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Shri U. K. Srivastava
Pr. Advisor (NSL)
Telecom Regulatory Authority of India
Mahanagar Door Sanchar Bhawan,
Jawahar Lal Nehru Marg,
New Delhi-110002

Subject: ACTO's response to TRAI Consultation Paper No. 07/2018 dated 18th October 2018 on Estimation of Access Facilitation Charges and Co-location Charges at Cable Landing Stations

Dear Sir,

At the outset we are very thankful to TRAI for the opportunity to provide comments on the captioned Consultation Paper.

We fully supports the underlying regulatory principles that lie at the core of TRAI's regulation on The International Telecommunication Cable Landing stations Access Facilitation Charges and Co location Charges Regulations, 2012(No. 27 of 2012) dated 21st December, 2012("CLS Regulation").We sincerely urge TRAI to expedite the current consultation process and prescribe charges under Schedule I, II and III to be made effective from 1st January 2013.

ACTO has previously provided detailed inputs to the TRAI on this subject and we would like to reinforce and reiterate our earlier comments while providing additional inputs (enclosed as Annexure - I) on the two limited issues raised in the present consultation which we hope will merit consideration of the Hon'ble Authority.

Thanking you,
Respectfully submitted

Yours sincerely,
for **Association of Competitive Telecom Operators**

Tapan K. Patra
Director

Encl: As above

ANNEXURE-I

ACTO's response to TRAI CP on Estimation of Access Facilitation Charges and Co-location Charges at Cable Landing Stations (Consultation Paper No. 07/2018, October 18, 2018)

ACTO respectfully submits these comments on the TRAI Consultation Paper on Estimation of Access Facilitation Charges and Co-location Charges at Cable Landing Stations, issued on October 18, 2018. Both the questions raised in this consultation paper i.e. on utilization factor of 70% and conversion factor of 2.6 have been adequately considered in the previous consultation paper which are based on stakeholders input and have the right rationale behind it. We fully support the TRAI's rationale as mentioned in the explanatory memorandum as well as the CLS regulations on these two factors and also request TRAI to implement the CLS regulation as intended per the original date with effect from 1st January 2013.

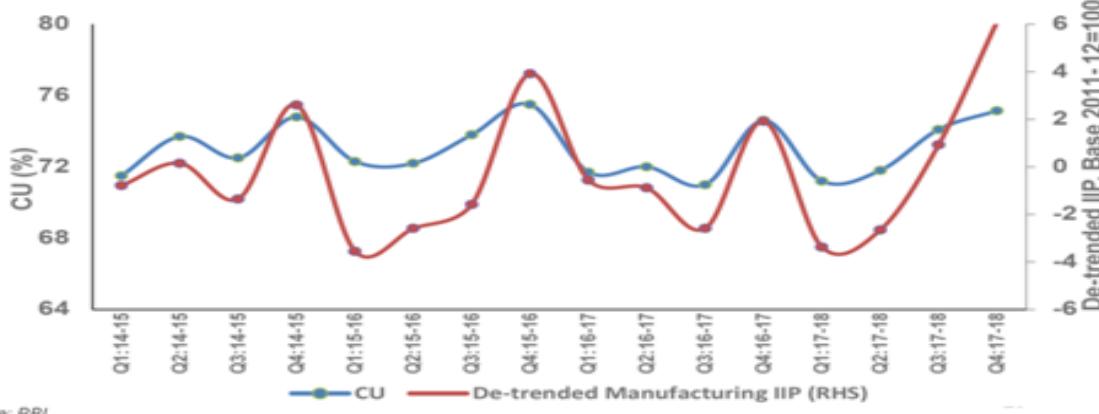
ACTO's response to the specific questions raised in the consultation paper:

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?

ACTO's response:

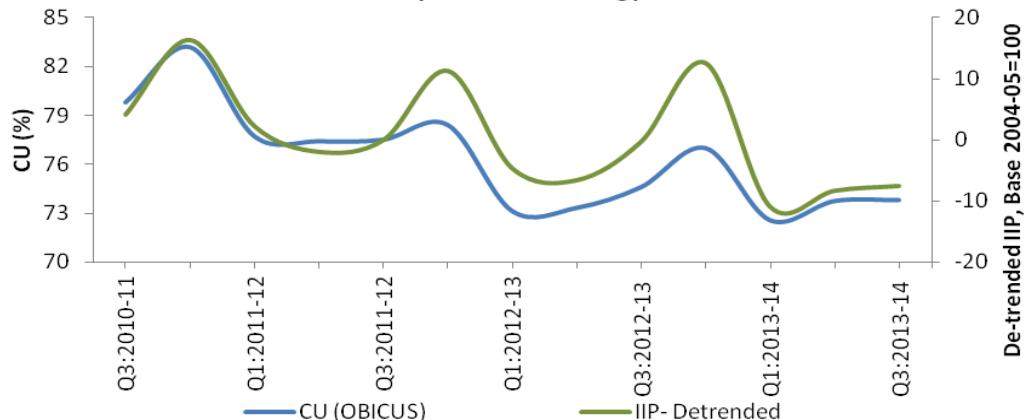
After due Consultation process, TRAI had issued regulation no. 27 of 2012 dated 21.12.2012. During this process most of the stakeholders supported the utilization factor of 70% considering capacity with combination of all interfaces. It is also in line with best international regulatory practices and costing principles. Moreover, it is important to note here that the nominal utilization factor of 70% is well applicable to our country across all the sectors. RBI data for last ten years shows that average utilization factor is always above the level of 70%.

CAPACITY UTILISATION ABOVE 75%



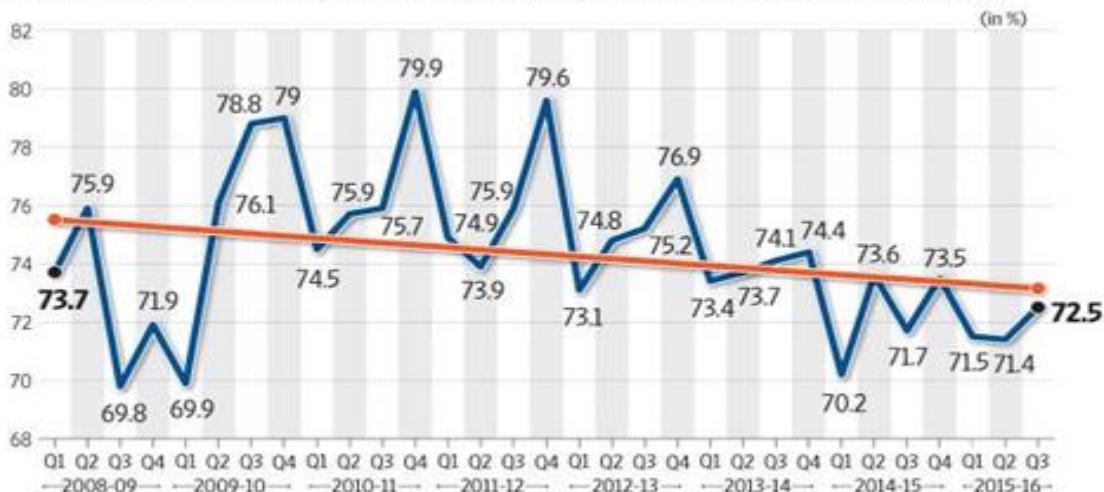
Source: RBI

Chart 1: Capacity Utilisation (CU) and De-trended IIP (Manufacturing)



Source: RBI <https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/OBI24010414.pdf>

Trends in movement in average capacity utilisation (from first quarter FY09 to third quarter FY16)



Source: Reserve Bank of India

The utilization factor was on much higher side in the past decade with an average GDP of 8.2%. Moreover, data consumption in India has been growing exponentially. While data consumption in our country is highest in the world and with over one billion mobile connections, over 450 million broadband connections and arguing for lower utilization factor seems to be self contradictory of facts.

We understand that charges approved by TRAI in 2007 were calculated based on the then-prevailing utilization of international capacity and cost elements at the respective CLS. Since then, there has been a major increase in capacity utilization on submarine cable systems. For example, international capacity utilization at the Mumbai and Chennai CLS has increased by more than 10 times since 2007. To ensure that “the cost of network elements involved in the provision of access” remains “distributed over the complete capacity of the system,” as required by the regulation, per-unit fixed costs, such as capital costs, should be reduced in accordance with the increase in international capacity utilization. Similarly, operations and maintenance (O&M) charges of CLS also should be adjusted to account for the increase in capacity utilization. Without such periodic adjustment of per-unit costs in such circumstances, the CLS charges provide the OCLS with a massive over-recovery.

We would like to point out that TRAI had taken into consideration of the fact that the network design had been revised to provision of 60 G capacity with combination of all interfaces as suggested owners of cable landing station. As the built-up capacity which was being considered itself had been revised and reduced from 64 G capacity as taken in the consultation paper to 60 G capacity, the utilisation factor of 70% was reasonable. Thus TRAI gave cogent reasons for taking the capacity utilisation factor of 70% for the purposes of estimation of the charges. This in effect meant that earlier the OCLS were required to sell 112 G out of total of 160 G capacity that it could potentially sell, i.e. 70% to recover the cost. But now if 42G out of 60 G is sold then it would recover the cost of the entire equipment of 160G.

ACTO strongly supports TRAI's view on the capacity utilization factor of 70% as most reasonable and even on the conservative lower side as we see from RBI data mentioned above.

Q2 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?

ACTO’s response:

Conversion factor of 4 arises from the multiplexing structure of SDH technology. This technology is over 20 years old. New Technologies like OTN, Carrier Ethernet have much better granularity. Higher granularity along with high overhead is well known drawback of SDH technology.

While considering commercial aspects i.e. buying/selling of bandwidth, actual costing is not based on factor of 4, it is much lower than that based on economic principles. We understand that TRAI had collected price of STM-1, STM-4, STM-16 etc from the TSPs and based on the facts from commercial aspects, a factor of 2.6 is a reasonable one. It can't be multiplied by four as cost of tributary cards /modules in the equipment for STM-1, STM-4, STM-16 are not in a factor of 4. At the most, it will be in the range of 1.5- 2.5 (TRAI can be sought data from TSPs for preciseness in case it is not already available with TRAI). It is based on the principle of scale of economy for higher capacities. For example, price will not be in same scale if one buys same items of amount one ton, four tons or 16 tons. It is obvious and practical that the rate will be lower for higher quantities.

The conversion factor of 2.6 is based on data collected by TRAI from TSPs and thus it can not be treated as arbitrary. Instead it is more practical one than technical/theoretical. Few important factors in support to conversion factor of 2.6 are-

- (i) Ensuring economies of scale for higher capacities.
- (ii) Parity to the prevailing market factor and prices in domestic leased circuits.
- (iii) The cost for accessing bandwidth can't be linear to the capacity. The per-Mbps cost reduces as higher order circuits/higher capacity is used. Customers are usually charged $X /2.5$ for an STM16/OC48 circuit, where X is the cost of STM64/OC192/10G.
- (iv) Similarly, the price of STM4 or OC12 is 2.5 times lower than STM16 or OC48, and so on. For sub-10G circuits, additional equipment may be required to be deployed by the OCLS, and hence per-Mbps AFC rate for such circuits should be higher than per-Mbps rate of 10G/40G/100G circuits.
- (v) The new AFC regime should consider 10G capacity cost for 40G and 100G for 10G circuits and above as no additional active elements are required to provide the interconnection between the Subsea and the Terrestrial Access equipment within a limited area. The sub-10G capacities have additional cost due to multiplexing and therefore AFC may be higher as suggested in the above model compared to 10G and higher capacities.

It is pertinent to mention that in the Consultation Paper dated 19.10.2012 issued by TRAI on “*Estimation of Access Facilitation Charges & Co-Location Charges at CLS*” it had noted that:

“During the discussions with the service providers, it was informed that the present rate 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.”

Further in the Explanatory Memorandum to the CLS AFC Regulation 2012 TRAI specifically provided that:

"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 and (b) prevailing market factor in domestic leased circuit. Most of the stakeholders favored using the factor of 2.6. However, the two OCLSSs 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 OCLSSs 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

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

33. TRAI is of the opinion that if the higher factor of 4 as proposed by OCLSSs 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

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

ACTO strongly supports TRAI's above view as stated in the 2012 regulation including the explanatory memorandum provided on conversion factor of 2.6 or even lower. It is in consideration of scale of economy, realistic market price, increasing consumption of data and new technological developments.
