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**TELECOM REGULATORY AUTHORITY OF INDIA
NOTIFICATION**

New Delhi, the 28th November, 2018

**THE INTERNATIONAL TELECOMMUNICATION CABLE LANDING
STATIONS ACCESS FACILITATION CHARGES AND CO-LOCATION
CHARGES (AMENDMENT) REGULATIONS, 2018
(No.08 of 2018)**

File No. 416-2/2018-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 to amend the International Telecommunication Cable Landing Stations Access Facilitation Charges and Co-location Charges Regulations, 2012 (No. 27 of 2012) , namely:-

1. (i) These regulations may be called the International Telecommunication Cable Landing Stations Access Facilitation Charges and Co-location Charges (Amendment) Regulations, 2018.
(ii) They shall come into force from the date of their publication in the Official Gazette.
2. In the International Telecommunication Cable Landing Stations Access Facilitation Charges and Co-location Charges Regulations, 2012 (No. 27 of 2012), -
 - (a) for Schedule-I the following Schedule shall be substituted, namely:-

“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

”;

(b) for Schedule-II, the following Schedule shall be substituted, namely:-

“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

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

”;

(c) for Schedule III, the following Schedule shall be substituted, namely:-

**“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)

”.

(S. K. Gupta)
Secretary

Note 1. The principal regulations were published vide notification dated 21.12.2012 (27 of 2012)

Note 2. The Explanatory Memorandum explains the objects and reasons of the International Telecommunication Cable Landing Stations Access Facilitation Charges and Co-Location Charges (Amendment) Regulations, 2018

**EXPLANATORY MEMORANDUM TO ‘THE INTERNATIONAL
TELECOMMUNICATION CABLE LANDING STATIONS ACCESS
FACILITATION CHARGES AND CO-LOCATION CHARGES
(AMENDMENT) REGULATIONS, 2018**

A. Introduction

1. TRAI issued the International “Telecommunication Access to Essential Facilities at Cable Landing Stations Regulations, 2007” on 07.06.2007. The Regulations provide that the owner of cable landing station (OCLS) shall provide access to any eligible Indian International Telecommunication Entity, 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 were 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. The regulations also provide 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, the Authority received representations from a number of service providers and their associations requesting formal broad based consultation with all industry players on review of Access Facilitation Charges (AFC). They submitted that since the year 2007, when TRAI had issued its regulations, there has been a dramatic change in the international bandwidth market, both in terms of a significant drop in the prices of International Private Leased Circuit (IPLC) as well as an exponential rise in capacity utilisation of submarine cable systems. They further submitted that international capacity utilisation at the major cable landing stations in India has also gone up by at least ten times since 2007. They argued that the increased capacity utilisation should have translated in proportional reduction in Access Facilitation Charges and Operation and Maintenance (O&M) Charges. However, 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.

3. In order to review the Access Facilitation and Co-location charges, the Authority issued a Consultation Paper on 'Access Facilitation Charges and Co-location Charges at Cable Landing Stations' on 22.03.2012.
4. Based on the inputs received in the consultation process the Authority issued an amendment to the 2007 regulations titled "International Telecommunication Access to Essential Facilities at Cable Landing Stations (Amendment) Regulations, 2012" on 19.10.2012. In these regulations suitable provisions were made for specifying Access Facilitation Charges (AFC), Co-location charges and other related charges like Cancellation Charges and Restoration Charges.
5. The Authority issued another consultation paper on "Estimation of Access Facilitation Charges and Co-location Charges at Cable Landing Stations" on 19th October 2012 seeking comments of stakeholders. Considering the comments given by the various stakeholders and in order to give a fair opportunity to Owners of Cable Landing Stations (OCLSs), meetings were held with CLS owners in which cost data, costing methodology used by TRAI were discussed in detail. Based on the discussion held in the above meeting and submission of stakeholders in response to the consultation paper, Access Facilitation Charges, both at cable landing stations and at alternate location, were estimated. These interactions provided inputs on network design and the cost data. Almost all components of cost including life of equipment and optical fibre, OPEX, consideration of standby equipment, CAPEX Elements, project management cost, weighted average cost of capital, space required to block for future expansion, company overhead, rate of dollar, taxes in equipment sector etc. were taken into account in the calculations. The exercise eventually resulted in notification of 'The International Telecommunication Cable Landing Stations Access Facilitation Charges and Co-Location Charges' Regulations dated 21.12.2012 (hereinafter referred to as principal regulations).
6. The charges as prescribed in the Regulations dated 21.12.2012 were to be effective from 01.01.2013. However, two of the OCLSs (M/s Tata Communications Ltd. and M/s Bharti Airtel Ltd.) filed writ petitions (Nos. 1875 and 3652 of 2013) in Madras High Court challenging all the three regulations issued by the Authority regarding CLS viz.
 - (i) International Telecommunication Access to Essential Facilities at Cable Landing Stations (CLS) Regulation, 2007 dated 07.06.2007
 - (ii) International Telecommunication Access to Essential Facilities at Cable Landing Stations (Amendment) Regulations, 2012 dated 19.10.2012

- (iii) The International Telecommunication Cable Landing Stations Access Facilitation Charges and Co-Location Charges Regulations, 2012 dated 21.12.2012
7. The Single Judge Bench of the Hon'ble Madras High Court passed the final judgment and order on 11.11.2016 dismissing both the writ petitions. Subsequently, appeals were filed by both the petitioners before a Division Bench of the Hon'ble Madras High Court (WA Nos. 283 and 285 of 2017). The Hon'ble Court vide its final judgment and order dated 02.07.2018, partly allowed both the appeals. The Hon'ble Division Bench held that the Authority has the power to frame the aforesaid regulations in exercise of its powers vested under the TRAI Act, 1997. However, the Schedules I, II, and III of the principal regulations were quashed.
8. The decision of the Division Bench of the Hon'ble Madras High Court is reproduced below:

“(a) Both appeals are partly allowed. We partly confirm the dismissal of writ petitions, W.P.Nos.1875 and 3652 of 2013. We confirm the dismissal of the writ petitions insofar as it pertains to challenge to 'International Telecommunication Access To Essential Facilities At Cable Landing Stations Regulations, 2007 (5 of 2007)' dated 7.6.2007, i.e., 'CLS Regulation' and 'International Telecommunication Access To Essential Facilities At Cable Landing Stations (Amendment) Regulations, 2012 (No.21 of 2012)' dated 19.10.2012, i.e., 'CLS Amendment Regulation'.

(b) Insofar as dismissal of the aforesaid writ petitions qua 'The International Telecommunication Cable Landing Stations Access Facilitation Charges and Co-location Charges Regulations, 2012 (No.27 of 2012)' dated 21.12.2012, i.e., 'CLS Co-location Charges Regulation' is concerned, we partly set aside the same holding that Schedules I, II and III of 'The International Telecommunication Cable Landing Stations Access Facilitation Charges and Co-location Charges Regulations, 2012 (No.27 of 2012)' dated 21.12.2012 stand quashed.

(c) TRAI shall redo and re-enact the aforesaid quashed schedules, i.e., schedules I, II and III of 'The International Telecommunication Cable Landing Stations Access Facilitation Charges and Co-location Charges Regulations, 2012 (No.27 of 2012)' dated 21.12.2012 after strictly following the procedure for subordinate legislation making, particularly transparency and principles of natural justice which have also been built into section 11(4) of TRAI Act within six months from the date of receipt of a copy of this order.

(d) Consequently, 'International Telecommunication Access To Essential Facilities At Cable Landing Stations Regulations, 2007 (5 of 2007)' dated 7.6.2007, 'International Telecommunication Access To Essential Facilities At Cable Landing Stations (Amendment) Regulations, 2012 (No.21 of 2012)' dated 19.10.2012 and The International Telecommunication

Cable Landing Stations Access Facilitation Charges and Co-location Charges Regulations, 2012 (No.27 of 2012)' dated 21.12.2012 are kept in abeyance for a period of six months from the date of receipt of a copy of this order or redoing / re-enacting aforesaid Schedules whichever is earlier.

(e) Writ appeals are partly allowed to the limited extent set out supra. Considering the nature of the matter and trajectory of the hearings, parties are left to bear their respective costs.”

9. The Schedule I of the principal regulations specifies the Access Facilitation Charges at cable landing stations and alternate location. The Schedule II specifies the annual operation and maintenance charges for capacity provided on IRU (Indefeasible Right of Use) basis at cable landing stations and alternate location. The Co-location Charges are specified in the Schedule III of these regulations.
10. The Division Bench of the Hon’ble High Court in its final judgment and order dated 02.07.2018 has *inter alia* concluded that:

“However, with regard to utilisation factor being taken as 70% and the conversion factor being fixed at 2.6, we hold that the same breach the requirement of transparency and natural justice principles which are non-negotiable ingredients of subordinate legislation making, besides being built into the sub-section 4 of section 11 of TRAI Act.....

However, this has direct impact only on the access facilitation charges, annual operation and maintenance charges and co-location charges contained in Schedules I, II and III of the CLS Co-location Charges regulations..... ”

11. TRAI filed a Special Leave Petition (SLP) on 26.09.2018 in the Hon’ble Supreme Court (Nos. 26726-26727/2018) requesting inter-alia for grant of ex-party stay of the operation of impugned final judgment and order dated 02.07.2018 of the Division Bench of Hon’ble Madras High Court. SLP was also filed by Reliance Communications Limited on 21.08.2018 (Nos. 23351-23352/2018) with prayer for interim relief requesting inter-alia for grant of ex-parte stay of the operation of the final judgment and order dated 02.07.2018. Similar SLP was also filed by the Association of Competitive Telecom Operators on 04.09.2018(Nos. 25506-25507/2018).

These petitions were tagged together and upon hearing the counsel on 08.10.2018, the Hon’ble Supreme Court made the following order:

“In these Special Leave Petitions filed against the High Court judgment, it is clear that the Division Bench of the High Court has interfered only on two counts. Insofar as both the counts are concerned, the ultimate finding is that both need to be re-worked by the Authority.

We would request the Authority to re-work the figures on both counts within a period of six weeks from today. It will be open to the Authority,

if it so finds, to re-determine the same two figures that have been accepted by the learned Single Judge.

All contentions may be raised and are kept open to both sides. The parties shall not take adjournment on any count.

The Special Leave Petitions are disposed of accordingly.

Pending applications also stand disposed of.”

12. The Authority, therefore, under the present Consultation process proposed to re-work the figures on two counts, namely, ‘utilisation factor’ and ‘conversion factor’ only. The network design, cost data, and other cost factors used while framing the principal regulations have been retained.

13. In view of the above, the Authority issued a Consultation Paper on “Estimation of Access Facilitation Charges and Co-location Charges at Cable Landing Stations” on 18.10.2018. This consultation process was initiated to seek the views of the stakeholders to re-work the figures for ‘utilisation factor’ and ‘conversion factor’ only and consequent redetermination of charges prescribed in the Schedule I, II, III of the principal regulations in compliance to the Hon’ble Supreme Court order dated 08.10.2018 and Hon’ble Madras High Court order dated 02.07.2018. Accordingly, the following two questions were put up for comments of the stakeholder:-

“Q 1. What should be the ‘utilization factor’ for determination of annual access facilitation charges, annual operation and maintenance charges for capacity provided on IRU basis, and co-location charges in the Schedules appended to “The International Telecommunication Cable Landing Stations Access Facilitation Charges and Co-Location Charges Regulations, 2012” dated 21.12.2012 ?

Q 2. What should be the ‘conversion factor’ (refer Para 2.22) for determination of annual access facilitation charges and annual operation and maintenance charges for capacity provided on IRU basis in the Schedules appended to “The International Telecommunication Cable Landing Stations Access Facilitation Charges and Co-Location Charges Regulations, 2012” dated 21.12.2012?”

14. The last date for receiving comments and counter-comments were 29.10.2018 and 3.11.2018 respectively. There were 11 comments and 4 counter comments received from the stakeholders. The Authority also conducted an Open House Discussion (OHD) on 05.11.2018. Some additional submissions were also made by three stakeholders M/s Tata Communications Ltd., M/s Bharti Airtel Ltd. and ACTO (Association of Competitive Telecom Operators) after the OHD.

B. Utilisation Factor for AFC/ Annual O&M charges for capacity provided on IRU basis

15. In response to the question on ‘utilisation factor’ for access facilitation charges/ annual operation and maintenance charges for capacity provided on IRU basis; most of the stakeholders (8 out of 11 stakeholders) commented that the ‘utilisation factor’ of 70% taken during the previous estimation exercise was correct and is as per the best International practices. One stakeholder has suggested a ‘utilisation factor’ of 50-60%. The Authority also noted that out of 8 stakeholders who supported ‘utilisation factor’ of 70%, 3 stakeholders are access seekers as well as OCLSs.
16. M/s TCL and M/s Bharti Airtel did not provide any specific ‘utilisation factor’. M/s Bharti Airtel commented that ‘utilisation factor’ should be kept keeping in view the past trends on low utilisation and further adjusted for future requirement. In support, they submitted low figures of average utilisation of cables landing at Chennai and Mumbai CLSs. M/s TCL has submitted that TRAI’s assumption of capacity design of 60G and 70% capacity utilisation across all landing stations is not correct because the actual uptake of access facilitation varies from CLS to CLS. They have also submitted low figures of forecasted capacity utilisation in some CLS and said that it was improper to assume an access facilitation uptake on the first day to be 42G (70% of 60G).
17. The submissions of all stakeholders, especially both the OCLSs, who were opposing the ‘utilisation factor’ of 70% were analyzed in detail. These two OCLSs were mixing two different parameters used in this exercise. While framing the principal regulations, on the basis of discussion with all stakeholders, an optimum network was designed. Though this network in fully loaded configuration was capable of delivering upto 160G capacity but on the basis of existing demand and demand projections for various capacity interfaces i.e. STM-1, STM-4, STM-16, STM-64; a 60 G capacity configuration in protection mode was taken with an interface mix. It was a design for one particular type of configuration for the purpose of estimation, and if some CLSs have very low demand for access facilitation then network can be designed accordingly and the and cost of the network will also be less. Therefore, all the submissions of these two OCLSs on low demand for access facilitation are irrelevant for the purpose of ‘utilisation factor’.
18. The Authority noted that OCLSs provide access to other ILDOs to access/interconnect the bandwidth available on the submarine cable which may not be owned by the OCLS. For this access facilitation some network elements are installed by the OCLS which get interconnected to the submarine cable

bandwidth on one side and the equipment of the access seekers on the other side. The 'utilisation factor' in the context of AFC refers to the capacity utilisation for recovery of the cost of the network installed specifically for the purpose of Access Facilitation for other ILDOs.

19. It is worthwhile to mention here that the Cable Landing Stations are set-up by OCLSs to primarily cater to the international communication requirement of its own customers using their own bandwidth in the submarine cable. The major component of cost of the CLS which includes the equipment used for terminating the submarine cable in the Cable Landing Station is borne by the consortium and the same is not the subject matter of present consultation or the principal regulations. The Access facilitation provided to other ILDOs is one of the activities of the OCLSs. In fact data submitted by M/s Bharti Airtel shows that the percentage of activated capacity for other ILDOs is merely 2-16% of the total activated capacity in all the CLSs owned by it. Similarly, data furnished by M/s TCL suggests that for five CLSs owned by them, the activated capacity for other ILDOs is nil. Therefore, the low utilisation of submarine cables landing at CLS as has been submitted by M/s Bharti Airtel is not relevant.
20. The Authority further noted that the figures of utilisation of access facilitation capacity submitted by M/s TCL is not relevant as the same are mere projections and do not in any way affect the network design (of 60G capacity) arrived at for calculations in the principal regulations. Further, the OCLSs have all the rights to plan their business investments based on market forecast and past trends.
21. The other contention of both the stakeholders as to first day utilisation of 42 G (70% of 60G) is not correct as there is no such assumption by the Authority. The value of 60G capacity is only as per the network design. It is obvious that the uptake for access facilitation service will gradually increase over a period of time and it can even go up to 100%. The Authority also noted that as per the network design and prudent economic considerations, the OCLSs are supposed to recover their costs over a period of time and not on a day to day basis or on each transaction basis which would be in any way against the basic economic principles.
22. The purpose of applying the 'utilisation factor' is to provide sufficient cushion/margin to the OCLSs by determining the costs in such a way that the OCLSs are able to recover their costs on selling an average of 70% of the capacity over a period of time.
23. The Authority further noted that though these two OCLSs opposed a 'utilisation factor' of 70% without giving any cogent reasons for the same as has been

discussed hereinabove but have also failed to suggest any other figure based on working of their CLSs over a period of time. They have tried to raise issues related to network demand and design capacity which has no direct relationship with 'utilisation factor' nor the subject matter of present consultation. The third OCLS has suggested a figure of 50-60% for 'utilisation factor' but has not provided any reasons whatsoever for the same.

24. The Authority analyzed the effect of 'utilisation factor' on the cost recovery. There could be one view that there is no need to provide any further margin and 100 % utilisation has to be taken, as interfaces during the network design have been taken on the basis of demand projections in the market and discussions with all the stakeholders, especially with these two OCLSs. However, there is always some uncertainty of the demand in the market. Now, the question arises as to how much cushion/margin to be provided for this uncertainty. As one increases/decreases 'utilisation factor', it has direct bearing on the charges paid by the seekers. Very low 'utilisation factor' would burden the seekers and would create non level playing fields as OCLSs, being integrated operators, are competing in the same market. Therefore there is a need to have reasonable balance so that it protects the interest of both the seekers and providers.
25. The Authority observed that taking an 'utilisation factor' of 70%, as suggested by most of the stakeholders, has the effect that the seeker has to bear 43% more charges in comparison to the actual cost incurred by the OCLS. For example, if the cost is ₹1 for a fully loaded access facilitation set-up and if it is being recovered through 70% 'utilisation factor' then charges paid by seeker will be $\text{₹}(1/0.7) = \text{₹}1.43$. Ultimately, this additional cost will be borne by the consumers who are taking services directly or indirectly from other ILDOs.
26. The Authority also observed that utilisation of 70% is very common in the telecom sector. Utilisation of 70% is used in augmentation of Point of Interconnection by various Telecom Service Providers. It is also used in Network planning to design the Telecom Networks.
27. In this connection, it is also pertinent to refer to the judgment dated 28th November, 2005 of Hon'ble TDSAT in case of Appeal No.10 of 2005. In the case, VSNL (now Tata communications Ltd) filed an appeal challenging the International Private Leased Circuits (IPLC half circuits) Tariff Order of TRAI dated 8th September, 2005 (Telecommunication Tariff (39th amendment) order, 2005) whereby TRAI had fixed ceiling tariffs for what are known as IPLC half circuits.

Vide para 13.5 of the judgment the Hon'ble TDSAT had observed:

“During arguments we had occasion to see the papers submitted by TRAI which clearly brought out the position that the inspection team had unearthed certain information which had earlier not been given by VSNL. Also the figure of E-1s indicating capacity utilized was entirely based on the information given by VSNL. Also VSNL itself had indicated that 30% of capacity was unutilized. While we do appreciate VSNL argument that for efficient and reliable IPLC service some provision has to be made to provided for restoration / redundancy, we see considerable merit in TRAI’s argument that with only 70% capacity being utilized, the remaining 30% un-utilized capacity would suffice for meeting the requirement of redundancy.”

The Hon’ble TDSAT concluded vide para 21 of the judgment that

“For the reason stated above, we find no merit in this appeal and find no reason to interfere with the impugned notification. Hence, we dismiss this appeal and direct that the notification in question be brought into effect immediately by TRAI so that the benefit of the notification to the consumer is not delayed further. Appeal dismissed with cost computed at Rs. 50,000/-.”

28. The aforesaid judgment was also cited by one of the stakeholders during the consultation process. M/s TCL has submitted that reliance on the extract of the judgment is not correct because 30% unutilized capacity mentioned in the case of IPLC half circuit is very different from the access facilitation set-up which is the subject matter of consultation. The Authority compared network elements used in providing IPLC services and access facilitation to other ILDOs and found that the set-up used for IPLC is also similar to that being used for access facilitation. Therefore, the contention of M/s TCL that these two are not be comparable is not correct.

29. In view of the above and taking into account: (a) the comments of majority of stakeholders, (b) international best practices, (c) similar ‘utilisation factor’ used in other network designs, (d) to be fair to all the stakeholders, (e) to have a level playing field among the OCLSs and access seekers (f) to ensure OCLSs get fair return on their investment while the seekers and end consumers do not end up paying excessively; the Authority, decides that the “utilisation factor” of 70% is appropriate and reasonable for calculating access facilitation charge and annual O&M charges for capacity provided on IRU basis for the cost recovery.

C. Conversion factor for AFC/ Annual O&M charges for capacity provided on IRU basis

30. In the consultation paper, comments on conversion factor for estimating access facilitation charges / annual operation and maintenance charges for capacity provided on IRU basis for different capacities i.e. STM-1, STM-4, STM-16 and STM-64, were sought.
31. All the stakeholders (9 out of 11), except M/s Bharti Airtel and M/s TCL, have supported a conversion factor of 2.6. They submitted that conversion factor of 2.6 is based on sound principle of economies of scale as well as best practices followed by the industry. The Authority also noted that out of 9 stakeholders who supported 'conversion factor' of 2.6, four stakeholders are access seekers as well as OCLSs.
32. M/s Bharti Airtel and M/s TCL have said that the conversion factor should be 4. To support this, M/s TCL has also submitted that there is no benefit of economies of scale in the cost of higher capacity interfaces. M/s Bharti Airtel has given some examples of under-recovery and excess recovery by changing the interface mix. Similar example has also been cited by M/s TCL stating that full recovery of cost is possible only when the capacity sold is exactly as per the volume and interface mix assumed by TRAI.
33. Before analyzing the comments of stakeholders, there is a need to understand the significance of factor of 2.6 in this costing exercise. It may be recalled that on the basis of the discussions with all the stakeholders including these two OCLSs, a network was designed which can provide total 60G capacity to the access seekers through the various capacity interfaces(STM-1, STM-4, STM-16, STM-64), as per the existing demand and demand projections. The total cost of such a designed network was calculated. Now, the question is how to allocate the cost to different capacities i.e. STM-1, STM-4, STM-16 and STM-64. One should appreciate that conversion factor does not affect admissibility of the cost, it comes only in the recovery part of the cost and that too recovery through various capacities, keeping the total cost for recovery intact. Now, one simple approach could be to take a factor between two capacities as per the technical capacity of the interface. For example, STM-4 has a capacity of 4 STM-1s and therefore charges for the STM-4 should be 4 times that of the STM-1. If a factor of 4 is taken then the underlying assumption is that the cost attributable to STM-4 is 4 times that of STM-1, which may not be correct as cost is not linear to the capacity. This does not practically happen. Cost of 4 inches pipe is not 4 times that of the pipe of 1 inch as the cost is not a linear function of the capacity. Therefore, it is incorrect on the part of

these two OCLSs to argue that conversion factor should be 4 and there is no benefit of economies of scale.

34. The OCLSs will be able to recover their cost fully, irrespective of the conversion factor. Higher conversion factor will increase the prices of higher capacity and lower the prices of lower capacity. Further, if higher conversion factor is taken into account, there is no advantage to seekers in taking higher capacity, forcing them to seek lower capacity multiple times. In this exercise, allocation of cost to various capacities ensures that total cost is recovered for the designed network. The conversion factor does not have any impact on the recovery of the total cost; it only changes comparative AFC of different capacities.
35. As mentioned above, taking a conversion factor of 4 does not fit into the principle of economies of scale. Therefore, Authority considered other similarly placed services and their market scenarios. The Authority observed that in case of Domestic Leased Circuit also similar network elements are used and similar capacities are bought/sold using an average conversion factor of 2.6. Since conversion factor of 2.6 is market driven and reflects market reality, it would be more appropriate to use this figure. Moreover, conversion factor of 2.6 reasonably fits into the principle of economies of scale. As explained above, the conversion factor does not have any bearing on the total cost recovery and therefore should not affect any stakeholders' interest negatively.
36. The Authority further observed that the examples of excess recovery and under recovery cited by both the OCLS are inappropriate as the mix of interfaces was decided on the basis of the discussions with them. However, whenever there is a change in the interface mix, there will be corresponding changes in the cost of the network also. This, in effect, would mean that any change in the interface mix would to a large extent balance the cost and corresponding recovery of cost. It is also noted here that the network design is for the purpose of estimation and is not supposed to meet all the use cases in a practical scenario; therefore, the submissions in this regard are devoid of any merit.
37. Further, the two OCLSs have also contended that ratio of Domestic Lease Circuit charges, which is prevalent in the market, is not valid for calculating access facilitation charges as these charges should be based on the principal of cost recovery. This argument is not correct, as explained above, since this conversion factor does not affect the admissibility of the cost and is only relevant for the AFC of different capacities, it is prudent to use a conversion factor which is market determined for similarly placed services using the similar network elements.

38. The Authority also observed that the linear 'conversion factor' of 4 in respect of cost of interface hardware that is STM-1/STM-4/STM-16/STM-64, as suggested by the two OCLSs is also not based on sound economic principles. The contention that the interface hardware cost is a linear multiple of the physical capacity is not always true. Some stakeholders in their counter comments have also submitted that the cost of various hardware modules is not linearly relatable to the capacity of the hardware. Moreover, for calculating the cost per unit capacity it is prudent to take into consideration all the other common factors used for cost calculation per unit capacity rather than the cost of the interfaces only. Further, the purpose of 'conversion factor' is not for calculation of the cost but is relevant only for allocation of the cost.
39. Taking into account the comments of majority of stakeholders, discussions in above paras and the market conversion factor used in the case of Domestic Leased Circuit, a similarly placed service; the Authority decides that the conversion factor of 2.6 is appropriate for calculating access facilitation charge and annual O&M charges for capacity provided on IRU basis for the network design under consideration.

D. Utilisation Factor for Co-Location Charges

40. The co-location charges are based on the space charges, other infrastructure charges and electricity charges for a rack (rack space =16 sq feet and power consumed=2KW) as detailed in the consultation paper dated 19.10.2012. The co-location charges were estimated as Rs. 5,77,855/- and Rs 3,71,610/- for Mumbai and Chennai. These figures were rounded off to Rs. 6 lakhs for Mumbai and Rs. 4 lakhs for locations other than Mumbai in the principal regulations. The co-location charges were calculated by applying 'utilisation factor' of 70% of the cost all the relevant items. The cost of electrical power (=2KW) was taken as actual.
41. During the present consultation process, out of 11 stakeholders, the 'utilisation factor' of 70% for co-location charges was supported by 3 stakeholders and no comments were given by 6 stakeholders. However, 2 stakeholders, namely M/s Bharti Airtel and M/s TCL, opposed the 'utilisation factor' of 70%. M/s Bharti Airtel submitted that no-justification/break-up has been provided for the calculations for estimation of co-location charges. However, no figure of 'utilisation factor' was submitted by M/s TCL and M/s Bharti Airtel.
42. The Authority observed that the submissions of M/s Bharti Airtel regarding the detail justification/breakup of costs is not correct as the same was available in consultation paper dated 19.10.2012 and referred to in the consultation paper dated 18.10.2018. The Authority, however, noted that the issue raised by M/s

Bharti Airtel is not a subject matter of the present consultation and the same need not be considered here.

43. The Authority also observed that though the two stakeholders have opposed a 'utilisation factor' of 70% for co-location charges but have not given any reasons for the same. Further, they have also not suggested any other figure based on working their CLSs over a period of time.
44. The Authority also noted that as per prudent economic considerations, the OCLSs are supposed to recover their costs over a period of time and not on a day to day basis or on each transaction basis which would be in any way against the basic economic principles.
45. In view of the above, and the analysis made earlier in the context of 'utilisation factor' for assessing AFC, it is noted that the justification given for 'utilisation factor' for AFC are equally applicable in the case of co-location charges. The OCLSs will be able to recover full cost of the space even if they are able to sell an average of 70% of the total collocation space. Accordingly, the Authority decides to use 70% utilisation factor for collocation charges also.

E. Other issues raised by the stakeholders

46. Although this consultation process was limited to redoing the Schedules-I, II & III of the principal regulations by way of re-working the figures on two counts viz. 'utilisation factor' and 'conversion factor' in compliance to orders/judgments of the Hon'ble Supreme Court/Hon'ble Madras High Court, some other issues were also raised by some of the stakeholders.
47. M/s TCL and M/s Bharti Airtel have raised some legal issues related to the jurisdictional competence and powers of TRAI to regulate access facilitation charges and co-location charges at cable landing stations. They have also contended that the CLS is not a bottleneck facility and hence should not be regulated. Further, they have also raised some issues relating to other cost factors used in the previous estimation exercise. Both these OCLSs have also commented that the costing methodology is not clear, whereas other stakeholders either did not raise or had different views on these issues. The Authority, however, noted that these issues have already been settled by the Hon'ble Courts and have no relevance in the present consultation process and, therefore, need no further consideration.
48. Most of the stakeholders, who have participated in this consultation process, have reasoned that the cost of access facilitation should come down further because of

multifold increase in capacity utilisation of the cable landing stations and the associated economies of scale. They have further asserted that these charges are quite significant percentage of the international bandwidth cost which also affect the cost borne by the end users. On the other hand, M/s TCL and M/s Bharti Airtel have argued that there is enough competition in the market because new cable landing stations have been set up by others. It is a fact that some new cable landing stations have come up during this period and these new OCLSs have also emphasized the need for regulation for access facilitation charges and co-location charges. BSNL has raised an issue that due to drastic reduction in the overall price of International bandwidth in the market and high access facilitation charges it has become costlier for it to access its own bandwidth in the EIG cable system. BSNL is a consortium partner in the EIG cable system for which the cable landing station at Mumbai is owned by M/s Bharti Airtel Ltd. Though, M/s TCL have submitted that co-location charges and AFC need not be regulated but on the contrary have stated that one of the new OCLSs failed to provide access to its CLS to M/s TCL. The Authority noted that though these issues are not relevant for the purposes of present consultation process, however, these issues highlight the need for effective regulations for access facilitation charges and co-location charges at Cable Landing Stations.

49. In this context, the Clause 3(4) of the principal regulations is reproduced below:

“Nothing contained in Schedule-I and Schedule-II to these regulations will apply if the OCLS and the 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”.

That is, the annual access facilitation charges and annual operation and maintenance charges for capacity provided on IRU basis as specified in these regulations are in the nature of ceilings and depending upon various market driven factors may decrease further. The Authority will, however, keep a watch on charges in the market and may review these charges as and when required as per clause 5 of the principal regulations.

F. Summary of the main results:

50. In view of the above, taking the ‘utilisation factor’ of 70% and ‘conversion factor’ of 2.6, wherever applicable, the Schedules I, II and III of the principal regulations have been re-worked and the charges are being prescribed accordingly. The summary of the calculations are as follows:

(i) Annual Access Facilitation Charges:

Table-1

Sl. No.	Per Unit Capacity	Access Facilitation Charges per unit capacity per annum (in Rs.)	
		At Cable Landing Station	At Alternate location (Meet Me Room)
(i)	STM-1	36,000	1,11,000
(ii)	STM-4	93,000	2,88,000
(iii)	STM-16	2,40,000	7,50,000
(iv)	STM-64	6,25,000	19,50,000

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

Table-2

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) Co-location Charges:

Table-3

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)
