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TELECOM REGULATORY AUTHORITY OF INDIA

NOTIFICATION

New Delhi, the 21st December, 2012

THE INTERNATIONAL TELECOMMUNICATION CABLE LANDING STATIONS ACCESS FACILITATION CHARGES AND CO-LOCATION CHARGES REGULATIONS, 2012
(No. 27 of 2012)

File No. 416-5/2012-NSL-I.-------- In exercise of the powers conferred upon it under section 36, read with sub-clauses (i),(ii),(iii) and (iv) of clause (b) of sub-section (1) of section 11 of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), the Telecom Regulatory Authority of India hereby makes the following regulations, namely:-

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CHAPTER-I
PRELIMINARY

1. Short title, extent and commencement.-- (1) These regulations may be called the International Telecommunication Cable Landing Stations Access Facilitation Charges and Co-location Charges Regulations, 2012.

(2) They shall come into force on the 1st day of January, 2013.

2. Definitions. --In these regulations, unless the context otherwise requires,-

(a) **"**Access Facilitation" means access or interconnection, as the case may be, to the essential facilities (including landing facilities for submarine cable) at cable landing station;

(b) "Access Facilitation Charges" means charges payable by the eligible

Indian International Telecommunication Entity to the owner of the cable landing station to interconnect or access the capacity acquired on Indefeasible Right of Use basis or on short-term lease basis from an owner of the submarine cable capacity or a member of consortium owning submarine cable capacity ;

(c) "Alternate location" or "Alternate Site" means the location other than the cable landing station where the owner of cable landing station provides, through interconnecting link from cable landing station, access to international submarine cable capacity and such location includes space for collocation of equipment;

(d) "Cable landing station" means the location,

(i) at which the international submarine cable capacity is connectable to the backhaul circuit;

(ii) at which International submarine cables are available on shore, for accessing international submarine cable capacity; and such location includes buildings containing the onshore end of the submarine cable and equipment for connecting to backhaul circuits;

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(e) "Co-location Facilities" means the facilities at a submarine cable landing station (including building space, power, environment services, security and site maintenance) which may be offered by the owner of cable landing station to the eligible Indian International Telecommunication Entity to facilitate access to the cable landing station of such owner (including installation of co-location equipment);

(f) "Co-location charges" means the charges payable by the eligible Indian International Telecommunication Entity based on the type of facilities used, for the purpose of housing the equipment of such eligible Indian International Telecommunication Entity, at the premises of owner of cable landing station which provides the access to its cable landing station, and such charges include charges for providing space, power supply, accessing

physical facilities, operation and maintenance of co-location site for the said purpose;

(g)"Capacity owner" means an International Telecom Carrier or Foreign Carrier or Indian International Long Distance Operator who owns capacity on the international submarine cable landing at the cable landing station in India;

(h) "eligible Indian International Telecommunication Entity" means--

(i) an International Long Distance Operator, holding licence to act as such, and, who has been allowed under the licence to seek access to the international submarine cable capacity in submarine cable system landing at the cable landing stations in India; or

(ii) an Internet Service Provider, holding valid international gateway permission or licence to act as such, and, who has been allowed under the licence to seek access to the International submarine cable capacity in submarine cable system landing at the cable landing stations in India;

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(i) "International Long Distance Operator" means a service provider or operator who has been granted licence to act as such to provide international long distance service;

(j)"Indefeasible Right of Use" means the right to use the Reference Capacity,

(i) on long term lease for the period for which the submarine cable remains in effective use;

(ii) acquired (including equipment, fibers or capacity) under an agreement entered into between the Capacity owner and an eligible Indian International Telecommunication Entity;

(iii) in respect of which maintenance cost incurred becomes payable in any circumstances during the period of validity of the agreement referred to in sub–clause (i) of this clause;

(k) “operation and maintenance charges” means the annual charges,-

(i) payable to the owner of cable landing station by the eligible Indian International Telecommunication Entity;

(ii) for operation and maintenance of facilities for accessing the capacity of the cable landing station of such owner;

(l) “Reference Capacity” means the international submarine cable capacity,--

(i) in the submarine cable system landing at the cable landing station in India;

(ii) acquired whether on ownership basis or lease basis by the eligible Indian International Telecommunication Entity;

(iii) activated by the owner of the submarine cable system or a member or members of consortium of submarine cable system;

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(m) “regulations” means the International Telecommunication Cable Landing Stations Access Facilitation Charges and Co-location Charges Regulations, 2012;

(n) “Schedule ” means the Schedule appended to these regulations;

(o) “owner of cable landing station” means a service provider who owns and manages submarine cable landing station in India and has been granted licence to provide international long distance service or Internet service provider;

(p) all other words and expressions used in these regulations but not defined, and defined in the Act and the rules and other regulations made thereunder, shall have the meanings respectively assigned to them in the Act or the rules or other regulations, as the case may be.

CHAPTER-II

CABLE LANDING STATIONS ACCESS FACILITATION CHARGES AND CO-LOCATION CHARGES

3. Access Facilitation Charges on or after 1st January, 2013:----- (1) For every unit capacity provided on or after the 1st day of January, 2013, the owner of cable landing station shall charge on or after the 1st day of January, 2013, the Access Facilitation charges as specified in Schedule-I of these regulations.

(2) For every unit capacity provided before the commencement of these regulations, for which the annual access facilitation charges are payable by the eligible Indian International Telecommunication Entity to the owner of cable landing station, the charges specified in Schedule-I shall apply from the next date of payment falling on or after the 1st day of January, 2013.

(3) For every unit capacity provided on Indefeasible Right of Use basis before the commencement of these regulations, for which the per annum operation and maintenance charges payable by the eligible Indian International Telecommunication Entity to the owner of cable landing station, the charges specified in Schedule-II shall apply from the next date of payment falling on or after the 1st day of January, 2013.

(4) Nothing contained in the Schedule I and Schedule-II to these regulations shall apply if the owner of the cable landing station and eligible Indian International Telecommunication Entity mutually agree to charge and pay charges lower than those specified in the Schedule I and Schedule-II to these regulations.

(5) The cancellation and restoration charges for a particular unit capacity shall be as per mutual agreement between the owner of the cable landing station and eligible Indian International Telecommunication Entity, subject to a ceiling of ten percent of the Access Facilitation charges specified for that unit capacity in Schedule-I to these regulations or one lakh rupees per unit capacity, whichever is lower.

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4. Co-location charges on or after 1st January, 2013----(1) For co-location facility provided on or after the 1st day of January, 2013, every owner of cable landing station shall charge on or after the 1st day of January, 2013 the Co-location charges as specified in Schedule-III of these regulations.

(2) For co-location facility provided before the commencement of these regulations, for which the annual co-location charges are payable by the eligible Indian International Telecommunication Entity to the owner of cable landing station, the charges specified in Schedule-III shall apply from the next date of payment falling on or after the 1st day of January, 2013.

5. Review-------(1) The Authority may, from time to time, review and modify Access Facilitation charges and co-location charges.

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SCHEDULE-I

ANNUAL ACCESS FACILITATION CHARGES

TABLE-I

ANNUAL ACCESS FACILITATION CHARGES AT CABLE LANDING STATIONS

Sl.No.	Per Unit Capacity	Access Facilitation Charges Per Unit Capacity Per Annum (In Rs.)
(i)	STM-1	36,000
(ii)	STM-4	93,000
(iii)	STM-16	2,40,000
(iv)	STM-64	6,25,000

TABLE-II

ANNUAL ACCESS FACILITATION CHARGES AT ALTERNATE LOCATION

Sl.No.	Per Unit Capacity	Access Facilitation Charges Per Unit Capacity Per Annum (In Rs.)
(i)	STM-1	1,11,000
(ii)	STM-4	2,88,000
(iii)	STM-16	7,50,000
(iv)	STM-64	19,50,000

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SCHEDULE-II

ANNUAL OPERATION AND MAINTENANCE CHARGES FOR CAPACITY PROVIDED ON IRU BASIS

TABLE-A

ANNUAL OPERATION AND MAINTENANCE CHARGES AT CABLE LANDING STATIONS FOR CAPACITY PROVIDED ON IRU BASIS

Sl.No.	Per Unit Capacity	Operation and Maintenance Charges Per Unit Capacity Per Annum (In Rs.)
(i)	STM-1	19,000
(ii)	STM-4	48,000
(iii)	STM-16	1,24,000
(iv)	STM-64	3,23,000

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TABLE-B

ANNUAL OPERATION AND MAINTENANCE CHARGES AT ALTERNATE LOCATION FOR CAPACITY PROVIDED ON IRU BASIS

Sl.No.	Per Unit Capacity	Operation and Maintenance Charges Per Unit Capacity Per Annum (In Rs.)
(i)	STM-1	58,000
(ii)	STM-4	1,50,000
(iii)	STM-16	3,89,000
(iv)	STM-64	10,10,000

SCHEDULE-III

CO-LOCATION CHARGES

Sl.No.	Description	Co-location Charges Per Rack (Rack space= 16 sq.ft.) Per Annum (In Rs.)
(i)	For Mumbai	6,00,000 (upto 2KW Power)
(ii)	For cities other than Mumbai	4,00,000 (upto 2KW Power)

Rajeev Agrawal
Secretary

Note. -------The Explanatory Memorandum explains the objects and reasons of the International Telecommunication Cable Landing Stations Access Facilitation Charges and Co-location Charges Regulations, 2012.

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EXPLANATORY MEMORANDUM TO 'THE INTERNATIONAL TELECOMMUNICATION CABLE LANDING STATIONS ACCESS FACILITATION CHARGES AND CO-LOCATION CHARGES REGULATIONS, 2012 (27 of 2012)'

A. Introduction

1. TRAI issued 'International Telecommunication Access to Essential Facilities at Cable Landing Stations Regulations, 2007' on 07.06.2007. The Regulations provides that the owner of cable landing station (OCLS) shall provide access to any eligible Indian International Telecommunication Entity (ITE) on fair and non-discriminatory terms and conditions, at its cable landing stations. It further provides that OCLS is required to submit a 'Cable landing Station Reference Interconnect Offer (CLS RIO)' to TRAI, in a specified format, containing the terms and conditions of access facilities and co-location facilities including landing facilities for sub-marine cables at its cable landing stations for its approval. After getting approval from TRAI, OCLSs are required to publish the RIO. Accordingly, in 2007, after approval of the Authority, owners of cable landing stations published their RIO containing access facilitation charges and co-location charges.

2. In order to further review the Access Facilitation and Co-location charges, TRAI issued a consultation paper on 'Access Facilitation Charges and Co-location Charges at Cable Landing Stations' on 22.03.2012. On the basis of comments received from the stakeholders, the Authority noted that since the process of approval of the charges involve scrutiny by TRAI of costing elements considered, costs and costing methodology employed by OCLS, discussion with OCLS and final approval by TRAI, it takes time and provides competitive advantage to the owner of cable landing station as OCLS is also integrated operator owning bandwidth in submarine cable system. The Authority further noted that though the work done in providing Access Facilitation is

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same irrespective of specific cable landing station, the Access Facilitation and Co-location charges varies between different operators based on their network configuration and costing methodology.

3. In view of the above, on 19th October, 2012, the Authority has issued International Telecommunication Access to Essential Facilities at Cable Landing Stations (Amendment) Regulations, 2012, wherein suitable provisions have been made for specifying Access Facilitation Charges, Co-location Charges and other related charges like Cancellation Charges and Restoration Charges.

4. Further, on the basis of cost data and comments received from stakeholders, TRAI has estimated such charges and issued another consultation paper titled "Estimation of Access Facilitation Charges and Co-location Charges at Cable Landing Stations" simultaneously on 19th October, 2012 for further comments and counter comments of stakeholders by 6th November, 2012and 14th November, 2012 respectively.

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B. Comments received from stakeholders on the Consultation paper dated 19th October, 2012:

5. On the Consultation Paper dated 19.10.2012, 22 stakeholders including 19 service providers, 2 associations and 3 others have sent written comments that were uploaded on TRAI's website. Counter comments were received from 12 stakeholders including 2 associations and 10 service providers.

C. Examination of the main comments/ issues raised by the stakeholders:

6. Stakeholders have generally agreed to the costing methodology adopted by TRAI. However, M/s. Tata Communications has submitted that Access Facilitation Charges should have been

estimated as per the network architecture employed by Tata Communications Ltd. and TRAI should not have taken different network design for the calculations. M/s. Tata Communications have also indicated few cost elements which according to them have not been considered in the calculation of such charges. Similarly, M/s. Bharti Airtel Ltd. have also submitted that costing data and methodology applied to arrive at proposed charges by TRAI are not very clearly understood and there are items which have not been considered in arriving at the cost. They have submitted that the cost elements that form a part of arriving at Access Facilitation Charges as submitted by them in their earlier submissions should be considered fully.

7. To provide fair opportunity to these service providers and understand their point of view meetings with M/s. Tata and M/s. Bharti Airtel were held on 29.11.2012 and 04.12.2012 respectively. In the meetings cost data, costing methodology used by TRAI was discussed in detail.

8. Based on the discussion held in the above meetings and submission of stakeholders in response to the consultation paper, Access Facilitation Charges both at Cable Landing Stations and alternate location have been re-estimated with the cost data submitted by these two service providers. Subsequent paragraphs give a detail explanation on the costing methodology adopted to arrive at the revised charges given in the regulations.

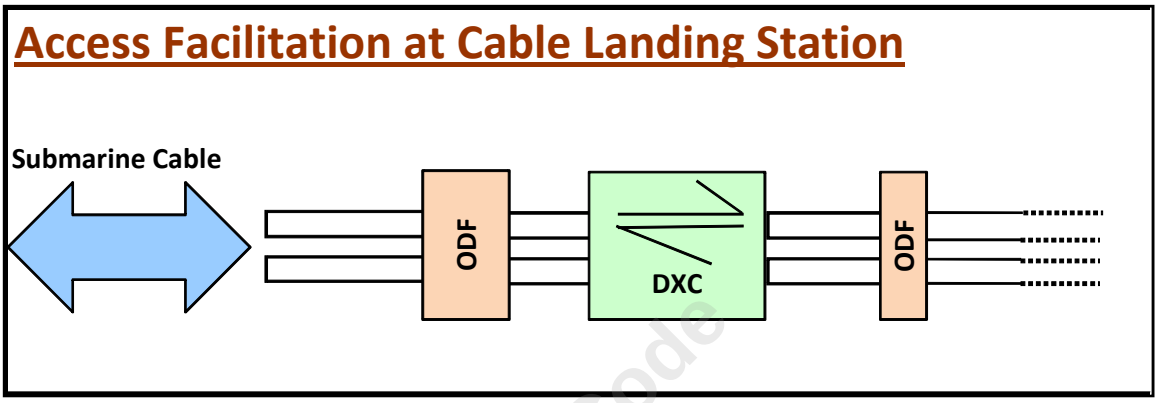
D. Estimation of Access Facilitation Charges:

(i) Network Elements considered:

9. After several discussions with the OCLSs and also taking into consideration the submissions made by various stakeholders, TRAI identified network elements required for estimating access

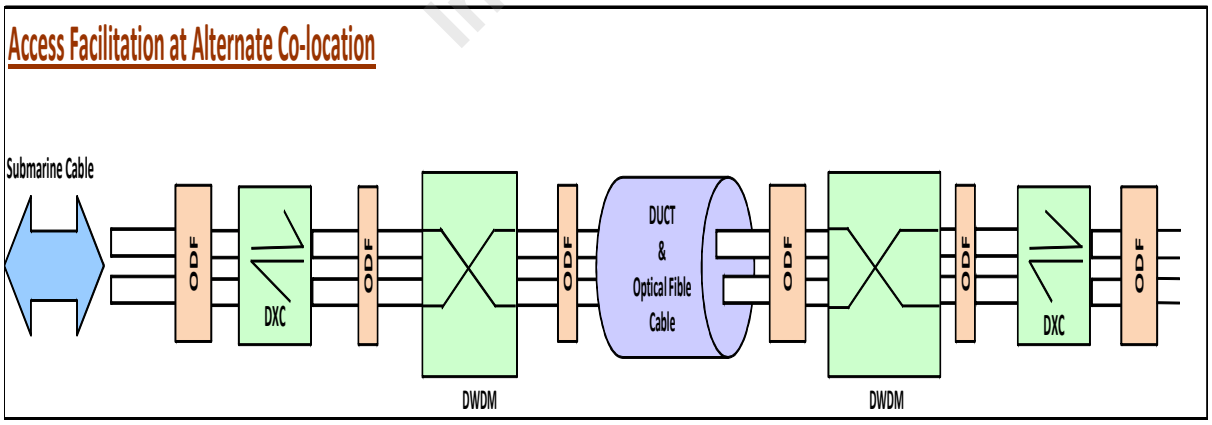
facilitation charges at cable landing station and alternate location and indicated in the Figure-1 and Figure-2 of the consultation paper dated 19.10.2012. Both the figures are reproduced below for ready reference:

Figure-1 of the Consultation Paper dated 19.10.2012



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Figure-2 of the Consultation Paper dated 19.10.2012



10. In response to the consultation paper a large number of the service providers have reiterated that for providing access facilitation at Cable Landing station DXC (Digital Cross Connect) equipments is not required. According to them the cost of DXC equipment at CLS is borne by the consortium. They also submitted that similarly requirement of DXC after DWDM at alternate location is not required. Hence they suggested that DXC and its related costs should be excluded from the calculations. They have also

submitted that all types of interfaces needed by the ITEs for access facilitation are provided by the consortium. On the other hand, M/s. TCL and M/s. Bharti Airtel were of the view that Access Facilitation Charges should be estimated as per the architecture design adopted by them and should not be based on any other model. As per them, DXC is an integral part of their network design and therefore costs related to DXC needs to be included in the estimation.

11. The Authority has considered the above submissions and has decided to include the costs related to DXC both at CLS and alternate locations.

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(ii) CAPEX items used for provisioning of AFC at CLS and Alternate location

12. CAPEX items used for providing access facilitation at cable landing station and alternate location were listed in Table 1 and Tables 2(a), 2(b) and 2(c), of the consultation paper respectively.

13. On the CAPEX items considered in the consultation paper, M/s TCL was of the view that costs incurred for manpower for Installation, Network Management System (NMS) and test equipments both at CLS and alternate location have not been considered by TRAI in the calculations. Considering the submission made by M/s TCL, the above CAPEX elements as suggested by M/s TCL have been now included. The revised Tables of CAPEX items used for providing access facilitation at cable landing station and alternate location are listed below in Table-A and Tables-B, respectively.

Table-A
CAPEX items used for access facilitation at CLS

Sl.No.	Description
(i)	ODF (Optical Distribution Frame)
(ii)	Digital Cross Connect (DXC)
(iii)	Fiber Patch Cords
(iv)	Inter Floor cabling and tray work
(v)	Manpower towards installation
(vi)	NMS
(vii)	Test Instruments
(viii)	Project Management cost

Table-B (i)
CAPEX items used for access facilitation at alternate location (At CLS Access Section)

Sl.No.	Description
i	ODF (Optical Distribution Frame)
ii	Digital Cross Connection
iii	DWDM Equipment
iv	Fiber Patch Cords
v	Inter Floor cabling and tray work
vi	Manpower towards installation
vii	NMS
viii	Test Instruments
ix	Project Management cost

Table-B (ii)
CAPEX items used for access facilitation at alternate location (Link between CLS Access Section and MMR)

Sl.No.	Description
i	Fiber between CLS and MMR

Table-B (iii)
CAPEX items used for access facilitation at alternate location (At MMR Section)

Sl.No.	Description
i	ODF (Optical Distribution Frame)
ii	Digital Cross Connection
iii	DWDM Equipment
iv	Fiber Patch Cords
v	Inter Floor cabling and tray work
vi	Manpower towards installation
vii	NMS
viii	Test Instruments
ix	Project Management cost

(iii) Cost data used for the CAPEX items

14. In the consultation paper, cost for each CAPEX item for providing one STM64 (10G) was derived from the costs submitted by both OCLSs. As per the data submitted by them for their CLSs at Mumbai, one OCLS is using a DXC with 640 G capacity, while the other OCLS is using 4 DXCs with 120 G capacity each for providing access facilitation. Therefore, in the consultation paper, in order to calculate the cost for provision of one 10 G/ STM-64, the cost of fully loaded DXC i.e. loaded with only 10 G/ STM-64 cards in all slots in protected mode was taken.

15. In their comments, both M/s Bharti Airtel and TCL submitted that though it is feasible to equip the DXC with all 10 G interfaces, keeping in view the existing demand of the sector, the DXC are normally equipped with different interfaces i.e. STM-1, STM4, STM16 and STM-64 in varying numbers. They suggested that design capacity should be taken on the basis of market projections and while designing this capacity TRAI should ensure that all interface i.e. STM-1, STM4, STM16 and STM-64 are available in the equipment. TRAI has considered their submission and discussed different combinations for provisioning of interfaces in DXC with them. As per the discussions with them and demand projection for various interfaces and capacity of DXC used by them, the network design has been modified for 60 G capacity ensuring availability of all interfaces i.e. STM-1, STM4, STM16 and STM-64 and AFC both at CLS and alternate location has been re estimated. However, while estimating the AFC at alternate location, the DXC used at CLS access section has been loaded with STM-64 (10G) cards only for delivering 60 G capacity in protection mode. Following Table (Table-C) provides DXC configuration taken for 60 G capacity in protection mode.

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Table-C
DXC configuration for 60-G Capacity

Sl.No.	Interface	Total No. of interfaces	No. of interfaces available (in protection mode)at client side for sale	Equivalent Capacity in Gbps
(i)	STM-1	128	64	10
(ii)	STM-4	32	16	10
(iii)	STM-16	32	08	20
(iv)	STM-64	16	02	20
Total				**60**

16. For the access facilitation at alternate location, the costs submitted by OCLSs for fibre link and DWDM have been also apportioned for carrying 60 G capacity. Similarly the cost of passive network elements i.e. ODF, fiber patch cord, inter floor cabling and tray work have been appropriately apportioned for provisioning of 60G, on the basis of cost data submitted by these OCLSs for respective passive elements.

17. M/s TCL has submitted that the TRAI has taken cost from Purchase Order(PO) submitted by them which does not include taxes paid to various agencies by TCL. Accordingly, in the revised calculations, Taxes @ 18% have been taken into account. M/s TCL has also submitted that the project management cost, which was allowed by TRAI as 10% of CAPEX items, should be based on actual costs. As per the data submitted by M/s TCL their project management cost was around 6% of the CAPEX. The other OCLS viz. M/s Bharti Airtel in its calculation has taken project management cost as 10% of CAPEX items. Therefore, TRAI has taken project management cost @ 10% of CAPEX.

18. Both the OCLSs had provided the costs of the equipments in US Dollars. In the consultation paper, conversion rate used was Rs.50

for 1 US Dollar. On the basis of submissions by the service providers and the period of Purchase Orders submitted by the OCLSs, the conversion rate has been revised upward from Rs. 50 to Rs. 52.

19. The apportioned capital cost for 60 G (in protection mode) for each CAPEX item for OCLS-1 and OCLS-2, for access facilitation at CLS is given in the following **Table-D**. Keeping in view the commercial sensitivity of data, details of items and names of the OCLSs have not been provided.

Table-D

Apportioned Capital Cost for 60 G (in protected mode) used for Access Facilitation (in Rs.)

Sl.No.	CAPEX item	OCLS-1	OCLS-2
(i)	Apportioned Capital Cost for 60 G (in protected mode) used for Access Facilitation at CLS	1,34,31,961	1,03,47,315
(ii)(a)	Apportioned Capital Cost for 60-G (in protected mode) used for Access Facilitation at Alternate location (For both CLS Access and MMR Section)	3,58,16,799	3,06,08,722
(ii)(b)	Apportioned Capital Cost for Optical Fiber Link between CLS and MMR	7,80,000	32,25,000

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(iv) Annual recovery of capital cost:

20. Following parameters have been used for estimating annualized capital cost in the consultation paper:

(i) Life of network element (except optical fiber) = 10 years

(ii) Life of link of optical fiber between CLS and MMR = 18 years

(iii) Method of depreciation = Straight Line Method (SLM)

(iv) Pre-tax WACC = 15%

21. In response to the consultation paper, most of the stakeholders agreed on value of Pre-tax WACC and Straight Line Method (SLM) to workout depreciation for each year. However, M/s TCL submitted that Pre tax WACC has to be taken at 23.9% while M/s

Bharti has suggested to use WACC as 20% as against 15%. TRAI has analyzed the Accounting Separation Report of various telecom service providers and found that pre-tax WACC @ 15% is reasonable.

22. Regarding life of the equipment, M/s TCL has submitted that it should be taken as 5 years instead of 10 years. However, most of the stakeholders including M/s Bharti Airtel have supported for 10 years as life of equipment. Similarly, regarding life of Optical Fiber, M/s TCL submitted that this should be taken as 15 years instead of 18 years.

23. In its various other earlier regulations like IUC, Port Charges etc., wherein transmission equipments are also used, in order to calculate the depreciation of the different network elements on a uniform basis, TRAI has used Straight Line Method (SLM) adopting an average asset life of 10 years. Therefore, in these calculations also, the Authority has decided to continue with the assumption of Life of the equipment as 10 years. However, keeping in view the submissions of these two OCLSs, life of Optical Fiber link has been revised as 15 years from 18 years.

(v) Operational cost

24. In the consultation paper TRAI has taken operational cost as 30% of capital cost of network element.

25. M/s Bharti Airtel has submitted that OPEX is the cost of variable factors and is based on market dynamics. Therefore, it cannot be a fixed percentage of the CAPEX. M/s TCL has also submitted that the linkage between CAPEX and OPEX is not linear. Both of the service providers requested that rather than using a fixed %, actual operating costs should be used.

26. Therefore, in the revised calculations, actual value of OPEX has been estimated on the basis of data submitted by the two OCLS. One of the OCLS has submitted market prevailing rental and annualized cost of external fit out and internal fit-out for Mumbai. On the basis of its data, TRAI had earlier in the consultation paper, estimated the space charges for calculating the co-location charges. Therefore, same estimated space charge for Mumbai has been now used as space charges in these revised calculations for OPEX for that OCLS. The other OCLS has submitted the Cost of land, building and other fixture for their data center wherein it is providing Access facilitation in place of prevailing market rent for the space. For estimating space charges for this OCLS, RoCE of 15% has been provided for the cost of land (book value) as submitted by the OCLS. Cost of building has been annualized by taking 20 years life of building. For estimating annual cost of other capital expenditure for fit-out etc, life has been taken as 10 years. On both item Pre Tax WACC of 15% has been taken.

27. M/s Bharti has submitted that AMC for equipment and optical fibre should be 4% and 3%. Accordingly, AMC of equipment and Optical fiber has been revised as 4% and 3% of capital costs respectively. As per accounting Separation report submitted by service providers, employee cost for private telecom service providers varies from 0.92% to 3.11% of Gross block. Therefore, Manpower Cost has been taken as 2% of CAPEX.

28. Summary of various OPEX items taken and annual OPEX in the revised calculations are given in Table-E and Table-F, respectively:

Table-E
OPEX ITEMS

Sl.No.	Description
(i)	AMC of equipments @ 4%
(ii)	AMC of Optical Fiber @ 3%
(iii)	Space Charges/Sq.ft./Annum for Mumbai (Including External fit outs (transformers, DG sets, HT panels, LT panels, cables, air conditioner), Internal fit outs (UPS, battery, internal electrical panel, precision AC, power distribution units, fire alarm and access control and cabling), Security services charges) @ for OCLS-1 Rs. 8636 and for OCLS-2 Rs.9926.
(iv)	Electricity Charges @ Rs. 15.64 Per unit
(v)	Manpower Cost @ 2% of CAPEX
(vi)	Miscellaneous (Corporate Overhead, IT etc) @ 10% of OPEX

Table- F
OPEX for 60 G used for Access Facilitation (in Rs.)

Sl.No.	item	OCLS-1	OCLS-2
(i)	OPEX for 60 G used for Access Facilitation at CLS	19,93,789	25,01,028
(ii)	OPEX for 60 G used for Access Facilitation at Alternate location (For both CLS Access and MMR Section)	69,69,511	78,30,337

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(vi) Utilization

29. Utilization factor of 70% was taken into account in the estimation of charges in consultation paper. In their comments to the consultation paper, most of the stakeholders have supported the utilization factor of 70% and mentioned that it is in-line with the best international regulatory practices. Moreover in the revised calculations, the network design has been revised for provision of 60G capacity with combination of all interfaces as suggested by the two OCLSs. Therefore the Authority is of the view that the utilisation factor of 70% is reasonable.

(vii) Calculation of Access Facilitation Charges

30. Estimation of access facilitation charges for 60G at CLS and MMR are as follows:

Table-G
Calculation of Access Facilitation Charges (in Rs.) for 60 G (in protected mode) at CLS

Sl.No.	Description	OCLS-1	OCLS-2
(a)	Average Annualized CAPEX (Annualised value of apportioned capital cost indicated in item (i) of Table-D)	24,51,333	18,88,385
(b)	OPEX per annum (Item (i) of Table-F)	19,93,789	25,01,028
(c)	Total Annual charges per annum {(a)+(b)}	44,45,122	43,89,413
(d)	Total Annual charges per annum with utilisation @ 70% {(c) ÷ 70%}	63,50,174	62,70,589
(e)	Annual charges per annum (Including Licence Fee @ 8%) {(d) ÷ (1-0.08)}	69,02,363	68,15,858

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Table-H
Calculation of Access Facilitation Charges (in Rs.) for 60 G(in protected mode) at Alternate location

Sl.No.	Description	OCLS-1	OCLS-2
(a)	Average Annualized CAPEX {(Annualised value of apportioned capital cost indicated in item (ii)(a) of Table-D) + (Annualised value of apportioned capital cost indicated in item (ii)(b) of Table-D)}	66,50,966	60,59,092
(b)	OPEX per annum (Item (ii) of Table-F)	69,69,511	78,30,337
(c)	Total Annual charges per annum {(a)+(b)}	1,36,20,477	1,38,89,429
(d)	Total Annual charges per annum with utilisation @ 70% {(c) ÷ 70%}	1,94,57,824	1,98,42,042
(e)	Annual charges per annum (Including Licence Fee @ 8%) {(d) ÷ (1-0.08)}	2,11,49,808	2,15,67,437

31. TRAI is of the opinion that work done to provide access facilitation at a cable landing station is same for all cable landing stations. Therefore, it is not required to estimate the cost based charges separately for each cable landing stations. The only variation could be due to space and electricity charges if the cable landing stations

are located in two different cities. Therefore, in its calculations, TRAI has used space and electricity charges for Mumbai, which are the highest among various locations. During the consultation process also, stakeholders were generally of the view that determination of Access Facilitation charges, one for CLS and other one for alternate location (MMR) would be adequate. As these charges are ceiling charges, the Authority is of the opinion that higher of the costs of the two OCLSs, calculated separately for CLS and MMR may be taken for prescribing these charges.

(viii) Access Facilitation Charges for various capacities i.e. STM-1, STM-4, STM-16 or STM-64

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32. In the consultation paper, for estimating access facilitation charge for lower capacities i.e. STM-1, STM-4 and STM-16 from 10 G/ STM-64 capacity, a conversion factor of 2.6 has been used keeping in view two important factors in mind : (a) scale of economy for higher capacities (b) prevailing market factor in domestic leased circuit. Most of the stakeholders favored using the factor of 2.6. However, the two OCLSs were of the view that using a factor of 4 is more appropriate. They were also of the view that irrespective of the conversion factor taken into account for the calculations, the charges determined should be such that they are able to recover their total cost for providing various capacity interfaces. Therefore, keeping the submissions of the two OCLSs in view, in the revised estimated charges, the charges of various capacity interfaces has been calculated so that total cost is recovered from the interfaces for which DXC has been configured.

Total Cost of 60 G

= [{(No of STM-1 Interfaces) *(AFC of one STM-1 Interface)} + {(No. of STM-4 Interfaces) * (AFC of one STM 4 Interface)} + {(No. of STM-16 Interface) * (AFC of one STM 16 Interface) + {(No. of STM-64 Interface)* (AFC of one STM 64 Interfaces)}]

33. TRAI is of the opinion that if the higher factor of 4 as proposed by OCLSs is used for calculation, then price of STM-1 will be very low and price of STM 64 will be on higher side and this will also not provide advantage of scale of economy for higher capacities. Therefore, keeping in view the prevalent conversion factor in the market which is also generally agreeable to most of the stakeholders, TRAI has used factor of 2.6 in place of 4, ensuring that the cost incurred is recovered. Accordingly, AFC for various interfaces has been calculated using following formula:

Total Cost of 60 G

= [{(No of STM-1 Interfaces) *(AFC of one STM-1 Interface)} + {(No. of STM-4 Interfaces) * (2.6)* (AFC of one STM-1 Interface} + {(No. of STM-16 Interface) * (2.6*2.6) * (AFC of one STM-1 Interface)} + {(No. of STM-64 Interface)* (2.6*2.6*2.6)* (AFC of one STM-1 Interfaces)}]

34. Accordingly, the charges for various interfaces comes out to be as given in Table-I and Table-J.

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Table-I
Access Facilitation Charges per annum (in Rs.) at Cable Landing Station

Sl. No.	Capacity	Charges per unit Interface		
		OCLS-1	OCLS-2	Ceiling prescribed
(a)	STM-1	35,427	34,983	36,000
(b)	STM-4 {(a)* 2.6}	92,111	90,956	93,000
(c)	STM-16 {(b)* 2.6}	2,39,488	2,36,487	2,40,000
(d)	STM-64 {(c)* 2.6}	6,22,669	6,14,866	6,25,000

Table-J

Access Facilitation Charges per annum (in Rs.) at Alternate location (Meet Me Room)

Sl. No.	Capacity	Charges per unit Interface		
		OCLS-1	OCLS-2	Ceiling prescribed
(a)	STM-1	1,08,554	1,10,698	1,11,000
(b)	STM-4 {(a)* 2.6}	2,82,241	2,87,814	2,88,000
(c)	STM-16 {(b)* 2.6}	7,33,826	7,48,316	7,50,000
(d)	STM-64 {(c)* 2.6}	19,07,946	19,45,621	19,50,000

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(ix) Access facilitation charges on Indefeasible Right of Use (IRU) basis:

35. In the consultation paper, the access facilitation charges were estimated only on annual basis and Access facilitation charges on IRU basis were not estimated.

36. On this issue, divergent views have been received from the stakeholders. In this regard one of the main comments received from an OCLS is that submarine cable life is much longer than the life of network equipment used for provisioning of access facilitation. According to them, if capacities are provided on IRU basis then OCLS is bound to provide access facilitation for life of the submarine cable which sometimes requires replacement of network equipment to provide access facilitation without charging any capital cost from the ITE.

37. Keeping in view the fact that AFC and Co-location charges are to be periodically reviewed to reflect actual cost and life of submarine cable is normally longer than the life of network equipment to provide access facilitation, the Authority is of the view that there is no need to prescribe charges on IRU basis for access facilitation

provided after the commencement of these regulations. However, to maintain level playing field and to protect the interest of those ITEs who have already entered into agreement on IRU basis before commencement of these regulations, revised annual Operation and Maintenance Charges on the basis of estimated OPEX may be prescribed. For calculating annual operation and maintenance charges for various interfaces same formulae as used for Annual Access facilitation charges has been applied after utilization factor of 70% on OPEX given in Table-F. Accordingly, Annual Operation and Maintenance Charges for various interfaces are given in Table-K and Table-L.

Table-K

Annual Operation and Maintenance Charges at Cable Landing Stations for Capacity Provided on IRU basis

Sl. No.	Capacity	Operation and Maintenance Charges Per Unit Capacity Per Annum (In Rs.)		
		OCLS-1	OCLS-2	Ceiling prescribed
(a)	STM-1	14,619	18,338	19,000
(b)	STM-4 {(a)* 2.6}	38,010	47,680	48,000
(c)	STM-16 {(b)* 2.6}	98,825	1,23,967	1,24,000
(d)	STM-64 {(c)* 2.6}	2,56,945	3,22,315	3,23,000

Table-L

Annual Operation and Maintenance Charges at Alternate location (Meet Me Room) for Capacity Provided on IRU basis

Sl. No.	Capacity	Operation and Maintenance Charges Per Unit Capacity Per Annum (In Rs.)		
		OCLS-1	OCLS-2	Ceiling prescribed
(a)	STM-1	51,103	57,415	58,000
(b)	STM-4 {(a)* 2.6}	1,32,867	1,49,278	1,50,000
(c)	STM-16 {(b)* 2.6}	3,45,454	3,88,123	3,89,000
(d)	STM-64 {(c)* 2.6}	8,98,181	10,09,119	10,10,000

(x) Restoration/ Cancelation Charge:

38. Presently the restoration charges specified by the two OCLS are around Rs. 1,00,000. Stakeholders are generally of the view that the existing charges are on higher side. Some of them suggested that these charges should be revised downwards to around Rs.10,000/-. One of the views expressed is that restoration charge should be based on cost of reconnecting the relevant facilities. Other view was that these charges should be based on percentage of AFC, from 5% to 10%. M/s Bharti is of the view that as the efforts required for restoring and cancelling the connection remain the same, the present charges should be continued.

39. After analyzing the view, the Authority has decided that the cancellation and restoration charges for a particular unit capacity may be as per mutual agreement between the owner of the cable landing station and eligible Indian International Telecommunication Entity, subject to a ceiling of ten percent (10%) of the Access Facilitation charges specified for that unit capacity in **Schedule-I** to these regulations or Rs. One Lakh per unit capacity, whichever is lower.

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E. Co-Location Charges:

40. On the basis of data submitted by one OCLS, the co-location charges for Chennai and Mumbai were estimated and provided in the Consultation paper in Table 9(a) and 9(b) respectively. Space charges on which mainly collocation charges depend are in the same range as is evident from estimation of space charges by taking cost of land, building and other fixture of data centre for other OCLs. Some of the stakeholders preferred uniform Co-location charge for all locations, while some of them suggested that location based range for the collocation charges, based on cost oriented principle may be prescribed. On the other hand M/s Bharti and M/s TCL are of the view that unification of co-location

charges is not tenable. As per them there cannot be uniform collocation charges for different locations as the factors determining the collocation charges are location dependent. Collocation charges are basically dependent on space and electricity charges and as per the data submitted by the two OCLSs, space and Electricity charges are higher in Mumbai as compared to other cities. Therefore Authority is of the opinion that one collocation charges for Mumbai and the other common for all other cities may be prescribed.

Summary of the main results:

(i) Annual Access Facilitation Charges:

Table-M

Sl. No.	Capacity	Access Facilitation Charges Per Unit Capacity Per annum (in Rs.)	
		At Cable Landing Station	At Alternate location (Meet Me Room)
(a)	STM-1	36,000	1,11,000
(b)	STM-4	93,000	2,88,000
(c)	STM-16	2,40,000	7,50,000
(d)	STM-64	6,25,000	19,50,000

(ii) Annual Operation And Maintenance Charges for Capacity Provided on IRU Basis:

Table-N

Sl.No.	Per Unit Capacity	Operation and Maintenance Charges Per Unit Capacity Per Annum (In Rs.)	
		At Cable Landing Station	At Alternate location (Meet Me Room)
(i)	STM-1	19,000	58,000
(ii)	STM-4	48,000	1,50,000
(iii)	STM-16	1,24,000	3,89,000
(iv)	STM-64	3,23,000	10,10,000

(iii) **Cancellation Charges and Restoration Charges:** Subject to a ceiling of ten percent of the Access Facilitation charges specified for that unit capacity in **Schedule-I** to these regulations or Rs. One Lakh per unit capacity, whichever is lower.

(iv) **Co-location Charges:**

Table-O

Sl.No.	**Description**	**Co-location Charges Per Rack (Rack space= 16 sq.ft.) Per Annum (In Rs.)**
(i)	For Mumbai	6,00,000 (upto 2KW Power)
(ii)	For Cities other than Mumbai	4,00,000 (upto 2KW Power)

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