

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Coram: Dr. Pramod Deo, Chairperson  
Shri S.Jayaraman, Member  
Shri V.S.Verma, Memb  
Shri M.Deena Dayalan, Member**

No. L-1/44/2010-CERC

Date of Order: 4.4.2011

**In the matter of**

**Removal of difficulties for giving effect to certain provisions of the Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) Regulations, 2010.**

**And**

**In the matter of**

**National Load Despatch Centre**

**..... Respondent**

**ORDER**

The Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010 (hereinafter “Sharing Regulations”) were notified on 15<sup>th</sup> June 2010. These Regulations shall come into effect from 1.7.2011.

2. Regulation 2(1)(n) of Sharing Regulations defines Implementing Agency as the agency designated by the Commission for undertaking the estimation of allocation of transmission charges and transmission losses at various nodes / zones. Further, Regulation 18(1) provides that the allocation of inter-State transmission service charges and losses based on the Yearly Transmission Charge (YTC) shall be made by an entity authorized by the Commission for the purpose and shall be designated as the implementing agency. As per proviso to Regulation 18(1)

of Sharing Regulations, National Load Despatch Centre (NLDC) shall be the Implementing Agency, for the first two years of the notification of the regulations.

3. The Implementing Agency in its letter No. POSOCO/Trans. Pricing/CERC dated 12<sup>th</sup> January 2011 has approached the Commission under Regulation 21(1) of Sharing Regulations for removal of certain difficulties which are being encountered for giving effect to the various provisions of the said regulation. The Implementing Agency has listed the following difficulties:

- (a) Definition of Approved Injection and Approved Withdrawal
- (b) Definition of yearly transmission charge (YTC), sub-station cost apportionment (Regulation 7(1)(m)), and data to be submitted by CTU and others (Regulation 16(3)(a))
- (c) Scenarios for PoC computation and basis of furnishing nodal generation and withdrawal data.
- (d) Collection and disbursement of STOA charges – Avoidance of double charge
- (e) Connectivity without Long Term Access.
- (f) Treatment of HVDC links.

4. During the course of the presentation to the Commission on 22.2.2011, the Implementing Agency submitted that two of the difficulties as mentioned in sub-para (e) and (f) of para 3 above have been sorted out and only the first four difficulties need to be considered by the Commission.

5. We have carefully considered the submission of the Implementing Agency with regard to the difficulties being encountered by it and our observations/directions thereon are recorded in the succeeding paragraphs.

**(A) Definition of “Approved Injection” and “Approved Withdrawal”**

6. Implementing Agency has submitted that quantum of Long Term Access is the most sacrosanct figure for transmission planning and therefore, the entities availing long term transmission services should be made liable to pay transmission charges based on the long-term access granted to them rather than on the basis of power purchase agreements. It has been submitted that transmission is a sunk investment and should be recovered based on approved transmission access, whereas PPAs/contracts should only be used for the scheduling process. The Implementing Agency has, therefore, requested for modification of the definition of “approved injection” (sub-clause 2(1)(c)) and “approved withdrawal”(sub-clause 2(1)(f)) by deleting the words “*contracts*” and “*transactions*” in these two sub-clauses.

7. The Commission has carefully considered the issue. Approved Injection and Approved Withdrawal have been defined in the Sharing Regulations as under:

*“Approved Injection means the injection in MW vetted by Implementing Agency (IA) for the Designated ISTS Customer for each representative block of months, peak and other than peak scenarios at the ex-bus of the generator or any other injection point of the Designated ISTS Customer into the ISTS, and determined based on the generation data submitted by the Designated ISTS Customers incorporating total injection into the grid, considering the long term and medium term contracts;*

*Approved Withdrawal means the simultaneous withdrawal in MW vetted by Implementing Agency for any Designated ISTS Customer in a control area aggregated from all nodes of ISTS to which Designated ISTS Customer is connected for each representative block of months, peak and other than peak scenarios at the interface point with ISTS, and where the Approved Withdrawal shall be determined based on the demand data submitted by the Designated ISTS Customers incorporating long term and medium term transactions;”*

\* As per the Regulation 8 and Regulation 11 of the Sharing Regulations, the transmission charges applicable for a DIC would be to the extent of approved withdrawal or approved injection in the ISTS.

It is evident from the above definitions and the Regulations 8 and 11, that the Approved Injection and Approved Withdrawal provides for calculation of transmission charges on the basis of long term and medium term contracts and long term and medium term transactions. However, operational problem has cropped up since the long-term access given to generators by CTU in some cases does not correspond to the PPAs /contracts signed with the states/bulk consumers. This was the case when long-term access was being granted to a target Region, before the Central Electricity Regulatory Commission (Grant of Connectivity, Long-term Access and Medium-term Open Access in inter-State Transmission and related matters) Regulations, 2009 (hereinafter “Connectivity Regulations”) came into force. Even under the Connectivity Regulations, the detailed procedures provide for granting long-term access to a generator for a target region each for the full quantum of LTA sought even when PPAs are signed to the extent of 50% or more. Further, under the Central Electricity Regulatory Commission (Grant of Regulatory Approval for execution of Inter-State Transmission Scheme to Central Transmission Utility) Regulations, 2010, the Commission has the discretion to approve investment in a transmission scheme for evacuation of power from a generation project or for grid strengthening, if the same is considered essential, but for which PPAs have not been signed. In our view, therefore, the words “contract” and “transactions” need to be deleted in Regulation 21(1)(c) and (f) of the Sharing Regulations.

**(B) Definition of Yearly Transmission Charge (YTC), sub-station cost apportionment [Regulation 7(1)(m)], and data to be submitted by CTU and others [Regulations 16(3)(a)].**

8. NLDC has submitted that the following four problems are encountered relating to Yearly Transmission Charge (YTC):

- (a) Approved tariff for 2009-2014 not available;
- (b) Separate line wise and substation wise approved tariff is not available;
- (c) Capital cost of project which are yet to be commissioned; and
- (d) Approved tariff for RPC certified non ISTS lines carrying inter-State power.

**(a) Approved tariff for 2009-2014 not available**

9. As regards the approved tariff for 2009-14 not being available, the Implementing Agency has submitted that the YTC has been defined in the ‘Sharing Regulations’ as under:

*“Yearly Transmission Charge (YTC) means the Annual Transmission Charges for existing lines **determined** by the Commission in accordance with the Terms and Conditions of Tariff Regulations or adopted in the case of tariff based competitive bidding in accordance with the Transmission License Regulations as specified by the Commission and as in force from time to time and for new lines based on benchmarked capital costs.”*

The petitioner has submitted that though approved tariff is available for most of the transmission assets for 2004-2009 tariff period, approved tariff for 2009-2014 for many of the transmission assets are not available. As a result, the tariff for 2009-14 of the transmission assets cannot be used for calculation of the POC charges unless tariff for such assets has been approved by the Commission. The petitioner has further submitted that as the POC charges are determined for the full year in advance, this may result in tariff shock to the Designated ISTS Customers (DIC) if the tariff of all the elements approved during the year are billed only in the following year. Further, it would be difficult to recover the money from DICs, who used the transmission assets for short periods under short-term open access. It would also result in under recovery of

the cost to inter-state transmission licensees in that year, which could cause a cash flow problem for them.

10. We have considered the submission of the Implementing Agency. We notice that under the existing system, the transmission charges are billed from the month following the month in which the tariff for any transmission system is determined, whereas the POC charges under the Sharing Regulations are to be calculated once in the beginning of the year. Since the tariff of all transmission assets have not yet been determined, the YTC may have to be revised from time to time when the fresh tariff orders are issued. We are of the view that the definition of YTC does not prevent revision of YTC from time to time in line with the issue of tariff orders by the Commission. In order to operationalise the Sharing Regulations, it would be prudent to revise the YTC initially on a six monthly basis i.e. on 1<sup>st</sup> April and 1<sup>st</sup> October each year and later on three monthly basis, i.e. on 1<sup>st</sup> April, 1<sup>st</sup> July, 1<sup>st</sup> October and 1<sup>st</sup> December to represent season-wise demarcation.

11. The Implementing Agency has suggested that notional incentive should be considered for each transmission licensee based on the actual availability of its transmissions system in the preceding financial year. In the present practice, incentive is being given on a monthly basis, based on actual availability. Under the new Regulations, the POC charges are calculated once in the beginning of the year; therefore, in case incentive is charged only at the end of the year, this would entail payment of incentive on lumpsum basis. We therefore agree with the suggestion of notional incentive as suggested above based on actual availability in the preceding financial year, to be trued up on six monthly basis along with FERV, interest etc.

**(b) Separate line wise and substation wise approve tariff is not available**

12. As regards the non-availability of approved tariff for lines and substations separately, the Implementing Agency has submitted that it would be difficult for arriving at per circuit kilometer cost for various voltage level/conductor configuration as required under Regulation 7(1)(l) and (m) of Sharing Regulations. Regulation 7(1)(l) and (m) provide as under:

*“(l) Overall charges to be shared among nodes shall be computed based on the Yearly Transmission Charge apportioned to each of the lines of the ISTS Licensees. The Yearly Transmission Charge, computed for assets at each voltage level in accordance with the provisions of these regulations shall be provided by the respective ISTS transmission licensee. The Yearly Transmission Charge of the sub-stations shall be apportioned to the lines emanating from each sub-station. Average Yearly Transmission Charge per circuit kilometre (for each voltage level and line configuration viz., 400 KV D/C twin Moose, 400 kV Quad Moose, 400 kV Quad Bersimis etc., 765 kV system charged at 400 kV shall be considered as high capacity 400 kV line (Quad) lines.) shall be used for the computation of nodal charges;*

*(m) Allocation of the Yearly Transmission Charge of sub-stations to transmission lines shall be based on the following principles:*

*(i) Yearly Transmission Charge for substations shall be apportioned to the associated transmission lines based on the length of the lines in circuit kilometres;*

*(ii) Yearly Transmission Charge of the sub-station shall be apportioned in a manner such that the Yearly Transmission Charge of the sub-station attributed to the lower voltage lines connected to it is 50% of the Yearly Transmission Charge of the substation attributed to the higher voltage lines connected to it.”*

13. The Implementing Agency has also pointed out that it would not be possible to arrive at separate line-wise and sub-station wise approved tariff, since some of the transmission assets are lumped for approval of tariff and in some cases, land is coupled with some transmission assets and in some cases the transmission assets are approved separately for the purpose of tariff. It has been proposed that Central Transmission Utility (CTU) could submit indicative cost level for different voltage level and conductor configurations. The transmission licensees could give the total YTC of the transmission assets, whose charges are to be recovered through the mechanism

of POC charges in the next year along with circuit kilometers at each voltage level and for each conductor configuration. The total YTC could then be apportioned for each voltage level and conductor configuration based on ratio of the indicative cost levels furnished by CTU at the start of each year. The indicative cost levels that have been furnished presently by CTU for calculation of the POC charges for the year 2011-12 (based on price level of 3<sup>rd</sup> Quarter 2010) are given as under:

<b>Line Type</b>	<b>Cost (Lakhs/km)</b>	<b>Ratio</b>
765 KV D/C	270.00	0.30
765 KV S/C	130.00	0.15
400 KV D/C	96.00	0.11
400 KV D/C Quad. Moose	180.00	0.20
400 KV S/C	64.00	0.07
220 KV D/C	50.00	0.06
220 KV S/C	31.00	0.03
132 KV D/C	40.00	0.05
132 KV S/C	25.00	0.03

14. In view of the difficulty expressed by the Implementing Agency in calculating the line-wise and sub-station wise tariff, we are of the view that this method of apportionment suggested by CTU would avoid the need for calculating the line wise and substation wise tariff. In any case, after calculating the tariff of each line and sub-station, they have to be pooled to arrive at an average circuit kilometer tariff for each voltage level and conductor configuration.

**(c) Capital cost of project which are yet to be commissioned**

15. As regards the tariff of the new projects, the Implementing Agency has submitted that the Sharing Regulations provides for use of benchmarked capital cost. It has been submitted that since the benchmarked capital cost is only part of the cost of the project which includes only

hard costs and not the soft costs related to financing, the benchmark cost will not accurately reflect the true tariff of the transmission assets. Therefore, the Implementing Agency has proposed that the projected tariff as may be furnished by the inter-state transmission licensees in its tariff petition to the Commission and where the tariff petition has not been filed, the proposed tariff as indicated by the ISTS licensee should be considered for the calculation of YTC.

16. We have considered the proposal and are of the view that there is no change in the situation after coming into force of the Sharing Regulations. Moreover, we have allowed the POC charges to be revised initially on six monthly basis and subsequently on quarterly basis which will take care of the requirement of the Implementing Agency.

**(d)Approved tariff for RPC certified non ISTS lines which carry inter-state power.**

17. Para 2.1.2 (g) of Annexure to the Sharing Regulations provides for the following under the head “Network Data”: -

*“Overall charges to be allocated among nodes shall be computed by adopting the YTC of each of the lines of the ISTS licensees, and any other non-ISTS line that has been certified by the respective RPCs as being used for interstate transmission. The YTC for such lines shall be based on the YTC of the transmission licensee / SEB as approved by the Appropriate Commission. The YTC of the sub-stations shall be apportioned to the lines emanating from each sub-station as per the provisions of these Regulations. The YTC of the transmission Sharing of Inter State Transmission Charges and Losses Regulations, 2010 assets expected to be commissioned in the Application Period would be incorporated by the IA on the basis of provisional approvals or benchmarked capital cost and operating costs as determined using the regulations of the Commission.”*

18. Implementing Agency has submitted that in many cases, tariff of RPC certified non ISTS lines have not been separately approved by the SERCs. In such cases, it has been proposed that the average YTC computed for ISTS licensees may be used.

19. In view of the practical difficulty which may be encountered for RPC certified non ISTS lines, we direct that where specific tariff for the transmission asset of the states being certified by RPC to be used for carrying inter-state power have not been specified by the SERC, the average YTC as computed for the relevant voltage level and conductor configuration may be used. Further, it is seen that uniform methods are not being followed in each Region for RPC certified non-ISTS lines for carrying inter-state power. We direct that all lines, which have at the time of notification of these regulations, been approved by the respective RPCs, would continue to be considered *ipso facto*. For certifying new non ISTS lines for carrying inter-state power, the same would have to be determined through the process of load flow studies. The results of the load flow studies, on an annual average basis, should show these lines carrying more than 50% of the total power carried by it to be inter-state power. This would be vetted by the NLDC on a proposal made by the respective RPC.

**(C) Scenarios for computation of POC charges and losses.**

20. Implementing Agency has pointed out that the regulation provides for computation of PoC charges and losses separately for five seasons, and for peak and other than peak scenarios. However, they have pointed out that DICs have expressed difficulties in submitting node-wise forecast data for different scenarios, one year in advance. They have also pointed out that the PoC charges for the five seasons, and for peak and other than peak scenarios, are highly volatile and may be difficult to comprehend initially. Therefore, they have proposed that for the initial years, we may have a single scenario for the entire year based on average generation and demand data published by CEA.

21. We are in agreement with the above proposal of Implementing Agency, in view of the fact that many DICs have expressed difficulties in submitting node-wise forecast data for different scenarios, one year in advance. This would however, dilute the representative scenarios, representing the seasonal demand and generation variations and therefore the usage of transmission assets over the year. We, therefore, direct that this relaxation is being given only for the first year and all DICs may gear up to provide the required data within a year.

22. The Implementing Agency has also stated that for load flow studies, the long term contracts and medium term contracts should not be considered, as given in Clause 7 of the Regulations. We, however, feel that these do need to be provided by the DICs to authenticate the node-wise data of generation and / or load and only where they have not been provided, the Implementing Agency may take recourse to assuming data based on realistic power flows through the ISTS.

**(D) Collection and disbursement of STOA charges – Avoidance of double charge**

23. CTU has pointed out that long-term access has been granted in a number of cases to a generator for a target Region, without any identified beneficiary and transmission charges are being charged to the generator based on the quantum of long-term access granted. In addition, the concerned generator, which was not able to sign long-term contracts for the full quantum of LTA obtained, sells some or all of the balance power available in the short-term, sometimes to the same Region. Therefore, the generator would have to pay long-term access charges and short-term open access charges on the same transmission corridor for the same power. This results in double charging of transmission charges to the generator. Therefore, IA has pointed out that the short-term open access charge should be offset against the long-term access charge

which is not linked to any Power Purchase Agreement (PPA). They have stated that the facility should be available to all DICs (i.e. injecting DIC & drawee DIC). Similarly, CTU has pointed out that the medium term open access (MTOA) should also be offset against the long-term access, not linked to any PPA, to prevent double charging.

24. We are in agreement with the arguments advanced by both IA and CTU and therefore direct that the offsetting of both MTOA and STOA may be done against the LTA granted without identified beneficiaries, *to the same Region only*, and not against LTA granted to any other Region. Furthermore, we also direct that traders who have a portfolio of generators in a state, for which the LTA was obtained to a target region, shall not be allowed to use this facility, to prevent corridor blocking by them through long-term access. They can, however, use this facility, if it is linked to a single generator in that state, since then, it would be akin to the arrangement for a generator, except that the trader was acting on behalf of the generator.

25. The Implementing Agency approached the Commission stating that the POC charges obtained vary widely between zones, which the stakeholders find difficult to comprehend as they vary in a wide range from 5 paisa to over 25 paisa, considering both injection POC and drawal POC separately. In order to smoothen the transition process, the Implementing Agency has suggested for initially creating slab rates in order to minimize the diversity of POC rates. The Commission advised the Implementing Agency to carry out sensitivity analysis and make a presentation before the Commission on the same. The Implementing Agency gave a presentation to the Commission on 16.3.2011. Taking into consideration the difficulties faced by the stakeholders, we agree that, to start with, there could be, say, three slab rates for the first year.

We direct the Implementing Agency to work out the POC charges slab-wise and obtain the approval of the Commission for the three slab rates.

26. To sum up the discussion above, the following course of action should be adopted:

- (a) In the definition of “approved injection” and “approved withdrawal” in Regulation 2(1)(c) and (f), the words “contract” and “transactions” may not be considered for calculation of transmission charges.
- (b) The Yearly Transmission Charges shall be revised on six monthly basis (from 1<sup>st</sup> April and 1<sup>st</sup> October) and subsequently on three monthly basis (1<sup>st</sup> April, 1<sup>st</sup> July, 1<sup>st</sup> October and 1<sup>st</sup> December) to represent season-wise demarcation. Incentive shall be considered on notional basis after taking into account the actual availability of the transmission system in the preceding financial year, to be trued up on six monthly basis along with FERV and interest etc.
- (c) Since entire element-wise YTC is not available, the transmission licensee shall give the total Yearly Transmission Charges of its transmission lines whose charges are to be recovered through the mechanism of POC in the next year along with the break-up of tariff approved with circuit kilometer at each voltage level and conductor configuration. Total Yearly Transmission Charges for each line shall be apportioned based on the ratio of indicative cost level submitted by CTU.

- (d) In case of RPC certified non-ISTS lines whose tariff has not been separately approved by SERCs, the tariff would be determined on the basis of the average YTC computed by NLDC for the relevant voltage and conductor configuration. All non-ISTS lines which had been certified by the RPCs for carrying inter-State power would continue to be considered *ipso facto*. The new non-ISTS lines carrying inter-state power would be determined through the process of load flow studies and based on its results, if the lines are found on an annual average basis, to carry more than 50% of total power as inter-state power, as vetted by NLDC.
- (e) For the year 2011-12, a single scenario may be considered for determination of POC charges instead of the ten scenarios for five seasons in the peak and off-peak separately.
- (f) For the year 2011-12, three slab rates for injection and demand POC charges may be considered.
- (g) The MTOA and STOA shall be offset against the long-term access granted without identified beneficiaries to the same region only and not against LTA granted to any other region. The traders who have a portfolio of generators in a state for which LTA was obtained to a target region, shall not be allowed to use this facility to prevent corridor blocking through LTA.

27. Regulation 21 of Sharing Regulations vests the Commission the power to remove difficulty under certain circumstances. Regulation 21 is extracted below:

**“21. Power to Remove Difficulties**

*(1) If any difficulty arises in giving effect to any of the provisions of these Regulations, the Commission, may by general or special order, direct the Implementing Agency, NLDC, CTU, RLDC, RPC, ISTS Licensees and Designated ISTS Customers, to take suitable action, not being inconsistent with the provisions of the Act, which appears to the Commission to be necessary or expedient for the purpose of removing the difficulties.*

*(2) The Implementing Agency, NLDC, CTU, RLDC, RPC, ISTS Licensees and Designated ISTS Customers may make an application to the Commission and seek suitable orders to remove any difficulties that may arise in implementation of these Regulations.*

*(3) Notwithstanding Sub-Regulations (1) and (2), if any difficulty arises in giving effect to the provisions of these Regulations, the Commission may, by general or specific order, make such provisions not inconsistent with the provisions of the Act, as may appear to be necessary for removing the difficulty.”*

28. In exercise of power under Regulation 21 of Sharing Regulations, we direct the clarifications given in para 26 above shall be given effect to for operationalizing the Sharing regulations. We also direct the staff of the Commission to initiate appropriate measures to amend the Sharing Regulations and other related Regulations, if required, to appropriately incorporate the charges approved above.

Sd/-  
(M.DEENA DAYALAN)  
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