, divided by the total number of units not produced. The avoidable costs are defined as the variable costs and product-specific fixed, but not sunk, costs that were incurred to produce the given range of output;

(iv)**Average total cost ("ATC")** is calculated by dividing a firm's total costs – variable plus fixed, including common costs – by the total number of units produced. Common costs are fixed costs that support a number of activities or product lines. For example, the salary of a company's receptionist is a common cost. It is an essential position, but no part of the salary is caused by any specific product alone.

(b)Internationally, most countries use the AVC for determining predatory pricing in telecom as well as other

sectors. As per the report on predatory pricing prepared by Unilateral Conduct Working Group, International Competition Network presented at the 7th Annual Conference of ICN, in 27 out of 34

countries, AVC is used as benchmark cost to decide about predatory pricing. The Competition Commission

of India (CCI) also uses AVC as proxy to marginal cost to determine predatory pricing {Point no. 3 of CCI

(Determination of Cost of Production) Regulation, 2009 refers}

(c)**The Authority, after examining the various relevant factors such as availability of cost details, their**

reliability and relevance for the purpose, is of the view that AVC is the most appropriate cost measure to determine the issue of predatory pricing. A price that is persistently below AVC indicates that the firm is not even covering all its variable costs, let alone its fixed costs. Usually, when a firm incurs such losses over time, it shuts down because continuing to operate would create greater losses than going out of business. Therefore, a firm that stays in business in those circumstances could be considered a predator unless it has a legitimate justification for offering its services at a price below AVC.As per the general practice followed by the regulators in determination of such cases, **the AVC will be calculated based on the data available or the requisite cost details which is to be specifically sought and obtained from TSPs for the purpose. The onus of timely submission of cost details of AVC and other relevant documents duly certified by cost Auditors would lie with the TSP concerned.**

13.2.2 **Intent**. The Competition Act, 2002, defines Predatory Price as ―the sale of goods or provision of services, at a price which is below the cost, as may be determined by regulations, of production of the goods or provision of services, with a view to reduce competition or eliminate the competitors.‖ Accordingly a crucial point in analysis of predatory pricing is the value of evidence showing that the SMP has predatory intent, i.e., intent to reduce competition or eliminate the competitors in the relevant market. Some jurisdictions, such as the European Union, expressly incorporate intent in their predation analysis along with price-cost tests. Others, such as the United States, are more skeptical towards intent as an indicator of predatory conduct and consequential harm to competition. Proponents of using intent evidence in predation cases tend to support their position by pointing out that business managers, not government agencies or judges, are in the best position to determine whether a predatory pricing scheme is likely to eliminate competition and ultimately be profitable. Since these managers are knowledgeable and rational economic agents, any evidence showing that they intended to carry out a predatory plan or harm a competitor is more reliable than guesswork by outsiders about whether recoupment of losses suffered due to sale below AVC, is likely in future. **The Authority is of the view that intent is a vital factor in determining whether the SMP is indulging in the predatory pricing and will examine whether there is evidence of a specific intent to engage in predatory pricing. However, the onus of providing the business rationale of pricing below its AVC and proving that the tariff below AVC is not predatory would lie with the TSP whose tariffs is under examination for predation.**

13.2.3 **Floor Price and IUC Compliance**. The issue of fixation of floor price by the regulator and that whether the IUC can be floor price for retail tariff, was raised and discussed by the TSPs during consultation process including during the OHD and the two meetings referred in Paras 5.5 and 5.6 above. It may be noted that a comprehensive framework to deal with predatory pricing is being prescribed through this TTO. This will restrict anti-competitive behavior and ensure healthy competition in the sector. During discussions as referred above, stakeholders also desired that there is no need to prescribe floor price for retail tariff. In view of the above, **the Authority is of the opinion that IUC cannot be taken as floor for the retail tariff. Accordingly, the Authority has decided to remove the requirement of „IUC Compliance‟ from the reporting requirement.**

14. **Judgment dated 1st February, 2018 of the Hon‟ble TDSAT.**

While the present process of consultation was going on, the Hon‘ble TDSAT pronounced its judgment on 1st February, 2018 in Bharti Airtel Ltd. vs. Telecom Regulatory Authority of India & Anr. (Telecommunication Appeal No.2 of 2017) and other connected matters. The Hon‘ble TDSAT upheld the TRAI decision communicated by letters dated 20th October, 2016 and 31st January, 2017 and dismissed the petition of Bharti Airtel Ltd and Idea Ltd. Specifically, in paragraph 32(d) of the judgment, the TDSAT has directed the Authority ―*to issue suitable direction/order/regulation regarding benchmark/guideline that can be applied for ascertaining consistency with the principles of non-predation*‖. The TDSAT has also called upon the Authority to, *inter alia*; issue clear guidelines and benchmarks for performing self- checks by TSPs for ascertaining consistency with the principles of IUC compliance and to work out quick collection and dissemination of relevant data in the context of predatory pricing.

With the changes brought about by the present amendments to the TTO, the Authority has laid down the parameters by which TSPs can assess whether they are in accordance with the principle of non-predation. The Hon‘ble TDSAT‘s specific direction above has affirmed the Authority‘s ongoing process of consultation on the issue of determining principles relating to non-predation and the said amendments are in conformity with this direction.

Accordingly, it is expected that while reporting tariffs in terms of clause 7 of the TTO, TSPs would conduct self- checks for the purposes of ensuring consistency with IUC Compliance and regulatory principles of transparency, non-discrimination and non-predation, keeping in view all the relevant parameters as would now be applicable after the introduction of the present amendments. So far as IUC

Compliance is concerned, the amendments have clarified that its meaning and scope relates to the inter-operator settlement as per the rate(s) prescribed and will not be construed as a floor for retail tariff In any event, the Authority will separately issue self- check guidelines/procedure for the convenience of TSPs on the basis of the parameters already set out in the present amendments.

It may be noted that in view of the amended definition of SMP, the relevant market is now based on any of the two parameters i.e. subscriber base and gross revenue. Data collection on the aforementioned two parameters takes place on monthly and quarterly basis respectively which is fairly efficient and expeditious to enable evaluation by the Authority on these two parameters. However, appropriate steps are being taken separately to further expedite the process of data collection subject to practicality as indicated by the Hon‘ble TDSAT vide its judgment and order dated 1st February, 2018.

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List of Acronyms

Sl. No.	Acronym	Expansion
1	TTO	Telecommunication Tariff Order
2	TRAI	Telecom Regulatory Authority of India
3	TSPs	Telecom Service Providers

4	TCPR	Telecom Consumer Protection Regulation
5	TDSAT	Telecom Disputes Settlement & Appellate Tribunal
6	USSD	Unstructured Supplementary Service Data
7	IUC	Interconnection Usage Charges
8	DoT	Department of Telecommunication
9	MTNL	Mahanagar Telephone Nigam Limited
10	BSNL	Bharat Sanchar Nigam Limited
11	CEOs	Chief Executive Officers
12	SMS	Short Message Service
13	OHD	Open House Discussion
14	F&EA	Financial and Economic Analysis
15	NIPFP	National Institute of Public Finance and Policy
16	CCI	Competition Commission of India
17	RCOM	Reliance Communications
18	AUSPI	Association of Unified Telecom Service Providers of India
19	RJIL	Reliance Jio Infocomm Limited
20	MRF	MMA Research Foundation
21	NTRA, Egypt	National Telecommunications Regulatory Authority, Egypt
22	PoS	Point of Sale
23	COAI	Cellular Operators Association of India
24	QoS	Quality of Service
25	NCHSE	National Council of Higher Secondary Education
26	ISAPI	Internet Server Application Program Interface
27	ICRIER	Indian Council for Research on International Economic Relations
28	ARPU	Average Revenue Per User

29	NCAER	National Council of Applied Economic Research
30	FMCG	Fast Moving Consumer Goods
31	LSA	Licensed Service Area
32	SSNIP	Small but Significant Non-transitory Increase in Price
33	UL	Unified License
34	AGR	Average Gross Revenue
35	EU	European Union
36	LF	Licence Fee
37	SUC	Spectrum Usage Charges
38	OTT	Over the Top

39	AAEC	Adverse effect on Competition
40	ICN	International Competition Network
41	MC	Marginal cost
42	AVC	Average Variable Cost
43	AAC	Average Avoidable Cost
44	ATC	Average Total Cost
45	LBJs	Legitimate Business Justifications
46	PVs	Plan Vouchers
47	CVs	Combo Vouchers
48	STVs	Special Tariff Vouchers
49	SMP	Significant Market Power

Annexure - I **List of Comments and Counter comments received on Consultation Paper on "Regulatory Principles of Tariff Assessment" upto extended dates**

Group of stakeholders	**Name of Stakeholders**	**No. of Comments received**
Telecom Service Providers	Aircel	10
	Bharti Airtel	
	BSNL	
	Idea Cellular	
	MTNL	
	Reliance Comm.	
	RJIL	
	Tata Teleservices	
	Telenor	
	Vodafone	
Associations	AUSPI	2
	ISPAI	
Organizations	CUTS International	5
	Dua Consulting	
	Federation of Consumer and Service Organizations	
	MMA Research Foundations	
	NCHSE, BHOPAL	
MyGov	MyGov.	5
Individuals (Mr./Ms.)	Aman Mahajan	35
	Anita Verma	
	Anju Singh	

	Ankit Pratap Singh	
	Apoorva Sharma	
	Ashok Chhibbar	
	Ashwarya	
	Balwant Mehta	
	Deepa Kapoor	
	DevenderKanchi	
	Dr. SouvikChatterji	
	Kannan Satheesan	
	M S Kanchi	

	Madhulika Sharma	
	Miti	
	Namrata Sharma	
	Gp. Cap. Rajneesh Bhatia	
	P. Bhatia	
	Priti Rajneesh	
	Raj Bhatia	
	RakshaKumari	
	S. Iyer	
	Sanjiv Kumar Singh	
	Seema Chaudhary	
	Suchita Mahajan	
	Sunil Kumar	
	SurinderKanchi	
	Sushil Kumar	
	T V Ramachandran	
	UdayShenoy	
	Udbhav Aggarwal	
	Vaishali Singh	
	Vibha Singh	
	Vikas Kumar Singh	
	VivekRavani	
Total		**57**

Counter Comments

Group of stakeholders	Name of Stakeholders	No. of Comments received

Telecom Service Provider	RJIL	2
	Bharti Airtel	
Organization	iCT Robot	1

Annexure - II **List of comments received after the due dates**

Group of stakeholders	**Name of Stakeholders**	**No. of Comments received**
Individuals (Mr./Ms.)	Anindya Sen	5
	Debdatta	
	Dr. GeetaGauri	
	S. Sriram	
	V. Sridhar &RohitPrashad	
Organizations/Institutions	Dr. Shekhar Shah (NCAER)	5
	ICRIER	
	IIPA	
	NTRA – International Telecom Regulator, Egypt	
	Mr. M. Sekaran, Federation of Consumer and Service Organisations	