Consultation Paper no. 14 /2012

Telecom Regulatory Authority of India

Consultation Paper on Estimation of Access Facilitation Charges and Co-location Charges at Cable Landing Stations

New Delhi: 19.10.2012

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Stakeholders are requested to furnish their comments to the Advisor (Network, Spectrum & Licensing), TRAI by 6th November, 2012. Counter comments, if any, may be sent by 14th November,2012. Comments and Counter Comments would be posted on TRAI's website www.trai.gov.in. The comments in electronic form may be sent by e-mail to fn@trai.gov.in or rkgtrai@gmail.com. For any clarification/ information, Shri Arvind Kumar, Advisor (NSL) may be contacted at Tel. No. +91-11-23220209 Fax: +91-11-23230056.

Consultation Paper
on
Estimation of Access Facilitation Charges and Co-location Charges at Cable Landing Stations

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 cables landing stations published their RIO containing access facilitation charges and co-location charges. The regulations also provides that in case of a cable landing station which comes into existence after commencement of these regulations, the owner of such cable landing station is required to submit, on or before the date of coming into existence of such cable landing station, the Cable Landing Station-Reference Interconnect Offer in respect of such cable landing station to the Authority for its approval.

2. In the year 2010, some of the service providers represented to TRAI that the access facilitation charges and co-location charges at cable landing station need a review as the cost of telecom equipment has gone down while the capacity utilization of cable landing station has gone up over the previous three years.

3. With a view to align Access Facilitation Charges, Annual O&M Charges and Co-location Charges with the current costs and utilization, TRAI vide its letter dated 06.10.2010 asked the owners of cable landing stations (OCLSs) to resubmit the revised Access Facilitation Charges, Annual O&M Charges, Co-location Charges for their cable landing stations (CLSs), including the new CLSs commissioned after October 2007. In response, the OCLSs submitted the Access Facilitation Charges and Co-location charges for their various cable landing stations. Meanwhile, some of the new cable landing stations also came into existence, accordingly owners of these cable landing stations have filed RIO for such Cable Landing stations.

4. In the meantime, TRAI received representation from some of the service providers and their association requesting formal broad based consultation with all industry players on review of Access Facilitation Charges. They submitted that there has been a dramatic change in the international bandwidth market both in terms of a significant drop in the prices of IPLC as well as an exponential rise in capacity utilization of submarine cable systems since 2007. They further submitted that international capacity utilization at the major cable landing stations in India has gone up by at least 10 times since 2007. They argued that the increased capacity utilization should have translated in to proportional reduction in Access Facilitation Charges and Operation and Maintenance (O&M) Charges. The service providers further submitted that these charges have remained virtually unchanged since 2007, as a result, CLS facility continues to remain a bottleneck facility and, therefore, there is no effective competition possible in the sector for the ILDOs, who do not own cable landing stations.

5. In order to address divergent views and to protect the interests of service providers and consumers of the telecom sector TRAI initiated consultation process on the issue. A letter dated 22.06.2011 was sent to the ILD service providers and their industry associations to furnish their comments on

various issues including international practices pertaining to 'International Telecommunication Access to Essential facilities at Cable Landing Stations'.

6. After analyzing responses received from service providers, TRAI issued consultation paper on 'Access Facilitation Charges and Collocation Charges at Cable Landing Stations' on 22.03.2012. Last date for comments and counter comments was 05.04.2012 and 12.04.2012 respectively. These dates were further extended to 19.04.2012 and 26.04.2012 respectively.

7. In the consultation paper following issues were raised:

(i): Which of the following method of regulating Access Facilitation Charges and Co-location charges (AFC & CLC) should be used in India?

(a) The prevalent method i.e. submission of AFC & CLC by owner of the cable landing station (OCLS) and approval by the TRAI after scrutiny

(b) Submission of AFC & CLC by OCLS and approval by TRAI after consultation with other stakeholders

(c) Fixing of cost based AFC & CLC by TRAI

(d) Left for mutual negotiation between OCLS and the Indian International Telecommunication Entity (ITE)

(e) Any other method, please elaborate in detail.

(ii): In case AFC & CLC are regulated using method (a) or method (b) above, is there a need to issue guidelines containing algorithm and network elements to be considered for calculating AFC & CLC to the OCLSs? If yes, what should be these guidelines?

(iii): In case, AFC & CLC are regulated using method (a), (b) or (c) above, please suggest the value of pre-tax WACC, method of depreciation and useful life of each network element? Please provide justification in support of your answer.

(iv): Which cost heads/ network elements should be included/ excluded while calculating Access Facilitation and Co-location charges? Please enumerate the items with specific reasons.

(v): What should be periodicity of revision of AFC & CLC? Support your view with reasons.

(vi): In case, cost based AFC & CLC are fixed by TRAI, which costing methodology should be applied to determine these charges? Please support your view with a fully developed cost model along with methodology, calculation sheets and justification thereof.

(vii): Whether Access Facilitation charges and O&M charges should be dependent on capacity (i.e. STM-1, STM-4 or STM-16) activated? Support your view with reasons.

(viii): If Access Facilitation charges and O&M charges are fixed on the basis of capacity activated;

- *(a) Should the charges be linearly proportionate to the capacity activated; or*
- *(b) Should the interface capacity as provided by the submarine cable system at the cable landing station be charged as a base charge while higher or lower bandwidth be charged as the base charge plus charges for multiplexing/ de-multiplexing?*

(ix): Whether there is a need to fix Access Facilitation charges for all types of submarine cables? If no, which kind of submarine cables may be exempted and why?

(x): Is there a need to introduce any new provision or to modify/delete any of the clauses of the 'International Telecommunication Access to Essential Facilities at Cable Landing Stations Regulation 2007', in order to facilitate access to essential facilities at cable landing station?

8. Apart from the above listed issues, stakeholders were also requested to provide comment on any other issue related to Access Facilitation Charges and Co-location charges along with all necessary details. On the basis of inputs received from stakeholders the access facilitation and collocation charges have been estimated. In continuation of the consultation process, the present consultation paper aims to obtain comments of the stakeholders on estimation of access facilitation charges, collocation charges and related issues.

B- Analysis of Responses received and the cost data submitted by the OCLSs

9. In response to the consultation paper comments and counter comments were sent by 24 and 8 stakeholders respectively. Majority of the stakeholders were of the view that there is an urgent need to reduce the AFC and CLC to reasonable and comparable level in order to ensure continued growth in India's international telecommunication market. Further, the stakeholders are generally of the view that access facilitation charges and collocation charges are to be submitted by the Owner of Cable Landing Stations (OCLS) for scrutiny by TRAI. After scrutinizing and seeking necessary clarifications from the OCLS, TRAI should publish these charges along with the methodology used for arriving at the charges.

10. TRAI also called meetings of all the OCLSs who have submitted these charges for their cable landing stations in the year 2010. During the meetings and followed by various letters, these OCLSs were asked to provide detail of cost of each sub-element (like cost of each card etc.) of network elements used for estimating the AFC and CLC submitted in TRAI. They have also been

asked to provide current costs of the network elements used for provisioning of access facilitation.

11. Keeping in view the comments of the stakeholders and further analysis on the subject the Authority issued "International Telecommunication Access to Essential Facilities at Cable Landing Stations (Amendment) Regulations, 2012 (21 of 2012)" on 19.10.2012 wherein provisions have been made in the regulations to prescribe cost based Access Facilitation Charges, Co-location Charges and other related charges by the Authority.

C- Estimation of access facilitation charges at cable landing stations

12. Based on the cost data and costing methodology details given by the OCLSs, several discussions held with them and also taking into consideration the submissions made by various stakeholders, the Network elements and CAPEX items required for providing access facilitation were identified. Cost data submitted by various OCLSs have been analysed to find annualized capital cost, OPEX and Utilization etc. Steps followed for estimation of access facilitation charges are as follows:

(a) Identification of network elements

13. During the consultation process, some of the service providers have submitted that for providing access facilitation at cable landing station no active element is required as consortium of submarine cable or owner of the submarine cable itself provide interfaces of various capacities at cable landing station and the cost of these network elements required for interfaces of various capacities is also reimbursed to owner of cable landing station by the consortium. Therefore, only passive element i.e. Optical Distribution Frame (ODF) is required for provisioning access facilitation at 10 G level or any other level which is provided by the consortium. In case, ITE requires lower capacity from the OCLS, then only cost related to multiplexer may be taken into account. This argument is also supported by two of the OCLSs i.e. M/s. Reliance and BSNL.

14. On the other hand, two of the OCLSs i.e. M/s. TCL and M/s. Bharti are of the view that consortium does not provide all types of the interfaces needed by the ITE. They submitted that even if consortium provides the required interfaces, it would not be appropriate to provide direct access to the submarine cable without using multiplexer provisioned by OCLS as the network management system and control of the network element owned by consortium are not in the control of OCLSs directly. Therefore, in their view, it is not possible for them to provide access facilitation directly using only ODF. These OCLSs have also submitted that TRAI should take into consideration all the network elements used by them for provisioning of access facilitation as per their network architecture. In fact, one of the OCLS has proposed two Digital Cross Connect (DXC) for provisioning of access facilitation at the cable landing station. These two OCLSs have 12 out of 15 cable landing stations for various cables and have majority share in provision of access facilitation in the country. Therefore, after identifying the network elements, the cost data submitted by these two OCLSs have been used by TRAI in the proposed model for estimation of the charges.

15. On the issue of desirability of including DXC(s) in the model for providing access facilitation at cable landing station, TRAI had a number of discussions with OCLSs on this issue and has proposed one DXC in the model for access facilitation at CLS.

16. After several discussions with the OCLSs and also taking into consideration the submission made by various stakeholders, TRAI identified network elements as indicated in the following diagrams for estimating access facilitation charges at cable landing station and alternate co-location.

Figure-1

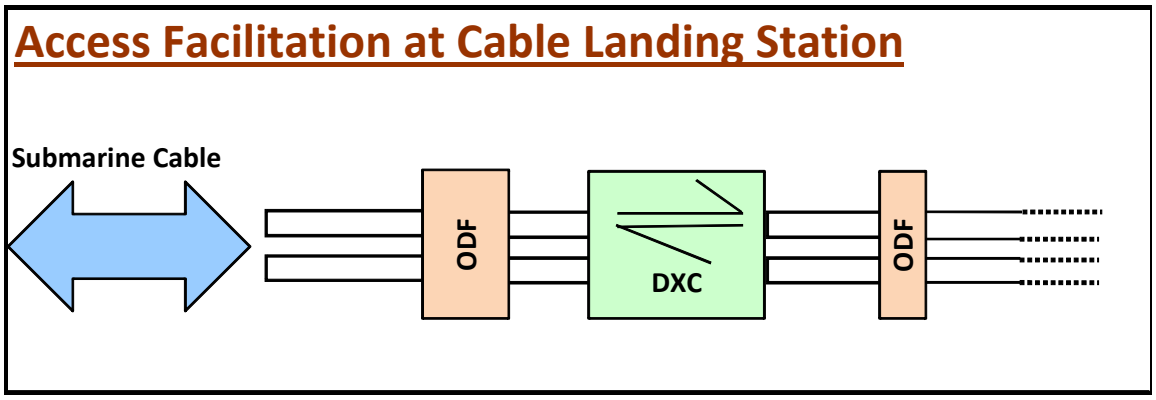
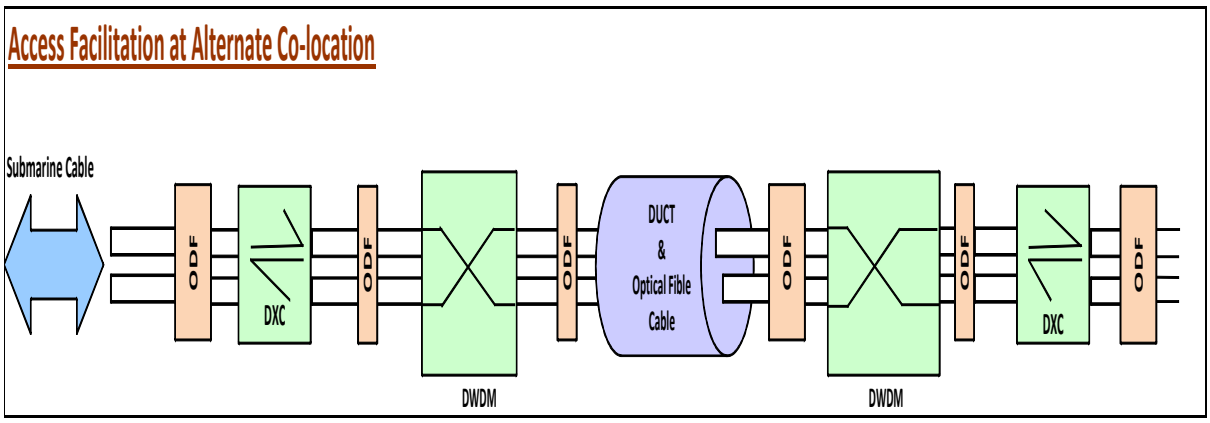


Figure-2



(b) CAPEX items used for provisioning of AFC at CLS and Alternate Co-location

17. As per the data submitted by the various stakeholders including the OCLSs, the network elements used for providing access facilitation at cable landing station and alternate co-location are listed in Table 1 and Tables 2(a), (b) and 2(c), respectively. Table 1 lists the CAPEX items used for access facilitation at CLS:

Table 1

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	Project Management cost

18. Table 2(a) to 2(c) list the CAPEX items used for access facilitation at alternate co-location:

Table 2(a)

CAPEX items used for access facilitation at alternate co-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	Project Management cost

Table 2(b)

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

Sl.No.	Description
i	Fiber between CLS and MMR

Table 2(c)

CAPEX items used for access facilitation at alternate co-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	Project Management cost

(c) Cost data used for the CAPEX items

19. While arriving at a model for calculating/estimating the access facilitation charges, it was seen that the two OCLSs, whose data has been used for estimation purpose have employed equipments of different capacities in their CLSs. In one case, the OCLS has used the DXC of capacity of 640 G while another OCLS has used 4 DXCs of 120 G capacity each for providing access facilitation to the International Telecommunication Entity (ITE).

20. In addition, the OCLS have configured their network at the respective CLS based on their projections for demand of circuits of various capacities i.e. STM-1, STM-4, STM-16 and STM-64. Accordingly, there has been a variation of access facilitation charges among various cable landing stations. The OCLSs have configured their network elements for provisioning of a pre-assumed configuration of various capacities i.e. STM-1, STM-4, STM-16 and STM-64. The capacity so created was again converted into STM-1 capacity to calculate the access facilitation charges for one STM-1. The cost of circuits of higher capacities were being calculated with the multiplier of 4, 16 and 64 on the access facilitation charges for one STM-1 to get access facilitation charges for STM-4, STM-16 and STM-64. In this methodology there was no advantage of scale of economy and the AFC of circuits of higher capacities were artificially getting inflated.

21. Further, during the discussions with the stakeholders, they also informed that unlike earlier (i.e. in the Year 2007, when the charges were approved) presently the requirement of circuits of higher capacities is more than the circuits of lower capacity. In view of the above anomaly in the present costing and charging structure, a model is being proposed with a DXC and other accessories for providing circuits of 10G/STM 64 only and using a rational factor to arrive at the cost of circuits of different other capacities. During the discussions with the service providers, it was informed that the present ration prevailing in the market for domestic leased circuits charges of STM-64 to STM-16 or STM-16 to STM-4 or STM-4 to STM-1 is 2.5 to 2.6. One OCLS has

also submitted that the factor of conversion from high capacity to lower capacity is 2.6. Therefore, for estimating access facilitation charges for the lower capacities i.e. STM-16, STM-4 and STM-1, a factor of 2.6 has been used.

22. TRAI has observed that work done for access facilitation at cable landing station is the same for all cable landing stations. Therefore, it may not be 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 at two different cities, which may be a small portion of total costs. In case of access facilitation at Meet Me Room (MMR) the difference could also be because of length of optical fiber link between CLS and MMR.

23. In these calculations, current cost as obtained from OCLS of each CAPEX item for providing access facilitation at 10 G/STM-64 level has been calculated to ensure directly attributable cost towards access for 10 G/ STM-64 level. To calculate the cost for provision of one 10 G/ STM-64 level, the cost of fully loaded DXC i.e. loaded with 10 G/ STM-64 cards in all slots in protected mode was estimated using data of the respective OCLSs. Similarly, on the basis of the data submitted by the OCLSs the cost of fully loaded DWDM in protected mode was calculated to get the cost of transporting one 10 G channel from OCLS to MMR.

24. 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 one 10 G, on the basis of cost data submitted by OCLSs for respective passive elements.

25. For the access facilitation at alternate co-location the OCLSs have also submitted the cost of link between their CLS and MMR. During the discussions, OCLSs have submitted that this link is not only used for providing access facilitation but also used for their internal use. It was further observed that the 40 channel DWDM is being used at both ends of the connectivity,

therefore, to calculate the cost of one 10 G link between MMR and CLS the cost provided by the respective OCLSs has been divided by 40. 10% of cost of CAPEX item has also been allowed as a project management cost as submitted by OCLSs.

26. The apportioned capital cost for one 10 G/ STM-64 (in protection mode) for each CAPEX item for OCLS-1 and OCLS-2 is given in the following Table. Keeping in view the commercial sensitivity of data, names of the OCLSs have not been provided.

Table-3

Apportioned Capital Cost for one 10 G (in protected mode) used for Access Facilitation at CLS (in Rs.)

Sl.No.	CAPEX item	OCLS-1	OCLS-2
i	ODF (Optical Distribution Frame)	6,064	8,927
ii	Digital Cross Connection	8,22,027	8,24,819
iii	Fiber Patch Cords	15,357	6,180
iv	Inter Floor cabling and tray work	37,500	1,25,000
v	Total Capex Equipement & Infrastructure (i+ii+iii+iv)	**8,80,948**	**9,64,925**
vi	Project Management cost (v * 10%)	88,095	96,493
Grand Total (v+vi)		**9,69,042**	**10,61,418**

27. Table 4(a) to 4(c) list the CAPEX items used for access facilitation at alternate co-location:

Table 4(a)

Apportioned Capital Cost for one 10 G (in protected mode) used for Access Facilitation at Alternate Co-location (For CLS Access Section) (in Rs.)

Sl.No.	CAPEX item	OCLS-1	OCLS-2
i	ODF (Optical Distribution Frame)	9,096	13,390
ii	Digital Cross Connection	8,22,027	8,24,819
iii	DWDM Equipment	9,13,120	7,87,860
iv	Fiber Patch Cords	19,616	24,720
v	Inter Floor cabling and tray work	37,500	1,25,000
vi	Total CAPEX Equipment & Infrastructure (i+ii+iii+iv+v)	**18,01,360**	**17,75,789**
vii	Project Management cost (vi*10%)	1,80,136	1,77,579
Grand Total (vii + viii)		**19,81,496**	**19,53,368**

Table 4(b)

Apportioned Capital Cost for one 10 G (in protected mode) used for Access Facilitation at Alternate Co-location (For Link between CLS Access Section and MMR) (in Rs.)

Sl.No.	CAPEX item	OCLS-1	OCLS-2
i	Fiber between CLS and MMR	1,30,000	5,37,500

Table 4(c)

Apportioned Capital Cost for one 10 G (in protected mode) used for Access Facilitation at Alternate Co-location (For MMR Section) (in Rs.)

Sl.No.	CAPEX item	OCLS-1	OCLS-2
i	ODF (Optical Distribution Frame)	9,096	13,390
ii	Digital Cross Connection	8,22,027	8,24,819
iii	DWDM Equipment	9,13,120	7,87,860
iv	Fiber Patch Cords	19,616	24,720
v	Inter Floor cabling and tray work	37,500	1,25,000
vi	Total CAPEX Equipment & Infrastructure (i+ii+iii+iv+v)	**18,01,360**	**17,75,789**
vii	Project Management cost (vi*10%)	1,80,136	1,77,579
Grand Total (vi + vii)		**19,81,496**	**19,53,368**

(d) Annual recovery of capital cost

28. In response to the consultation paper, most of the stakeholders have submitted that life of the network equipment may be taken as 10 years. They have also preferred Straight Line Method (SLM) to workout depreciation of each year. Comments of the stakeholders on pre-tax Weighted Average Cost of Capital (WACC) and method of depreciation are as follows:

Table-5

Comments of the stakeholders on pre-tax WACC and method of depreciation

S. No.	Stakeholder	WACC	Depreciation and useful life
1	AT&T	-	SLM
2	BSNL	14-15%	SLM @ 10%
3	Bharti Airtel	At least 20%	SLM @ 10% for network elements and SLM @ 5% for building
4	Cable & Wireless	15%	SLM @ 10%
5	Equant	15%	SLM @ 10%
6	Idea Cellular	SBI prime lending rate	10%
7	Infotel Broadband	13%	SLM @ 8% (life of the network-12 years, Submarine cable-15 years)
8	Reliance Comm.	13-15%	SLM @ 10%
9	Spectra ISP Networks	As per market conditions	SLM
10	Tata Communications	23.9%	Element wise depreciation
11	Vodafone India Ltd	19%	SLM @ 10% (life of network – 5 years, building – 20 years)
12	ACTO, BT, Pacific Internet, Telstra Comm	As per market conditions	SLM @ 10%
13	ISPAI	As per market conditions	SLM
14	Consumer Protection Association	-	SLM

Keeping in view the response submitted by the stakeholders, pre-tax WACC and method of depreciation used in other costing exercise and TRAI's internal analysis, following has been used for estimating annualized capital cost:

(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%

(e) Utilization

29. On the basis of discussions with OCLSs and other stakeholders and also taking into account the data submitted by them for various cable landing stations, the utilization factor of 70% has been taken into account.

(f) Operational cost

30. TRAI has examined the operational cost submitted by OCLSs for various cable landing stations. There was a large variation in operational cost between OCLSs and also among the various cable landing stations of same OCLS. One of the OCLSs has taken full infrastructure cost including land, building, fixtures etc. as CAPEX items and calculated annualized cost for estimating operational cost. This whole operational cost was attributed to a very small designed capacity, resulting in inflated operational cost per circuit. Another OCLS, while calculating the rental per sq.ft. per month for the equipped racks has taken into calculation the space earmarked for future expansion and has loaded it on the present equipped racks. This has resulted in an inflated operational cost per circuit.

31. Further, there is a large variation in the electricity component of operational cost submitted by the two OCLSs. The electricity consumption data submitted by the two OCLSs varies from 2 KVA to 6 KVA per rack for different transmission equipment i.e. DWDM, DXC. One of the OCLS has used per unit cost of electricity as Rs. 15 along with power factor of 0.85. Stakeholders are requested to comment specially on the power requirement of the transmission equipment i.e. DWDM, DXC equipped with different capacities, supplied by different equipment manufacturers.

32. TRAI also observed that the two OCLs, while apportioning the cost of items like external fit outs, internal fit outs, security service charges, manpower etc for AFC, have allocated the complete cost of these items for very large equipment floor i.e. 1600 sq.ft. for only 6 to 8 racks, whereas an area of around 1600 sq. ft can accommodate about 100 racks. This has lead to a disproportionate component of space charges in the OPEX. Therefore, in view of the large variation in the cost data submitted by the two OCLs, for space and electricity charges which constitute the major portion of the operating cost, TRAI has used 30% of capital cost of network element at CLS (as listed in Table 1 excluding project management cost) and 30% of capital cost of network element at MMR for the calculation (as listed in Tables 2(a) and 2(c) excluding project management cost) to estimate operational cost which also include annualised cost for space and infrastructure available at cable landing station. For item listed in Table 2(b) i.e. link between CLS and MMR the AMC as 2% of capital cost of the link has been allowed. However after receiving comments of the stakeholders, calculations relating to operating cost will be revisited. The provision of 30% of CAPEX as OPEX includes following items:

Table 6

Sl.No.	Description
i	AMC of equipments
ii	Space charges
iii	Electricity charges (Racks, building etc)
iv	External fit outs (transformers, DG sets, HT panels, LT panels, cables, air conditioner)
v	Internal fit outs (UPS, battery, internal electrical panel, precision AC, power distribution units, fire alarm and access control and cabling)
vi	Manpower cost
vii	Security services charges
viii	O&M charges for external and internal fit outs
ix	Insurance charges and property tax
x	Administration charges
xi	IT charges
xii	Network Management System cost

(g) Calculation of Access Facilitation Charges

33. After considering all the factors as mentioned in the above paras, estimation of access facilitation charges for 10G/ STM-64 at CLS and MMR are as follows:

Table 7(a)

Calculation of Access Facilitation Charges (in Rs.) for one 10 G/ STM-64 (in protected mode) at CLS

Sl.No.	Description	OCLS-1	OCLS-2
(a)	Average Annualized CAPEX (Annualisation of item (v) of Table-3)	1,60,773	1,76,099
(b)	Average Annualised Project Management cost (Annualisation of item (vi) of Table-3)	16,077	17,610
(c)	Average Annualized CAPEX taking 70% utilization into consideration {(a)÷(70%) +(b)}	2,45,753	2,69,180
(d)	OPEX per annum @ 30% of CAPEX (30% of item (v) of Table-3)	2,64,284	2,89,478
(e)	Total Annual charges per annum {(c)+(d)}	5,10,037	5,58,657
(f)	Annual charges per annum (Including Licence Fee @ 8%) {(e) ÷ (1-0.08)}	**5,54,388**	**6,07,236**

Table 7(b)

Calculation of Access Facilitation Charges (in Rs.) for one 10 G/ STM-64 (in protected mode) at Alternate Co-location

Sl. No.	Description	OCLS-1	OCLS-2
a	Average Annualized CAPEX of item (vi) of Table-4(a))	3,28,748	3,24,081
b	Average Annualized CAPEX of item (i) of Table-4(b))	21,847	90,330
c	Average Annualized CAPEX of item (vi) of Table-4(c))	3,28,748	3,24,081
d	Total of Average Annualised Project Management cost [Annualisation of {item (vii) of Table-4(a) + item(vii) of Table-4 (c)}]	65,750	64,816
e	Total Average Annualized CAPEX {(a)+(b)+(c)+(d)}	7,45,093	8,03,309
f	Total of Average Annualized CAPEX (taking 70% utilization into consideration) [{(a+b+c) ÷ 70%} +(d)]	10,36,240	11,19,806
g	OPEX per annum @ 30% of CAPEX {item (vi) of Table-4(a) + item(vi) of Table-4 (c)}*30%	10,80,816	10,65,473
h	AMC @2% for optical fiber link between CLS and MMR {item (i) of Table-4(b)*2%}	2,600	10,750
i	Total OPEX (g+h)	10,83,416	10,76,223
j	Total Annual charges per annum {(f) +(i)}	21,19,656	21,96,029
k	**Annual charges per annum (Including Licence Fee @ 8%)** {(j) ÷ (1-0.08)}	**23,03,974**	**23,86,988**

D- Access Facilitation Charges and Co-location charges for lower capacities i.e. STM-1, STM-4 or STM-16

34. As discussed earlier, for estimating access facilitation charge for lower capacities from 10 G/ STM-64 capacity, a conversion factor of 2.6 has been used.

Table 8(a)

Access Facilitation Charges per annum (in Rs.) at Cable Landing Station for STM-1, STM-4, STM-16 and STM-64

Sl. No.	Capacity	OCLS-1	OCLS-2
(a)	STM-1 {(b)/ 2.6}	31,542	34,549
(b)	STM-4 {(c)/ 2.6}	82,010	89,828
(c)	STM-16 {(d)/ 2.6}	2,13,226	2,33,552
(d)	STM-64 {item (f) of Table-7(a)}	**5,54,388**	**6,07,236**

Table 8(b)

Access Facilitation Charges per annum (in Rs.) at Alternate Co-location (Meet Me Room) for STM-1, STM-4, STM-16 and STM-64

Sl. No.	Capacity	OCLS-1	OCLS-2
(a)	STM-1 {(b)/ 2.6}	1,31,086	1,35,810
(b)	STM-4 {(c)/ 2.6}	3,40,825	3,53,105
(c)	STM-16 {(d)/ 2.6}	8,86,144	9,18,072
(d)	STM-64 {item (k) of Table-7(b)}	**23,03,974**	**23,86,988**

35. During the discussions one of the OCLSs submitted that submarine cable life is much longer than the network equipment used for provisioning of access facilitation. The OCLS further submitted that when capacities are provided on IRU basis then OCLS is bound to provide access facilitation for life of the submarine cable which require sometimes replacement of network equipment to provide access facilitation without charging any capital cost from the ITE.

Therefore, it would be more appropriate that charges are only on annual basis and IRU basis calculation may be done away with. Accordingly, charges for provisioning of capacity on IRU basis has not been estimated. Stakeholders are requested to comment on the desirability of access facilitation charges on IRU basis.

E- Co-location charges

36. During the submission of CLS-RIO in 2010, OCLS-1 has given same co-location charges as it submitted in the year 2007 except for new cables. For its new cable landing station, OCLS-1 has submitted in the year 2010, an amount of Rs.7,54,028 per rack per annum including licence fee excluding power cost for Mumbai cable landing station. OCLS-1 has estimated this amount by depreciating the cost of their data center and taking into account cost of manpower, electricity charge for air-conditioning, security and housekeeping and licence fee. OCLS-1 has also indicated an amount of Rs.1,65,024 per KW per annum as power cost.

37. OCLS-2 has also provided the same co-location charges as it submitted in the year 2007 except for the new cable. OCLS-2 has submitted an amount of Rs.3,40,354 as co-location charge for the new cable at Mumbai. It has estimated the co-location charges by taking rental, O&M (AMC for AC, fire fighting, UPS), basic power cost, manpower cost, security services charges and depreciation on internal and external fit outs and licence fees.

38. On the basis of data submitted by one of the OCLSs for space charges per sq.ft., other infrastructure charges per sq.ft. and power rate per KW, the co-location charges for Chennai and Mumbai are estimated. Stakeholders are requested to comment whether uniform co-location charges may be prescribed or such charges should be location dependent.

Table 9(a)

Co-location charges per annum (in Rs.) for Chennai

(Rack space = 16 sq.ft. and power consumed = 2 KW)

Sl.No.	Description	Annual Cost (in Rs.)	Cost per Rack (in Rs.)
(a)	Space Charges (Rentals per sq. ft. per annum)	1,143	18,286
(b)	O & M (per sq ft per annum)	614	9,820
(c)	Security Service Chgs (per sq ft per annum)	320	5,120
(d)	External Fitouts (per sq ft per annum) (transformers, DG sets, HT panels, LT panels, cables, air conditioner)	7,256	1,16,096
(e)	Internal Fitout (per sq ft per annum) (UPS, battery, internal electrical panel, precision AC, power distribution units, fire alarm and access control and cabling)	8,500	1,36,000
(f)	Depreciation per Annum {(d) ÷5 + (e) ÷15}	2,018	32,286
(g)	O&M for internal and External fit outs {(d) +(e)}*5%	788	12,605
(h)	Collocation Charges per annum (excluding power) {(a)+(b)+(c)+(f)+(g)}	4,882	78,116
(i)	Collocation Charges per annum (excluding power) with utilisation factor of 70% {(h) ÷70%}	6,975	1,11,595
(j)	Power (per KW)	115,143	2,30,286
(k)	Collocation Charges per annum (in Rs.) {(i) +(j)}		3,41,881
(l)	Collocation Charges per annum with Licence fee @ 8% (in Rs.) {(k) ÷ (1-0.08)}		3,71,610

Table 9(b)

Co-location charges per annum (in Rs.) for Mumbai

(Rack space = 16 sq.ft. and power consumed = 2 KW)

Sl.No.	Description	Annual Cost (in Rs.)	Cost per Rack (in Rs.)
(a)	Space Charges (Rentals per sq. ft. per annum)	4,103	65,642
(b)	O & M (per sq ft per annum)	753	12,055
(c)	Security Service Chgs (per sq ft per annum)	358	5,733
(d)	External Fitouts (per sq ft per annum) (transformers, DG sets, HT panels, LT panels, cables, air conditioner)	10,289	1,64,624
(e)	Internal Fitout (per sq ft per annum) (UPS, battery, internal electrical panel, precision AC, power distribution units, fire alarm and access control and cabling)	18,333	2,93,328
(f)	Depreciation per Annum {(d) ÷ 5 + (e) ÷ 15}	3,280	52,480
(g)	O&M for internal and External fit outs {(d) +(e)}*5%	1,431	22,898
(h)	Collocation Charges per annum (excluding power) {(a)+(b)+(c)+(f)+(g)}	9,926	1,58,808
(i)	Collocation Charges per annum (excluding power) with utilisation factor of 70% {(h) ÷ 70%}	14,179	2,26,869
(j)	Power (per KW)	152,379	3,04,758
(k)	Collocation Charges per annum (in Rs.) {(i) +(j)}		5,31,627
(l)	Collocation Charges per annum with Licence fee @ 8% (in Rs.) {(k) ÷ (1-0.08)}		5,77,855

F- Restoration Charges/ Cancellation Charges

39. In case the licence of the eligible Indian International Telecommunication Entity has been terminated or suspended but the same is subsequently restored, the Access Facilitation arrangement if discontinued due to such termination or suspension may be restored by the owner of cable landing station upon payment of all costs incurred by the owner of cable landing

station for the purposes of reconnection or restoration of the Access Facilities, as the case may be, by the eligible Indian International Telecommunication Entity to the owner of cable landing station. In the principal regulations, such reconnection or restoration charges shall be such as may be mutually agreed upon between them or failing which in accordance with the costs specified in Part - II of the Schedule.

40. Similarly, as per the principal regulations, in case the eligible Indian International Telecommunication Entity fails to acquire number of units mentioned in clause (a) of sub-regulation (2) of regulation 4, either due to withdrawing of authorization or rescinding of agreement referred to in regulation 7 or any other reasons, cancellation charge for the units not so acquired shall be payable by such eligible Indian International Telecommunication Entity to the owner of the cable landing station.

41. Presently the restoration charges specified by the two OCLS are around Rs. 1,00,000 and Rs. 1,10,000 respectively. Regarding the cancellation charges, as far as these two OCLSs are concerned, these are same as the restoration charges. However, one of the other OCLS has prescribed that the service must be subscribed for a minimum period of one year and in case of termination of any service prior to completion of one year, charges for one year shall be borne by the ITE. Stakeholders are requested to comment whether the restoration and cancellation charges should be either a fixed charge or based on a percentage of the AFC. In case of fixed charge, should the present charges be continued or need revision.

Issues for Consultation

Stakeholders are requested to comment on:

1. Cost data and costing methodology used for estimating the access facilitation charges and co-location charges in this consultation paper. In case of a different proposal, kindly support your submission with all relevant information including cost and preferred costing methodology.

2. On the power requirement of the transmission equipment i.e. DWDM, DXC equipped with different capacities, supplied by different equipment manufacturers.

3. Percentage used for OPEX and capacity utilisation factor with supporting data on each OPEX item specially on space and power consumption of various equipments.

4. Whether ceiling of uniform Access Facilitation Charges may be prescribed for all Cable Landing Stations in two categories i.e. AFC at CLS and AFC at alternate Co-location, or these charges should be dependent on submarine cable system or location of cable landing stations?

5. Whether prescribing the access facilitation charges on IRU basis is required?

6. Whether uniform co-location charges may be prescribed or such charges should be location dependent?

7. Whether the restoration and cancellation charges should be either a fixed charge or based on a percentage of the AFC. In case of fixed charge, should the present charges be continued or need revision?

8. Any other comment related to Access Facilitation Charges, Co-location charges and other related charges like cancellation charges, restoration charges along with all necessary details.