

**Explanatory Memorandum to the draft Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses) (First Amendment) Regulations, 2011**

The Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses) Regulations, 2010, (hereinafter referred to as the “Sharing Regulations”) which were notified on 15.6.2010 came into force with effect from 1.7.2011 after the approval of the detailed procedures submitted by the Central Transmission Utility and Implementing Agency (National Load Despatch Centre).

2. During the implementation of the Sharing Regulations, a number of problems were faced by the Implementing Agency, the Central Transmission Utility (CTU) and the State Utilities. They wrote letters and made presentation to the Commission highlighting these problems and requested the Commission to exercise Regulation 21 “Power to Removal of difficulties” of the Sharing Regulations. The difficulties in implementation may be summarized as below:

- (i) Definitions of Approved Injection and Approved Withdrawal
- (ii) Definition of Yearly Transmission Charge (YTC)
- (iii) Computation of YTC for the purpose of computation of PoC charges of CTU, transmission licensees and non-ISTS licensees whose assets have been certified by the RPCs for carrying the inter-State power.
- (iv) Signing of Transmission Sharing Agreements with State Transmission Utility or Distribution Companies or Power Procurement Agency
- (v) Allocation of YTC of sub-station to the transmission lines
- (vi) Date of raising of first part of the bill
- (vii) Charges for MTOA and STOA in the target region for already granted LTA by the CTU to the target region without identified beneficiaries.
- (viii) Frequency of disbursement of excess recovery.
- (ix) Allocation of charges for HVDC back-to-back stations at Chandrapur and Gazuwaka

3. For smooth implementation of the Sharing Regulations from 1.7.2011, the Commission passed orders dated 4.4.2011, 2.6.2011, 22.6.2011 and 29.6.2011 under Regulation 21 of the Sharing Regulations. In the orders, the Commission directed the Staff to carry out suitable amendments in the Sharing Regulations. The explanations for the proposed amendment are as detailed in subsequent paragraphs.

### **Definition**

4. “Approved Injection” and “Approved Withdrawal” in sub-clauses (c) and (f) of Clause 1 Regulation 2 of the Sharing Regulation 2 are defined as under:

*“(c) **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;”*

*“(f) **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;”*

Further, as per the Regulations 8 and 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.

5. As per the provisions quoted in para 4 above, the Approved Injection and Approved Withdrawal provide for calculation of transmission charges on the basis of long-term and medium-term contracts and long-term and medium-term transactions. However, operational problems have cropped up since the long-term accesses given to the generators/Independent Power Producers (IPPs) by the CTU in some cases do not match with the Power Purchase Agreements (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 Long-term Access (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. It is, therefore, proposed that the words “contract” and “transactions” may be replaced by the term “access” in case of long-term “open access” in case of medium-term. Accordingly, the definitions in the draft regulations are proposed to be modified as below:

“(c) **‘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 Access and Medium-term Open Access;”

“(f) **‘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 Access and Medium-term Open Access;”

6. “Yearly Transmission Charge (YTC)” in Regulation 2(1)(y) of the Sharing Regulations is defined 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.*

It is observed that the approved tariff is available for most of the transmission assets during 2004-2009 Tariff Period. However, the approved tariff for 2009-2014 for many of the transmission assets are not available as on date. Further, the transmission assets are getting commissioned every month. As a result, there is no approved tariff by the Appropriate Commission for the block years 2009-2014 of these transmission assets, hence the same cannot be used for calculation of the PoC charges, as the PoC charges are determined for the full year in advance. Also, this may result in tariff shock to the Designated ISTS Customers (DIC) if the tariffs of all the elements approved during the year are billed only in the following year. Further, it would be difficult to recover the charges from DICs, who used the transmission assets under short-term open access for some periods. This would also result in under recovery the cost to inter-State transmission licensees in that year, which could cause a cash flow problem for them. 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. 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, etc., the benchmark cost will not accurately reflect the true tariff of the transmission assets. It is also observed that separate line-wise tariff is not available for transmission assets of non-ISTS licenses certified by the RPCs for carrying inter-State power. Hence, it is proposed to modify the definition of the YTC as below by removing the provision of the bench mark cost of the assets:

*Yearly Transmission Charge (YTC) means the Annual Transmission Charges for the existing transmission assets of the transmission licensees including deemed transmission licensees determined by the Appropriate Commission under section 62 of the Act or adopted by the Appropriate Commission under section 63 of the Act.*

### **Amendment to Regulation 3 of Principal Regulations**

7. It is observed that in many States, Powergrid is raising the bills for transmission charges directly either to the State Power Procurement Agency or the Distribution Companies of the State or any agency. Hence, it is felt that the existing arrangement followed in the States for

payment to CTU to continue and CTU may enter into the Transmission Service Agreement either with the Distribution Companies or any power purchasing agency of the State. Accordingly, the following provision is proposed to be added after Clause (b) of Regulation 3 of the Sharing Regulations:

“Provided that where the ISTS charges were being billed to the distribution companies or any power purchasing agency in a State before implementation of these regulations, the distribution companies or the power purchasing agency, as the case may be, shall be treated as Designated ISTS Customers in that State for the purpose of billing and collection by the CTU.”

#### **Amendment to Regulation 7 of Principal Regulations**

8. It is observed that it would not be possible to arrive at separate transmission line-wise and sub-station wise approved tariff, since some of the transmission assets are combined 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 is proposed that Central Transmission Utility (CTU) shall submit indicative cost level for different voltage level and conductor configuration. The transmission licensees shall give the total YTC of the transmission assets, whose charges are to be recovered through the POC charges mechanism 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 configurations based on ratio of the indicative cost levels furnished by CTU at the start of each year. Moreover, a transmission licensee shall recover only the approved tariff from the DICs. Accordingly, it is proposed to amend sub-clause (1) of clause (1) of Regulation 7 as under:

*“Overall charges to be shared among the nodes shall be computed based on the Yearly Transmission Charge apportioned to each of the lines of the ISTS Licensees. The Yearly Transmission Charges, computed for assets at each voltage level and conductor configurations in accordance with the provisions of these regulations shall be provided by the respective ISTS transmission licensees. The transmission licensees shall give the total Yearly Transmission Charges 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 Yearly Transmission Charges shall be apportioned for each voltage level and conductor configuration based on ratio of the indicative cost levels furnished by CTU at the beginning of each year.”*

9. During the first year of implementation, i.e. for the year 2011-12, the indicative cost of the CTU network for each voltage level and conductor configurations (based on price level of 3<sup>rd</sup> Quarter 2010) are as detailed below:

<b>Line Type</b>	<b>Cost (₹ Lakh/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

10. Based on the explanation given at para 8 above, it is proposed to delete sub-clause (m) of clause (1) of Regulation 7 of the Principal Regulations.

### **Amendment to Regulation 11 of Principal Regulations**

11. The para below the computation formulae in clause (4) of Regulation 11 of the Principal Regulations states as under:

*“This first part of the bill shall be raised based on the Point of Connection charges, Approved Withdrawal and Approved Injection for each Designated ISTS Customer, provided by the Implementing Agency not later than the first working day of each month for the previous month and determined prior to the commencement of the application period. This bill shall be independent of the Regional Transmission Accounts prepared by the RPCs. Further, the details of Monthly Transmission Charges for each of the ISTS licensees shall be provided by the Implementing Agency.”*

It is observed that the share allocation of power from the Central Generating Stations (CGSs) keeps changing a number of times in a year, based on which the Regional Energy

Account prepared every month by the Regional Power Committee changes every month. Further, the PoC charges are calculated for the application period in advance and the first part of the bill is based on the share allocation from CGSs, it is proposed that the first part of the bill shall be raised on the next working day of the uploading of the REA by the respective RPCs. Further, it is observed that there are many cases in which the quantum of long-term contracts are at variance from the long-term access granted by the CTU. Since, the investment for building transmission is a sunk investment and the cost of such investment has to be recovered so that the transmission licensees do not suffer cash flow problem, it is proposed to have following provision in end of clause (4) of Regulation 11:

*“This first part of the bill shall be raised based on the Point of Connection charges, Approved Withdrawal and Approved Injection for each Designated ISTS Customer, provided by the Implementing Agency on the next working day of the uploading of the Regional Energy Accounts by the respective RPCs in each month for the previous month and determined prior to the commencement of the application period. Further, the details of Monthly Transmission Charges for each of the ISTS licensees shall be provided by the Implementing Agency:*

*Provided that in case of a generator, where the quantum of the long-term contract does not match with the long-term access, the billing shall be done on the basis of long-term access.”*

12. It is observed that in a number of cases, the long-term access has been granted 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, who is not able to sign long-term contracts for the full quantum of LTA obtained, sells or may intend to sell some or the entire remaining quantum of power in the medium-term, sometimes to the same Region. In this case, the generator would have to pay long-term access charges and medium-term open access charges on the same transmission corridor for the same quantum for which it has already been granted long-term access (LTA). This results in double charging of transmission charges to the generator for the use of the same transmission system. It is proposed that medium-term open access charge shall be offset against the long-term

access charge which is not linked to any Power Purchase Agreement (PPA) in the same region. It is also proposed that this provision shall be available to all DICs. It is further observed that first part of the bill and third part of the bill take care of the ISTS Licensees' transmission charges. The collection on account of second part of the bill and the bill for deviation are additional revenue streams and the quantum of such revenues cannot be predicted. Hence, charging of interest on second part of the bill and the bill for deviation may not be appropriate. The Sharing Regulations do not provide for undertaking specific investments of the excess amounts generated, if any, and hence the payment of interest would mean passing on the notional gains in actual monetary terms. Since the Sharing Regulations do not provide for payment with interest at a fixed rate, whatever interest is earned on the money collected through Part 2 and 4 of the Bill shall be adjusted in the next year's transmission charges. Therefore, truing up exercise should be carried out on monthly basis as the beneficiaries of the extra money would by and large remain the same compared to the truing up carried out after one year when the composition of DICs may undergo slight change. Accordingly, it is proposed that instead of adjustment of the amount collected through second part of the bill and the bill for deviation in the next Yearly Transmission Charges, it shall be reimbursed to DICs in the following month, in proportion to monthly billing of respective months. Accordingly, it is proposed that the para below the computation formulae in clause (5) of Regulation 11 of the Principal Regulations shall be substituted as under:

*“The second part of the bill shall be raised on the designated ISTS Customers alongwith the first part of the bill:*

*Provided that the revenue from approved additional Medium Term Open Access which has not been considered in the Approved Injection/Approved Withdrawal shall be reimbursed to the DICs in the following month, in proportion to the monthly billing of the respective month:*

*Provided further that the quantum of Medium Term Open Access shall be adjusted against quantum of the Long Term Access granted to the target Region without identified beneficiaries and not against Long Term Access granted to any other Region.”*

13. It is proposed to treat the bill for deviation in line with the explanation given at para 9 above. Accordingly, the last para under Clause (7) of Regulation 11 of the Principal Regulations shall be substituted as under:

*“This bill shall be raised by the CTU within 3 working days of the issuance of the Regional Transmission Deviation Account by the RPCs:*

*Provided that the agency responsible for the intimation of deviation on account of Unscheduled Interchange energy shall continue to be responsible for the intimation of deviation on account of the transmission charges:*

*Provided that the revenue collected against the Deviation Bill shall be reimbursed to the DICs having long-term access in the following month, in proportion to the monthly billing of the respective month.”*

14. After the proposed amendment in sub-clause (1) of clause (1) of Regulation 7, there is no relevance of clause (8) of Regulation 11 of the Principal Regulations. It has been proposed to delete the same.

15. It is observed that in the above case, the generator may intend to sell some or the entire remaining quantum of power in the short-term, sometimes to the same Region. To avoid double charging of transmission charges to the generator for the use of the same transmission system, in line with the treatment for the medium-term open access, it is proposed that short-term open access charge shall be offset against the long-term access charge which is not linked to any Power Purchase Agreement (PPA) in the same region. Accordingly, the following proviso shall be added to Clause (9) of Regulation 11 of the Principal Regulations:

*“Provided that the quantum of Short Term Open Access shall be adjusted against quantum of the Long Term Access granted to the target Region without identified beneficiaries and not against Long Term Access granted to any other Region.”*

## **Amendment to the Annexure of the principal regulations**

16. Due to unavailability of data, as explained at para 8 above, it is proposed that the last sub-para under Para 2.1.2 (g) of the Annexure of the Principal Regulations under the head “Network Data” shall be substituted as under:

*“Overall charges to be allocated among nodes shall be computed by adopting the YTC of transmission assets of the ISTS licensees, and any other non-ISTS licensees’ lines that have been certified by the respective RPCs as the inter-State transmission system. The Yearly Transmission Charge, computed for assets at each voltage level and conductor configuration in accordance with the provisions of these regulations shall be calculated for each ISTS transmission licensee based on indicative cost level provided by the Central Transmission Utility for different voltage level and conductor configuration. The YTC for the RPC certified non-ISTS lines which carry inter-State power shall be approved by the State Electricity Regulatory Commissions. In case the tariff for the RPC certified non-ISTS lines have not been specified by the SERCs, the average YTC as computed for the relevant voltage level and conductor configuration shall be used. The recovery of the YTC of the transmission assets expected to be commissioned in the Application Period shall be incorporated by the IA on the basis of provisional approvals using the regulations of the Commission.*

*For certifying non ISTS lines for carrying inter-State power, which were not the approved lines on the day of the publication of these regulations, this shall 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 shall be vetted by the NLDC in consultation with the respective RLDC on the proposal made by the respective RPC.”*

17. During the discussion of the staff of the Commission with the representatives of the Implementing Agency, it transpired from the data that inter-regional flow on HVDC back to back link at Gazuwaka during 2010-11 is a bi-directional between NEW Grid and SR Grid, during the period April, 2010 to May 2011. The total export from Eastern Region to Southern

Region was 1570 MU and export from Southern Region to Eastern Region was 923 MU. In view of substantial power flows taking place in both directions, it is proposed that the charges of the HVDC back to back Inter-Regional links at Chandrapur and Gazuwaka shall therefore be included in the YTC of NEW and SR grid in the ratio of 1:1 and charges for Talcher –Kolar HVDC shall be shared by DICs of SR only. Accordingly, the following has been proposed to be added after the first paragraph in Step 4 under Para 2.7 of Annexure of the Principal Regulations:

*“The charges of the HVDC back to back inter-Regional links at Chandrapur and Gazuwaka shall be included in the YTC of the NEW grid and the SR grid in the ratio of 1:1 and charges for Talcher – Kolar HVDC bi-pole link shall be shared by DICs of SR only.”*

18. Most of the amendments proposed in the draft have been implemented with effect from 1.7.2011 on the strength of the Removal of Difficulty orders issued by the Commission on 4.4.2011, 2.6.2011, 22.6.2011 and 29.6.2011 in exercise of the powers under Regulation 21 of the Sharing Regulations. The Commission had directed in those orders to initiate the process of amendment of the Sharing Regulations which is undertaken through the present draft regulations for amendment. Accordingly, it has been proposed that the regulations shall come into effect from 1.7.2011.