

Procedure for
Collection of data and information for Determination of
Inter-State Transmission Charges and Losses

In compliance of

Central Electricity Regulatory Commission
(Sharing of Inter-State Transmission Charges and Losses)
Regulations, 2020

September, 2020



The Implementing Agency
(National Load Despatch Centre)

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Procedure for collection of data and information

1.0 Outline

- 1.1. This Procedure is made in compliance of Regulation 3(4), 9(2), 23(1) of the Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) Regulations, 2020, herein after referred to as “Sharing Regulations 2020”.
- 1.2. This procedure provides modalities for the collection of data and information by the Implementing Agency (IA) for sharing of inter-State transmission charges and losses as specified in the Sharing Regulations 2020.

2.0 The Implementing Agency

- 2.1. As per definition of Implementing Agency provided in Regulation 2 (1) (m) of Sharing Regulations 2020, National Load Despatch Centre (NLDC) is designated as the Implementing Agency till the time such other agency designated by the Commission to undertake various functions under these Regulations.

3.0 Procedure for collecting data and information by Implementing Agency

- 3.1. As per Regulation 23(1) of the Sharing Regulations 2020, the Implementing Agency (IA) shall publish detailed procedures along with data formats for collection of data and information from Designated ISTS Customers (DICs), ISTS Licensees, Regional Load Despatch Centers (RLDCs), State Load Despatch Centers (SLDCs), Central Transmission Utility (CTU) and State Transmission Utility (STUs) / non-ISTS licensees whose assets have been approved by CERC as being used for inter-State transmission, for Implementation of the provisions of Sharing Regulations 2020 after stakeholder consultation.

4.0 Relevant definitions from the Regulations

- 4.1 ‘**Basic Network**’ means the power system at voltage levels of 110 kV and above containing all the power system elements including generating station and transmission systems;
- 4.2 ‘**Billing month**’ means the month in which bills for transmission charges are raised by the Central Transmission Utility in accordance with these regulations;
- 4.3 ‘**Billing period**’ means the month for which bills are raised in a billing month by the Central Transmission Utility;
- 4.4 ‘**Designated ISTS Customer**’ or ‘**DIC**’ means the user of any transmission element(s) of the Inter-State Transmission System (ISTS) and shall include generating station, State Transmission Utility (STU), distribution licensee including State Electricity Board or its successor company, Electricity Department of State and any other entity directly connected to the ISTS and shall include an intra-State entity or a trading licensee that has obtained Medium Term Open Access or Long Term Access to ISTS;
- 4.5 ‘**node**’ means a sub-station of a transmission system or a switchyard of a generating station and shall include injection node, drawal node and regional node;

- 4.6 **‘Peak block’** means the block in which sum of net ISTS draws by all States is maximum during the month;
- 4.7 **‘regional node’** means an injection node or a drawal node which is under the control area jurisdiction of a Regional Load Despatch Centre;
- 4.8 **‘Yearly Transmission Charges’ or ‘YTC’** means the annual transmission charges as determined or adopted by the Commission for the transmission elements of ISTS which have achieved COD upto the last day of a billing period, and for intra-State transmission lines used for Inter-State transmission of electricity as approved by the Commission;

5.0 Notification of Peak Block by IA

- 5.1 As per Regulation 24(2), Peak block for the billing period shall be published by IA, on its website, on the first day of the month following the billing period.

6.0 Guidelines and modalities for submission of data to the IA

- 6.1 As per Regulation 3(4) of the Sharing Regulations 2020, Sharing of transmission charges for the DICs shall be based on the technical and commercial information provided by the DICs, Inter-State Transmission licensees, RLDCs, SLDCs and CTU to the Implementing Agency.
- 6.2 The guidelines and modalities for submission of data by all DICs, ISTS licensees, Deemed ISTS Licensees and owners of CERC approved non-ISTS lines, RLDCs, STU/SLDCs and CTU to the IA are detailed as below:

6.3 Data and information to be submitted by all DICs

- 6.3.1 All DICs shall submit the following data to the Implementing Agency as well as to the respective RLDCs by 7th day of each billing month in the prescribed formats enclosed with this procedure:
- (i) Basic Network data along with the network connectivity diagram corresponding to peak block (an updated geographical power map/ single line diagram, indicating the lines which are kept open from end and bus split arrangement (if any)).
 - (ii) Total actual injection and withdrawal (MW and MVAR) data at various nodes or group of nodes for the notified peak block of the billing period.
 - (iii) Details of long-term access and medium-term open access along with details of buyers for the billing period.
- 6.3.2 The Basic Network shall comprise of the entire electricity system, electrical plants and/ or transmission lines at voltage levels of 110 kV and above and all the generators connected upto 110 kV level corresponding to Peak Block identified and published by IA. In the States where voltage level next to 220 kV/ 230 kV system is 132 kV, data of entire network upto 132 kV level is to be furnished. Power flow into a lower voltage system from the voltage levels indicated in the definition of the Basic Network shall be considered as load at that sub-station. Power flow from a lower voltage system into the electricity systems at the voltage levels indicated in the definition of the Basic Network shall be considered as generation at that sub-station. However, there are certain DICs, like Chandigarh, which is connected only at 66 kV level. In order to represent these States/ Union Territories (UTs) in the basic network, network data upto such level shall be furnished by those DICs.
- 6.3.3 If any DIC fails to submit the data as required within the stipulated time frame, IA shall compute transmission charges based on the data available from other alternate sources as per Regulation 24(5) of Sharing Regulations 2020.
- a. In case of drawal DICs, total drawal of a DIC shall be computed based on SEM data for the peak block. Where SEM data is not available, SCADA data shall be used. DIC should provide nodewise data as the Regulations. Where DIC shall not provide nodewise data

within stipulated time period, apportionment of loads in different nodes of DIC shall be considered in proportion to the node wise data submitted by DIC for the most recent TTC/ATC computation PSSE base case/ recently submitted updated base case data by the states for peak scenario.

- b. For a few cases, DICs are distribution licensees. For preparation of base case, nodewise data for all nodes in a State is required. There may be nodes which are not under control jurisdiction of a distribution licensee within the State such as injection data for generation within the State or drawal data at nodes not covered by any distribution licensee or such distribution licensee which has no Access with under ISTS. For such nodes, respective SLDC shall provide the actual injection and drawal data for the peak block within stipulated time period.
- c. In case of generation nodes, total generation of DIC shall be based on SEM data for peak block. Where nodewise data is provided by DIC, apportionment of generation in different generation nodes shall be in proportion to the node wise data submitted by DIC for the most recent TTC/ATC computation PSSE base case for peak scenario.
- d. In case non-availability of SEM data, SCADA data at the time of peak block shall be used. In case SCADA data is not available, TTC/ATC computation PSSE base case for peak scenario alone shall be the basis for considering node wise demand/ generation.

6.4 Data and information to be submitted by all ISTS Licensees, owners of CERC approved non-ISTS lines being used as ISTS

6.4.1 The list of lines and system which forms a part of the ISTS Network for the billing period shall be furnished on or before the end of billing period by the owners of the following lines and system in the prescribed formats enclosed with this procedure:

- (i) ISTS Lines and system
- (ii) Non-ISTS Lines and system, whose tariff has been approved by CERC as they are being used as ISTS

6.4.2 The respective owners of lines and system shall provide the list of such lines and system to be considered for the sharing mechanism by the end of the billing period. In case of non-ISTS lines and system whose tariff has been approved by CERC as being used as ISTS, the owners shall also submit a copy of CERC approval (tariff order).

6.4.3 The YTC of the entire ISTS network along with the available YTC breakup of network elements shall be provided by the Inter-State Transmission Licensees, intra-state licensees, tariff for whose assets have been approved by CERC as being used for inter-State transmission..

6.4.4 In addition, all ISTS licensees or the generating company as the case may be, shall also provide the details of assets to be considered for bilateral billing under Clause (2) of Regulation 20 along with all relevant details to IA.

6.4.5 IA shall consider Monthly Transmission Charges (MTC) by multiplying number of days in a billing period with YTC per day of the corresponding year for all the licensees in the sharing methodology.

6.4.6 In case new transmission elements have declared COD during the billing period, the entities shall submit to the IA, network data, date(s) of commercial operation of the new transmission element and Yearly Transmission Charge of such transmission element in the format stipulated by the Implementing Agency by the end of the billing period

- 6.4.7 In case any new transmission element has declared COD on last day of the billing period, the entity shall submit to the IA, network data, date(s) of commercial operation of the new transmission element and Yearly Transmission Charge of such transmission element in the format stipulated by the Implementing Agency by the first day of the month following billing period.
- 6.4.8 In case of a new transmission element that has declared COD during the billing period, while considering the YTC of the element in the computations for that billing period, Monthly transmission charges on pro-rata basis for the total number of days that element has existed in the network shall be considered under the sharing methodology for the billing period.
- 6.4.9 The Yearly Transmission Charges (YTC) of the new transmission elements, whose charges are to be recovered for which petitions for approval of Transmission Tariff have been filed in the Commission and for which provisional tariff have been approved by the Commission and COD of respective elements have already been achieved, shall also be submitted by the respective inter-State/ intra-state transmission Licensees whose tariff have been approved by CERC.
- 6.4.10 In case some of the transmission elements of the Associated Transmission System have achieved COD before the COD of Associated Transmission System, the YTC for such transmission elements of the Associated Transmission System shall be included, if such transmission elements are certified by the respective RPCs as required for improving the performance, safety and security of the grid. YTC of such transmission elements shall only be considered for a billing period on furnishing the details of RPC certification of the transmission elements to IA as per the stipulated time lines for furnishing data by the ISTS licensees as per this procedure.

6.5 Data and information to be provided by CTU

CTU shall provide the following data and information to IA within 7 days of the end of the billing period:

- 6.5.1 CTU shall provide the details of Long-term Access (LTA) and medium-term open access (MTOA) approved for the billing period, including the date from which the LTA/ MTOA has been approved.
- 6.5.2 Details of exempted LTA/MTOA of Renewable Energy (RE) based generation:
- (i) As per Regulation 13(1) to Sharing Regulations 2020, no transmission charges and losses shall be payable for the use of ISTS by generation based on solar and wind power sources fulfilling certain conditions as detailed in the Regulation.
 - (ii) LTA/ MTOA of such RE generation which are to be exempted to consider under the sharing methodology. Details of such RE generation exempted shall be furnished by CTU to IA along-with supporting documents.
- 6.5.3 As per Regulation (5) (2), CTU shall identify and furnish the details of of transmission systems to be considered under NC-RE component to IA.
- 6.5.4 CTU shall provide indicative cost for transmission lines for each conductor configuration at each voltage level to the Implementing Agency.
- 6.5.5 Data to be furnished for Regional Component of Transmission charges:
- (i) As per Regulation 6(b) to Sharing Regulations 2020, CTU shall provide separate region wise YTC for static compensators (STATCOMs), static VAR compensators (SVCs), bus reactors, spare transformers, spare reactors and any other transmission element(s) located in the concerned region and identified by the CTU as being critical for providing stability, reliability and resilience in the grid.
 - (ii) In case, separate YTC is not available for such transmission elements, worked out YTC for such elements apportioning Yearly Transmission Charges approved by the Commission for the integrated project, based on indicative capital cost..

6.5.6 Data to be furnished for Transformers component:

- (i) As per Regulation 7(1) to Sharing Regulations 2020, CTU shall provide a list of Inter-Connecting Transformers (ICTs) planned for the drawal of power by the concerned state along with the YTC of the transformers.
- (ii) In case, YTC of ICTs for a state are not available, worked out YTC for such elements apportioning Yearly Transmission Charges approved by the Commission for the integrated project, based on indicative capital cost shall be furnished...

6.5.7 Additional Data to be furnished by CTU for implementing Regulation (13) of Sharing Regulations 2020

- (i) As per Regulation 13(3) of Sharing Regulations 2020, for each billing period, whenever an Associated Transmission System (ATS) of a generating station achieves COD on or after its SCOD, CTU shall furnish LTA operationalization details (date and quantum) along with other details of number. of units declared COD, if any. (in case of partly commissioned generation.), YTC details of ATS, YTC billed to generator (in case generation not commissioned/ partly commissioned), YTC to be considered in computation (in case generation commissioned/ partly commissioned) etc. to the IA as per the stipulated formats in this procedure.
- (ii) As per Regulation 13(4) to Sharing Regulations 2020, for each billing period, in case CTU has allowed part operationalization of Long Term Access (LTA), subject to availability of transmission system, on COD of some of the transmission elements of an Associated Transmission System (ATS), CTU shall furnish details of part operationalization of LTA , details of ATS and associated elements of ATS to be included for determination of transmission charges of DICs etc. to the IA as per the stipulated formats in this procedure.
- (iii) As per Regulation 13(7) of Sharing Regulations 2020, for each billing period, in case CTU granted Long Term Access (LTA) to a generating station on existing margins and COD of the generating station/ unit(s) is delayed, CTU shall furnish the details of LTA granted on existing margins and details of LTA operationalized etc. to the IA as per the stipulated formats in this procedure.
- (iv) As per Regulation 13(9) of Sharing Regulations 2020, for each billing period, for all applicable cases of dedicated transmission system, CTU shall furnish the YTC details of dedicated transmission line, LTA quantum operationalized & quantum of Connectivity for the dedicated transmission line etc. to the IA as per the stipulated formats in this procedure.
- (v) As per Regulation 13(11) of Sharing Regulations 2020, for each billing period, where LTA and MTOA granted to the generating stations connected to both ISTS and Intra-State Transmission System, CTU shall furnish the details of quantum of Long Term Access and Medium Term Open Access corresponding to capacity connected to ISTS, to the IA as per the stipulated formats in this procedure.

7.0 Timeline for submission of data for each billing period:

- a) Basic Network Data by DICs: with in first 7 days of each month following billing period
- b) YTC to be submitted by licensees: by the end of the billing period. (by first day of the month following billing period, in case, if any new asset is commissioned on the last day of the billing

period)

- c) Nodal injection and Demand Data by DICs: with in first 7 days of each month following billing period
- d) LTA/ MTOA details and other data as detailed in Para 6.5 by CTU: with in first 7 days of each month following billing period

8.0 Formats for Data submission to the Implementing Agency

8.1 **Formats for data submission:** The formats for data submission are described below:

8.1.1 **Format - I: Commercial data containing YTC of network elements:** This format is to be filled by

- (a) ISTS licensees
- (b) Owners of deemed ISTS
- (c) Non-ISTS licensees whose assets have been approved by CERC for being used as inter-State transmission system

Format - I consists of the following three parts:

Format I-A: Summary of Line wise YTC

Format I-B: Commercial data containing YTC of ISTS network elements

Format I-C: Commercial data containing bilateral billing details of ISTS assets

8.1.2 **Format – II: Commercial data to be furnished by CTU**

Format II-A: Commercial data containing YTC of FACTS devices, Bus Reactors, Spare Transformers, Spare Reactors as identified by CTU

Format II-B: Commercial data of Inter-Connecting Transformers (ICTs) planned for drawal of power by the concerned state

Format II-C: Commercial data related to Long Term Access (LTA) and MTOA (Medium-Term Open Access) Contracts

Format II-D: Commercial data related to LTA/ MTOA details of exempted Renewable Energy (RE) based generation

Format II-E: Commercial data of RE transmission network to be considered for NC-RE component

Format II-F: Details of Indicative cost of transmission lines for available conductor configuration

Format II-G: This format has 5 nos. of sub-formats related to the additional details to be furnished by CTU in order to implement Regulation (13) of Sharing Regulations 2020

8.1.3 **Format - III: Existing Network data for load flow:** This format is to be filled by

- (a) ISTS licensees

- (b) Owners of deemed ISTS
- (c) Non-ISTS licensees with assets approved by CERC as being used for inter State transmission of electricity
- (d) State transmission utilities, SEBs or load serving entities
- (e) Generators which are Regional entities
- (f) **Format – III** consists of the following six parts:

Format III-A: Bus data

Format III-B: Generator data

Format III-C: AC line data

Format III-D: Transformer/ ICT data

Format III-E: HVDC line data

Format III-F: Switched shunt data

Format III-G: FACTS devices data

All the columns in the formats are to be filled in ‘per unit’ values at the 100 MVA base and concerned base voltage without leaving any blanks.

Entities may also avail an option of sending updated PSSE base case with all the data filled as mentioned in Format-III indicating all the technical parameters instead of sending filled in formats of Format-III.

8.1.4 **Format - IV: Long term/ Medium term Contracts and Actual injection/ demand data:** This format is to be filled by all the DICs.

Format - IV consists of the following two parts:

Format IV-A: Details of long term and medium term contracts

Format IV-B: Actual Nodal generation and Nodal demand data for peak block for the purpose of preparation of representative base cases.

8.2 **Mode of data submission**

The data shall be submitted through a web based application interface (‘BRIQ’) in which the formats are standardized. Each user shall be issued a login to the interface for the purpose of submitting the data as well as viewing the results.

Instructions for filling Format – I

1. Format-I is for commercial data containing line wise Yearly Transmission Charge (YTC). This is to be filled up by ISTS licensee, owners of deemed ISTS and owners of Non-ISTS licensees whose assets have been approved by CERC for being used as inter-State transmission system.
2. Only sky coloured cells are to be filled-up.
3. In YTC Details sheet, while filling up status of YTC; either FA (Finally Approved) or PA (Provisionally approved) or C (competitive bidding based) should be written depending on the position.
4. Section 6.4 of the procedure should be followed while filling-up the two sheets YTC Details and YTC Summary.
5. While filling up Reference in Format I(B), RPC certifications details is meant for the network elements of an Associated Transmission System (ATS) that are certified by RPCs to be considered under computations
6. Date of Commercial Operation for only those lines which are commissioned by the end of the billing period.

Commercial data containing summary of line-wise YTC

Name of the Transmission Licensee:	
Address:	
Contact Person	
Contact Number	

Voltage Level (KV)	Conductor Type	Ckt Kms	Total YTC (Rs Lakhs)
765			
400			
220			
132			
66*			

* 66 kV if it is part of the ISTS, like Chandigarh, etc.

Instructions for filling up the Format – II

Format II-A

1. Format-II A is for commercial data containing region-wise YTC of static compensators (STATCOMs), static VAR compensators (SVCs), bus reactors, spare transformers, spare reactors and any other transmission element(s) located in the concerned region and identified by the CTU as per Para 6.5 of this procedure.
2. Only sky coloured cells are to be filled-up.
3. While filling formats, sub-devices name and number of sub-devices columns shall be filled in case of STATCOMs and SVCs. For a device type, STATCOM, sub devices are STATCOM, MSR, MSC, Coupling Transformer and For a device type, SVC, sub devices are TCR, TSC, MSC, MSR, Coupling Transformer.
4. No sub-device wise YTC is required. YTC of complete device shall be filled.
5. Date of Commercial Operation for only those lines which are commissioned during the billing period.

Format II-B

1. Format II-B is for commercial data containing state-wise YTC of Inter-Connecting Transformers (ICTs) planned for the drawal of power by the concerned state.
2. Only sky coloured cells are to be filled-up.
3. Date of Commercial Operation for only those lines which are commissioned during the billing period.

Instructions for filling-up the Format – III

1. Format-III is for network data. ISTS Licensees, owners of deemed ISTS, owners of Non-ISTS licensees with assets certified by RPCs as being used for inter State transmission and DICs whose assets are being considered in the Basic Network shall supply the network data.
2. There are seven data sheets, Format-II(A) to Format-II(G) to be filled-up containing Bus Data, Generator Data, AC Line Data, Transformer Data, DC Line Data, Switch Shunt Data, FACTS devices data and one sheet with Agency details who submits data.
3. Only sky coloured cells are to be filled-up.
4. Section 6.3 of the procedures may also be referred for filling up the formats.
5. While filling Format-IIIG, sub-devices name and number of sub-devices columns shall be filled in case of STATCOMs and SVCs. For a device type, STATCOM, sub devices are STATCOM, MSR, MSC, Coupling Transformer and For a device type, SVC, sub devices are TCR, TSC, MSC, MSR, Coupling Transformer.
6. Date of Commercial Operation for only those lines which are commissioned during the billing period.

Submission of network data for Load Flow Study

Details of ISTS licensee/ owner of deemed ISTS/ DIC whose assets are included in basic network

Name of the data submitting Agency	
Whether ISTS licensee/deemed ISTS owner/DIC	
Address	
Contact Person	
Contact Number	

Instructions for filling-up Format-IV

FORMAT-IV(A)

1. Format-IV (A) is to be filled up by DICs with details of Long Term and Medium term contracts.
2. Only green coloured cells are to be filled-up.
3. Withdrawal & injection contracts are to be specified seperately against each point. Period of Approval in the format means period of the year.
4. Time duration in the format means time of the day of the specific contracts.

FORMAT-IV (B)

1. Format-IV (B) is to be filled up by DICs with withdrawal / injection data.
2. Only green coloured cells are to be filled-up.
3. Withdrawal & injection figure of each node upto 110 KV level are to be entered.
4. In case of injection / withdrawal in a particular node, both data are to be entered against the said node.

FORMAT-IV (B)

Actual Injection / Withdrawal data corresponds to peak block at all nodes upto 110 kV Information to be submitted by DICs

Name of the DIC: Address: Contact Person: Contact Number: E-Mail ID:	

Financial Year

Billing Period:

Date :

Sl. No.	Name of Node	Voltage level	Actual withdrawal		Actual Injection	
			MW	MVA _r	MW	MVA _r