



Detailed Procedure for Grant of Connectivity to the Intra-State Transmission system

In accordance with

Regulation 43 of the Tamil Nadu Electricity Regulatory
Commission (Grid Connectivity and Intra State Open Access)
Regulations, 2014

Prepared by

Tamil Nadu Transmission Corporation Ltd.

and Approved by

Tamil Nadu Electricity Regulatory Commission

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Procedure for Grid Connectivity

1.0 Outline:

- 1.1. This Procedure is evolved in accordance to Regulation 43 of the Tamil Nadu Electricity Regulatory Commission (Grid Connectivity and Intra State Open Access) Regulations, 2014 (herein after referred to as Regulations) and its various other provisions. All applicants shall abide by the provisions of the Regulations, as amended from time to time, and the procedures laid down hereunder.
- 1.2. This Procedure shall apply to the Applications made for Grant of Connectivity to the Intra State transmission system of the STU / Transmission licensee for above 33 kV level from the date of notification by the Commission. This procedure shall be read with the provisions of these Regulations, Electricity Act 2003 and prevailing TNERC Regulations / Orders.
- 1.3. TANTRANSCO means Tamil Nadu Transmission Corporation Limited or its appropriate successor entity or entities formed by the Government of Tamil Nadu in exercise of the powers conferred under Sections 131 and 133 of the Electricity Act, 2003.

2.0 Connectivity:

- 2.1. Any new Generator (with or without storage) shall obtain connectivity to the grid (intrastate) by making an application for connectivity in line with the extant Commission's Regulations.
- 2.2. Any customer having contracted demand of 10 MW and above with voltage of above 33 kV level or a Generating station having capacity of 15 MW and above or a Generating station requiring connectivity above 33 kV level shall be required to obtain connectivity to the intra State Transmission system and shall apply for connectivity as per this procedure, unless already connected. Consumers with Generating plant and Generators requiring parallel operation with grid without power export to grid are also required to obtain connectivity to intrastate transmission system (STU). The voltage level and capacity shall vary from time to time as amended by the Commission in appropriate Regulations/Codes/Orders.
- 2.3. Open Access customers already connected to the grid shall not be allowed to apply for new additional connectivity for the same capacity. In case of enhancement of capacity, they shall be required to make an application of connectivity as per the provisions of the Regulations. In case of reduction in capacity, approval shall be obtained from the nodal agency as notified in Regulations.

- 2.4. Approval shall also be obtained from the concerned Nodal agency for Disconnection of existing connectivity / Replacement of existing generating units.
- 2.5. The nodal agency for grant of connectivity, long term, medium term and short term open access shall be the agency notified in the Regulations.
- 2.6. As per the Tamil Nadu Electricity Regulatory Commission (Grid Connectivity and Intra State Open Access) Regulations, 2014, application for connectivity to intra-state transmission system shall be made to the STU and incase of connectivity to the distribution system, it shall be applied to the Distribution Licensee.
- 2.7. In line with the above, the applications for grant of connectivity with the intra-state transmission / distribution system and connection agreement shall be made to / with the following Nodal Agency:

Sl. No.	Description	Nodal Agency to grant connectivity	Connection agreement to be made with
1.	(above 33 kVvoltage level) a) Fossil fuel based generating plants/Co-gen plants (Non-RE) b) Renewable Energy generators	Chief Engineer/System Operation/TANTRANSCO, 1 st Floor, TANTRANSCO Building, 144, Anna Salai, Chennai-600 002. (or) any other designated nodal agency on later date with prior approval of the Commission	Respective Superintending Engineer / Operation Circle of concerned area.

Note:- In case of development of Pooling Sub-Station by the Lead Generator/Developer or already developed pooling sub-station by the lead generator / developer on behalf of all the Generators, connectivity agreement shall be signed by the Lead Generator/Developer on behalf of all the Generators connected with the Pooling Sub-Station with the concerned SE/Operation Circle of the STU. In this connection, concurrence of the Generators duly authorizing the Lead Generator/Developer shall be obtained in the non-judicial stamp paper for a value of Rs.100/- with a sworn-in affidavit authenticated by a Notary Public or by a gazetted officer.

2.8. Applicant granted 'connectivity' from the date of notification of OA Regulations, 2014 will be required to sign Power evacuation scheme agreement (**Format-IB**) with the licensee as detailed above prior to the physical connection with grid. In case the connectivity is granted to the intra-State transmission system of an intra-State transmission licensee other than the State Transmission Utility, a tripartite agreement shall be signed between the applicant, the appropriate authority of such transmission Licensee and STU, in line with the provisions of the Regulations. The nodal agency shall always have a copy of the agreement.

3.0 Procedure to submit application form, documents and payment of fee, etc.

3.1. The application for grant of connectivity shall be made in the prescribed format (**Format – IA**) along with documents mentioned in the format of application. The application shall contain details such as geographical location of the generation project, quantum of power to be interchanged, that is, the quantum of power to be injected in the case of a generating station including a captive generating plant and quantum of power to be drawn in the case of a consumer, unit wise commissioning schedule etc.

3.2. The following details shall be maintained in the web-sites of transmission licensee and the SLDC in order to maintain the transparency among all the stakeholders;

- a) Details of the existing / proposed / under construction substations along with voltage levels;
- b) Capacities of the existing / proposed / under construction substations, generation capacities already connected / proposed to be connected with these substations;
- c) Details of pending generation connectivity applications;
- d) Other details.

3.3. Connectivity shall be granted at appropriate system voltages based on technical guidelines on loading of lines for generators and as stipulated in Regulations/ Codes for consumers. The generators shall be connected to the substation by a separate feeder and no distribution loads will be permitted to be connected in such feeders.

3.4. In order to assess preparedness of the applicant for receiving connectivity, an applicant is required to submit along with the application, documents, as detailed below and as applicable, in support of having initiated specific action with respect to project preparatory activities:

1.	Site identification and land acquisition	Land required; present stage of acquisition; expected date of completion of acquisition.
2.	Environment clearance	The details of submission of application to

		the concerned authority and its status(first level submission)
3.	Forest clearance (if applicable)	The details of submission of application to the concerned authority (First level submission).
4.	Fuel arrangement	Quantity of fuel required for the installed capacity; source of fuel; agreement executed for fuel supply; stock of fuel.
5.	Water linkage	Quantity of water requirement; application made; status of approval by appropriate authority.
6.	Unique Registration Number issued for the Generator by the CEA	The Certificate issued by the CEA for the Generator in this regard.

In the case of wind energy generator (WEG) and solar power generator (SPG), document as applicable in the above table (Item No. 1) is to be submitted.

3.5. The applicants who are applying as CGP shall maintain CGP status as per Rule 3 of Electricity Rules and the directives/Orders/Regulations issued by the Commission from time to time. The applicant shall furnish prescribed documents as per Commission's orders read with provisions of the Act/Rules/Regulations while applying for grid connectivity.

3.6. The applicant shall indicate the location of consumers where power is proposed to be transmitted / wheeled. If it is not possible to indicate the location of consumers, the Circle / Region to which power is to be transmitted/ wheeled shall be indicated. In case, if applicant is a consumer, the applicant shall indicate the location and other relevant details of generator from where the power is proposed to be received. This is required to ascertain the power flow while examining grid connectivity.

3.7. Application fee for Connectivity:

3.7.1. The application for connectivity to the intra state transmission system shall be accompanied by a non-refundable fee as specified in the Regulations as follows.

Sl.No.	Quantum of power to be injected	Application Fee in Rs. Lakhs*
1	Upto 100 MW	2

2	More than 100MW and upto 500 MW	3
3	More than 500MW and upto 1000 MW	6
4	More than 1000 MW	9

*Taxes extra as applicable

In case of co-generation and generation of electricity from renewable Energy sources, the application fee shall be 50% of the normal fee.

- 3.7.2. The application fee shall be paid as notified by STU / Licensee.
- 3.7.3. The date of receipt of application in complete shape by the STU will be reckoned as the date of registration and an acknowledgement will be furnished for the same to the applicant.
- 3.7.4. Applications which are incomplete or not in conformity with the Procedure/ Regulations shall be returned with due remarks to the applicant within 10 days. The applicant shall rectify the defects in the application and resubmit the application within 30 days from the date of intimation of remarks from the nodal agency. If the application is not resubmitted within such duration, the same will be treated as cancelled. The date of application received in complete shape in all aspects with required information and documents stipulated in this procedure shall be considered as date of receipt of application.
- 3.7.5. In cases where once an application has been filed and thereafter there is any material change in the location of the applicant or change by more than 10% in the quantum of power to be interchanged with the intra State transmission system, the applicant shall make a fresh application along with applicable fees and the already filed application shall be considered disposed and application fee forfeited.
- 3.7.6. An application by collective generators shall be considered by STU only if all the generators, whose aggregate capacity is connected at the single connection point, formalize a written agreement among themselves that the lead generator shall act on behalf of all generators to undertake all operational and commercial responsibilities for all collective generators as provided in the Regulations.

- 3.7.7. If any applicant has already been permitted for Power Evacuation Scheme, but the process of construction of line/bay by the STU/Transmission licensee or by the generating company has not yet started and the applicant subsequently applies afresh with material changes or change by more than 10% in the quantum of power to be interchanged, then the connectivity application shall stand cancelled.
- 3.7.8. The load flow studies are carried out corresponding to the commissioning schedule proposed by the generator at the time of Grid connectivity application. Hence, the generator shall adhere to the commissioning schedule proposed at the time of application.
- 3.7.9. Application for any minor changes i.e. material change in location or change within 10% of installed capacity shall have to be re-submitted in the same application format marked as 'revised'.

3.8. Grant of connectivity:

- 3.8.1. On registering of the application received in complete shape, the STU shall carry out interconnection study as provided in the Regulation 6 of Grid Connectivity and Intra State Open Access Regulations 2014 to ascertain the feasibility of connecting the generator with its network and convey its decision on grant of connectivity or otherwise within 30 days from the date of receipt of application in complete shape, furnishing details as stipulated in sub clause 3.8.3.
- 3.8.2. Every applicant shall construct a dedicated line to the point of connection to enable connectivity to the STU/Transmission licensee's system in accordance to Regulation 6 of the Commission's Grid connectivity and Open Access Regulations, 2014.
- 3.8.3. While conveying the decision for grant of connectivity as in sub clause 3.8.1 to the applicant, the following shall be informed:
- i. Based on the results of the study, the applicant will be informed of the proposed interconnection line/dedicated transmission line for connectivity with broad design features, the substation / pooling station/ switchyard/ point of connection to which the line is to be connected. In case connectivity is to be granted by looping-in and looping-out of an existing or proposed line, the point of connection and name of the line at which connectivity is to be granted shall be specified.

- ii. The applicant shall arrange to provide pooling station / switchyard facilities (that includes transformers, structures, breakers, CTs, protection arrangements, data communication system which includes real time data transfer to SLDC server and AMR server etc.) at their end.
 - iii. The details of augmentation to be carried out to accord connectivity shall be specified. In case of augmentation, the applicant shall bear the cost of bay extension and initial testing and commissioning.
 - iv. In the case of STU carrying out the works of constructing dedicated line, the estimated amount shall be deposited to the STU.
 - v. A reasonable timeframe for completion of the dedicated line shall be informed by STU based on the possible time the STU would take for developing their infrastructure.
- 3.8.4. The applicant shall convey concurrence or otherwise for the proposal of STU to grant connectivity within 30 days of receipt of proposal informing the time period for construction of dedicated line failing which the STU shall cancel the application with due intimation to the applicant. Thereafter, a fresh application with necessary fee shall be submitted by the generator.
- 3.8.5. On concurrence, a power evacuation scheme agreement in the format (Format-IB) shall be executed within 15 days by the applicant with Superintending Engineer / Operation Circle concerned or Licensee as the case may be (prior to the commencement of interconnection works). Only after the execution of above power evacuation scheme agreement, the applicant may proceed further towards grid connectivity, failing which STU reserves the right to cancel the application without any further notice.
- 3.8.6. The applicants who wish to avail open access as per the provision of Regulations 9 (3) & 9 (6) can only seek grid connectivity through independent feeder provided that the consumers who are not on independent feeders, shall be allowed open access subject to the restrictions in the feeders serving them in line with the Commission's Regulations / Codes / Orders.
- 3.8.7. In case of construction of dedicated line to the point of connection for enabling the grid connectivity, the entire cost of extension from sub-station to the applicant and including the bay provision at SS end, take off arrangement, applicable O&M charges etc., is to be

borne by the applicant subject to the availability of bay and way leave provisions as per the provisions of the Commission's Codes/Regulations.

3.8.8. As per the Section 10(1) of the Electricity Act, 2003, it is entirely for the generating company to construct the dedicated transmission line of appropriate capacity and to connect the same to the Transmission Licensee's network system. Therefore, the power from the generating station(s) can be evacuated by connecting the generating station(s) or sub-station developed by the generator(s)/developers under section 10(1) of the Electricity Act, 2003 to the network of the Transmission Licensee (above 33 kV) normally. However, in case of field difficulties, any of the following ways may be followed as per the technical specification laid by the Transmission Licensee:

1. Connecting to the nearest existing transmission line of the Transmission Licensee by making Line-in-Line-out (LILO) arrangements;
2. Connecting to the nearest sub-station owned by the Transmission Licensee by constructing new terminal bay or by using the existing terminal bay.

3.8.9. While making LILO with the nearest Transmission Lines or connecting with the existing Transmission Licensee's sub-station, the generator(s)/Developers shall arrange necessary protection arrangements at their switchyard end. If the Generating station is to be connected to the existing grid feeder, then the new 10(1) sub-station has to be constructed as a grid sub-station with separate feeder protection scheme as approved by the Transmission Licensee to the arrangements of the two feeders created for LILO arrangements and the same shall be handed over to the Transmission Licensee along with land. However, if the nearby transmission line is a radial line then the 10(1) sub-station may be connected only by the LILO (with radial with the existing feeder) arrangements at the tapping point with separate switching arrangements and no T-off arrangements shall be permitted. In all such schemes, respective switchgears shall be capable of operating through Transmission Licensee's SLDC system or from the nearest sub-station of the Transmission Licensee through remote system as per the field requirements.

3.9. Connectivity agreement with existing generators:

The existing generators with already executed connectivity agreement connected at various voltage levels shall continue to operate as per the provisions of the executed agreements. However, if there is no connectivity agreement executed so far, the provisions of this Regulations and procedure for connectivity shall be applicable. For existing generators connected to feeders with distribution loads, the licensee shall leave it as it is and need not be separated. In case of enhancement of capacity or additional

capacity etc., they shall be required to make fresh application of connectivity as per the provisions of the Regulations.

3.10. Estimation of cost, construction of dedicated transmission line, payment of charges:

- 3.10.1. STU shall furnish estimate for cost of bay / switching station as the case may be including, switchgear and protection arrangement and supervision charges after the execution of power evacuation scheme agreement within 15 days from the date of signing the agreement. The generator / consumer shall pay the cost within 30 days of receipt of estimate failing which the STU / transmission licensee reserves the right to cancel the application without any further notice. Thereafter, fresh application with application fee is to be submitted by the applicant if connectivity is required.
- 3.10.2. STU / transmission licensee shall carry out bay works, augmentation etc., after payment by the generating company / consumer.
- 3.10.3. The applicant has to erect the dedicated transmission line by themselves in accordance with provisions of section 9, 10(1) of the E-Act, 2003, as per the design features communicated and under the supervision of STU's officials. The cost of augmentation of licensee's substation includes cost of bay provision / provision of switching stations as the case may be, switchgear, other equipments, protection arrangements, data communication system including real time data transfer to SLDC server and AMR server, testing and commissioning etc, which shall be borne by the applicant in line with the Commission's orders/Codes/Regulations. The ownership of the interface line (dedicated line from their plant to the point of connection) if erected by the generating company under section 9 or 10(1) of the E-Act, 2003 will rest with the generating company and the company shall operate & maintain the line by themselves subject to getting clearance from the appropriate agency / officials before taking up any preventive / break down maintenance works. The entire responsibility of safety of company's personnel or public rest with the company and the licensee will not be responsible for any untoward incidents and not liable to pay any compensation in this regard. However, the maintenance of bay equipments at the substation / switching stations as the case may be where the interfacing line gets terminated will be operated and maintained only by the licensee subject to the condition that the cost of maintenance and spares as may be notified by the licensee from time to time shall be borne by the company in line with the Commission's orders/Codes/Regulations.
- 3.10.4. The bills shall be raised by the licensee towards bay / switching station maintenance as the case may be on annual basis and the generator shall pay the amount within 5 working days of receipt of bill.

- 3.10.5. On completion of power evacuation scheme works, Grid connectivity approval to intrastate transmission system shall be accorded by the nodal agency.
- 3.10.6. Subsequently, the applicant shall sign grid connectivity agreement in the enclosed format (Format-IC) with the Superintending Engineer / Operation Circle concerned / licensee where connectivity is being granted, within 15 days of receipt of approval for connectivity. The period of agreement shall be as mutually agreed by the parties concerned. The existing generators who have not signed connectivity agreement shall also sign the connectivity agreement annexed to this procedure when they come forward for any reduction/addition of capacity, name transfer, etc.

3.11. Interchange of power with the grid:

- 3.11.1. The grant of connectivity shall not entitle an applicant to interchange any power with the grid unless the applicant obtains long term open access, medium term open access or short term open access as the case maybe in accordance with the provisions of the Commissions Open Access Regulations in force and subsequent amendments.
- 3.11.2. Any interchange of power with grid without any type of valid open access shall not warrant any payment to be made by any licensee. Besides such quantum of power will not be adjusted against any consumption. Such inter change of power shall be in violation to Regulations and shall be dealt with in accordance with the provisions of the Electricity Act, 2003. In case of sale of infirm power, the provisions of Commission's Grid Connectivity and Intra State Open Access Regulations 2014 / Regulations / orders issued from time to time shall apply.
- 3.11.3. Before availing any open access, the generator including captive generating plant / co-gen plant which has been granted connectivity to the grid shall be allowed to pump infirm power into the grid during testing including full load testing before its COD for a period not exceeding six months from the date of first synchronization after obtaining prior permission of the concerned SLDC / licensee. For any extension of period for testing, full load testing and consequent injection of infirm power by the unit beyond six months the generator shall approach the Commission at least two months in advance before completion of the six month period.
- 3.11.4. The onus of proving that the injection of infirm power from the units of the generating station (other than wind and solar) is for the purpose of testing and commissioning shall lie with the generating company and the SLDC shall seek such information on each occasion of injection of power before COD. For this, the generator shall provide SLDC sufficient details of the specific testing and commissioning activity, its duration and intended injection etc. Such details shall also be shared with the distribution licensee. Before effecting connectivity, the company has to get specific approval of Distribution licensee for injecting infirm power, who has to pay for such infirm power.

Commercial treatment including the tariff for such infirm power from a generating station or a unit there of will be governed by the concerned Regulations / Orders in force issued by the Commission from time to time.

- 3.11.5. On completion of all erection works (generator / lines etc) by the generating company as well as by the STU, provision of Interface meter with AMR facility and establishment of online data connectivity with AMR server at SLDC, the company shall inform STU for obtaining grid connectivity approval and concurrence of synchronization of generator with the transmission system and STU shall issue grid connectivity approval and concurrence for synchronization, with due consideration of the field condition.
- 3.11.6. Synchronization of the generating unit with the transmission system shall be permitted only after ensuring proper protection arrangement by officials of STU and after obtaining necessary statutory clearances like consent to operate from MOEF/TNPCB, clearance from various authorities such as CEIG etc. (wherever applicable). The synchronization (for the first time) shall be in presence of the officials of STU & Distribution Licensee and shall be with consent of SLDC.
- 3.11.7. It is the sole responsibility of the generator to declare COD of the generator. The date of declaration of COD and the capacity of the individual unit shall be final. In case of combined cycle plant, the date of COD will be reckoned with the declaration of commercial operation of combined cycle. Further, the capacity declared on COD shall not exceed the manufacturers rated capacity (Maximum Continuous Rating as per design). There can be only one COD.
- 3.11.8. At the time of synchronization as well as at the time of COD, meter readings at interface point shall be taken.
- 3.11.9. Payment for the energy pumped if any for testing and commissioning purpose from the date of synchronization till declaration of COD shall be paid as per the provisions of the commission's Tariff regulations as amended from time to time. On attaining COD, the company shall furnish the details of energy pumped till the date of COD to the nodal agency and DISCOM.
- 3.11.10. The Superintending Engineer / Operation Concerned and the Generator shall inform the date of synchronization and COD to Nodal agency concerned and the SE/EDC concerned and the bills for such supplies shall be submitted to the SE/EDC concerned for payment. In case of conventional Generating Stations, the trial run to be conducted for declaring the COD as per the provisions in the IEGC (or) TN Electricity Grid Code (or) Orders/Codes/Regulations of the Commission and in case of Solar/wind generating stations, the COD will be the date of injection of power by such Generators with prior approval of the authority concerned.

4.0. Provision of interface meters:

- 4.1. Interface meters: Interface meters with AMR facility shall be installed as specified in the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006 as amended from time to time, and in accordance to the Commissions Grid connectivity and intra State Open Access Regulations, 2014. The meters shall have facility for communication of data on real time basis to SLDC server and AMR server as specified by STU / licensee. Energy accounting and settlement shall be done in 15 minutes block. From the energy / demand recorded in the Consumer meter, OA entitlement shall first be adjusted to arrive at energy / demand consumption from DISCOM.
- 4.2. The metering arrangements shall be made as per the provisions of the CEA Metering Regulations/Commission's Regulations as amended from time to time. The check meters (Interface meter) shall be provided by the STU/Distribution licensee or if the licensee, requests the generator to provide the same, the cost of the meter will be reimbursed / adjusted with the bills on submission of proper invoice.
- 4.3. Generators shall install energy accounting interface meter(s) with AMR facility and communication facilities (Modem or DCU) in order to record generation in each units and auxiliary consumption, as per CEA Metering Regulations, 2006 and subsequent amendments thereof. Generator shall establish instantaneous data transfer facility from meters to the servers at SLDC.
- 4.4. At the time of submitting application for grid connectivity the applicant shall incorporate the location of all meter(s) proposed to be provided as mentioned above in the single line diagram.
- 4.5. After approval of location of meters, the generating company shall not shift the meters without specific approval of Transmission / distribution licensee.
- 4.6. Further Interface meters of 0.2 s class accuracy shall be provided at all the outgoing feeders of the captive generating plant feeding various loads, where CGP & industrial loads are available within the same premises, for energy accounting. Metering with summation CTs are not permitted.

5.0. Startup power:

- 5.1. The generators shall approach the Distribution licensee (the concerned Superintending Engineer of the Electricity Distribution Circle in whose jurisdiction the generating plant exists) for obtaining start up power from the grid. The generating company at the time of submitting the application for grid connectivity shall indicate the requirement of startup power if required and the demand required for such start up power.

- 5.2. The startup power will be permitted only within the percentage approved by the Commission. This power is to be used only for startup operation after declaration of COD. The period of startup power will be as specified in the Regulations/Orders of the Commission.
- 5.3. However, during construction period the generators shall avail power for construction on temporary basis by filing a separate application to the distribution licensee. Supply obtained for the construction period shall be paid at appropriate tariffs as fixed by the Commission in its tariff order from time to time.
- 5.4. Start up power requirements in the case of wind energy generators and solar power generators shall be as per the applicable orders of the Commission.

6.0. Application for Parallel operation without availing Open Access:

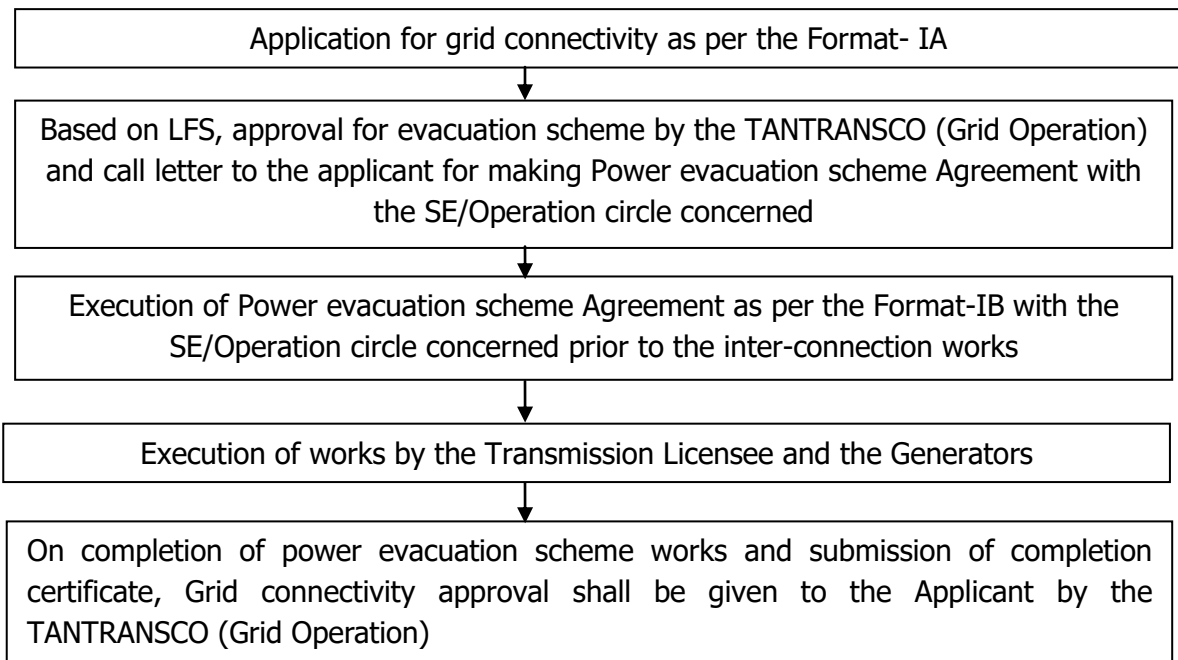
- 6.1. Application in the prescribed format (**Format – IA**) shall be submitted along with necessary documents and with non-refundable fee specified in clause 3.7 of this procedure.
- 6.2. In case parallel operation is not feasible with the existing line & substation, the same will be communicated to the generator. The generators seeking parallel operation shall construct a dedicated line to the point of connection to enable connectivity to the transmission system.
- 6.3. In case of feasible parallel operation with the existing dedicated transmission line & substation, the generator shall bear / pay the cost of the existing dedicated transmission line to STU.
- 6.4. The connectivity procedure for parallel operation of the generators with Grid shall be the same as per the procedure mentioned for grid connectivity of generators with evacuation into grid.
- 6.5. On receipt of approval, the applicant shall execute agreement for grid connectivity (Format-IC) with the STU within 15 days of receipt of approval.
- 6.6. **Parallel Operation Charges:** The generators have to pay parallel operation charges as notified by the Commission in the Grid Connectivity and Intra State Open Access Regulations, 2014 and subsequent amendments / orders.

7.0. General provisions for grid connectivity:

- 7.1. This procedure aims at easy and pragmatic disposal of applications made for Connectivity to Intra-State Transmission System. However, some teething problems may still be experienced. The various implications would be known only after practical

experience is gained by way of implementing these procedures. In order to resolve the same, this procedure shall be reviewed or revised by the Nodal agency with prior approval of the Commission.

- 7.2. On receipt of application for grid connectivity from Renewable Energy Generators, load flow analysis shall be done by the licensee and the same shall be shared with the applicant. On receipt of load flow study from the Licensee, the applicant shall submit registered Sale deed / Lease deed of required land for setting up Generating Station within 6 months. On request of the applicant, further 3 months time shall be extended by the Licensee for purchase of the required land with the condition that the applicant shall pay the additional charges of 10% of the Security Deposit in advance. If the applicant has not purchased the land even after such extended time (totally 9 months from the date of receipt of load flow study), the load flow analysis already carried out by the Licensee shall be cancelled and the Licensee shall take action for effecting connectivity to any other RE Generator(s).
- 7.3. All the process for applying grid connectivity (including uploading of the Certificates such as Captive status certificate issued by the auditor) shall be made online by the Licensee concerned within 3 months from the date of issue of this procedure and till such time, the existing procedure shall be followed.
- 7.4. The applicant / generator shall comply with all the Regulations/Codes/Orders of the Commission and the orders of the Ministry of Power/MNRE's being issued from time to time.
- 7.5. The abstract of the process for grid connectivity is as below:





Execution of Grid connectivity Agreement as per the Format-IC with the SE/Operation circle concerned



Synchronization with the grid, trial run and declaration of Date of Commercial Operation (COD)

Format – IA (Application form for grid connectivity of generator at voltages above 33 kV)

(Tick the appropriate box)

Conventional Others
 wind
 solar
 Parallel Operation

Sl. No.	DETAILS REQUIRED	PARTICULARS
1	Details of the Applicant	
A	Full Name of the Applicant	
B	Full Address of the Applicant (Please furnish addresses of Head Office, Registered Office, Site Office, Local Office etc) (If Site Office, Local Office etc have not been established as of now, the same may be furnished as soon as they have been established)	
C	Name and Designation of Authorized person(s) in various offices with Contact Land line Numbers, Mobile numbers, E-mail ID etc. (i) For the purpose of signing correspondences; (ii) For signing of documents such as agreements etc.	
D	Name and Designation of Contact person(s) in various offices with Contact Land line Numbers, Mobile numbers, E-mail ID etc.	
2	Details of Ownership	

	A	The power plant is set up by (Please clearly specify A person / Association of persons / Co-Operative society / others)	
	B	Incorporation of the company Date of incorporation / Registration / Place of incorporation / Registration No. / Date of commencement of business	
	C	Name and address of the Director(s) with Contact Land line Numbers, Mobile numbers, E-mail ID etc.	
	D	Details of Principal share holders / Partners / Members / Captive users with Contact Land line Numbers, Mobile numbers, E-mail ID etc.	
	E	Whether Generator, for own use/Captive Generating Plant.	
	F	Percentage of power to be consumed at the plant itself.	
3		Details of Investment proposed	
	A	Total project cost Rs. Crores (Also furnish with currency of investment, exchange rate adopted, etc.)	
	B	Term loan component in Rs. Crores (Foreign loans with currency, exchange rate, interest rate etc may be furnished. Similarly for domestic loans the details may also be furnished)	
	C	Source of funding of loans (As proposed / finalized.)	
	D	Debt : equity ratio proposed	

	E	Break up of equity (Authorized preferential share capital, authorized equity share capital, equity proposed to be held by the promoters)	
	F	Promoters contribution a) Preferential share capital b) Paid up Equity share capital	
	G	Captive users contribution Paid up Equity share capital	
	H	Percentage of Ownership a) Promoters b) Captive users c) Others	
	I	Confirmation that not less than 26 % of ownership is held by the captive users Say yes or no. If yes, furnish prescribed documents as per Commission's orders read with provisions of the Act/Rules/Regulations.	
4		Details of Generating Plant	
	A	Name of the Generating Plant with postal address of site location	
	B	Physical Location of the Generating Plant SF No. / Village / Town, Taluk, District (furnish a topo map and showing the location of the Generator's site, nearby substations of Board and other land marks etc to physically identify the location of Generator) (In addition to the topo map a neat sketch – not to scale may also be furnished).	

	C	Type of Generating plant Fossil fuel plant / Co – Generation plant / Waste heat recovery plant etc.	
	D	Type of Primary fuel proposed in case the plant is a Fossil Fuel based one.	
	E	Whether fuel linkage has been arranged, if so furnish complete details such as source etc. (Agreements if any already executed, copy may be furnished.)	
	F	Whether all the statutory clearances such as TNPCB, MOE&F, Civil Aviation etc. have been obtained. Copies of clearances obtained may be furnished. Action plan for the other clearances may be furnished. Copies of such clearances may be furnished as and when the same is received.	
	G	Proposed plant capacity in MW (Furnish split up details) mention units to be declared as CGP	
		In case of RE generator: Wind Make of WEG Rotor dia, Hub height NIWE approval Solar Solar Generation unit/ Inverter-wise (MW and MVAR) Voltage at interconnection point (Volt) For both wind and solar Project developed by: Project under AD/GBI Sale under Preferential/ REC/ Captive/Third party	
	H	If Co – generation plant / Waste heat recovery plant etc. (Please furnish type of industry, Process diagram and write up. Also furnish the supporting fuel proposed and details about	

		the linkages etc)	
	I	Whether Generating Plant is to run in parallel with STU Grid, If so the probable interfacing voltage at which paralleling to be done may be indicated.	
	J	Whether the generator is a stand – by set and will have to be run at the time of emergency only and will not feed power to the grid system of STU	
	K	Whether Generating Plant is to run in isolation i.e. in standalone mode and may require emergency power supply from Distribution licensee/ DISCOM for startup purpose If yes, details of requirement of backup power from Distribution licensee/ DISCOM and voltage of supply (A separate application seeking HT supply to be submitted to Superintending Engineer of Distribution circle concerned where the generator is located).	
	L	Voltage level at Generator end	
	M	Voltage level at Grid interface point	
	N	Phase and Frequency in Hz.	
	O	Other Technical specifications (Furnish full Technical details)	
	P	Name of nearby Sub-Station and voltage level	
	Q	Whether you are already availing HT supply at the location where the Generating Plant is proposed to be located? If yes, please furnish the HT SC No, Distribution Circle, Sanctioned Demand, Voltage level, and tariff etc.	
	R	i) Quantum of annual generation expected in	

		<p>a financial year (MU/MW)</p> <p>ii) Quantum of power proposed to be used at the Generating Plant site itself(auxiliary consumption/Industrial consumption separately (MW)</p> <p>iii) Quantum of power proposed to be wheeled to the Captive users/</p> <p>iv) Quantum of power proposed to be sold to third party customers</p> <p>v) Power traders(category wise in MW at drawal end)</p> <p>(The quantum at injection end will be arrived at taking into account the T&D loss as per the TNERC orders in force.)</p>	
	S	<p>Whether any excess energy is proposed to be sold to Distribution licensee/ DISCOM</p> <p>Say Yes or No.</p> <p>If Yes,</p> <p>a) Specify the quantum in MW to be sold to Distribution licensee/ DISCOM.</p> <p>b) Whether the power proposed to be sold is Firm power and If so quantum proposed in MW/MU with relevant order from Distribution licensee/ DISCOM</p> <p>c) Whether the proposed power is infirm power? If so quantum proposed in MW/MU per Annum with relevant order from Distribution licensee/ DISCOM</p> <p>d) Whether the power proposed to be sold is a combination of both? If so, split up details may be furnished.</p>	
	T	<p>Whether any Quantum to be sold to third parties</p> <p>Say Yes or No</p> <p>If Yes quantum proposed in MW</p>	

	U	<p>a) In case of Co-gen plant whether it is coming under Topping cycle/bottoming cycle</p> <p>b) Whether proof for qualifying as Co-gen is enclosed</p> <p>If no reason may be furnished</p>	Say Yes/No
5		Details of Captive User(s)	
	A	Number of captive users engaged and proposed to avail supply through wheeling	
	B	<p>Name and address of end user(s) with HT Sc No, Tariff, name of Distribution circle, Sanctioned Demand, drawal voltage may be furnished.</p> <p>Anticipated annual consumption in MU for each of the end user(s) or quantum in MW.</p>	
	C	<p>Whether the not less than 51% of the aggregate energy generated determined on an annual basis is proposed to be consumed for captive use as per the Rule 3(1)(a)(ii) of the Electricity Rules, 2005 in proportion to their shares in ownership of the power plant within a variation not exceeding 10% in case of association of persons.</p> <p>Furnish the quantum of energy (approximate) proposed to be allotted in MW/MU on monthly basis to each captive users and the percentage of energy allotted to captive on annual basis</p>	
	D	<p>Whether the captive users has registered as open access customer with STU / Licensee</p> <p>If yes, Furnish the details</p>	
	E	<p>Whether any of the Captive User(s) are already availing supply from any of the CPP's?</p> <p>If so, complete details of such customers, the</p>	

		plants from which the power is availed with quantum in MW.	
	F	In the event of the Captive user(s) availing power from more than One CPP the documents to be furnished a) The user shall undertake to the effect that any energy not adjusted against energy allotted shall be treated as lapsed b) The CPP shall undertake to the effect that any energy not adjusted to captive user for non consumption against allotment shall get lapsed	
	G	1) Agreement period with captive user(user wise) 2) Date of commencement of Agreement. 3) User wise agreed quantum in MW/MU per month	
6		Probable date of commissioning of generating plant(Unit wise)	
7.		Provision of Interface meter with AMR facility for data transfer	Yes/No
8.		Online data transfer communication to SLDC	Yes/No
9.		Unique ID assigned by after registering in CEA portal	

We hereby declare that all the details furnished above are true and correct. We are also agreeable to furnish any other details as may be required by the Board (STU and Licensee) from time to time.

Signature of the of the Applicant
Authorized by the company
with seal.

Date:
Place:

List of documents to be furnished along with this format.

Apart from the documents listed in the format, the following documents are to be enclosed.

1. Geographical location of the generating station.
2. Site plan in appropriate scale. The site plan should indicate following details
 - a. The proposed location of the connection point
 - b. Generators
 - c. Transformer
 - d. Site building
3. Memorandum & Articles of Association.
4. Authenticated descriptive write up about the plant process with process flow chart in case of industry co-existing with generator/captive generator/Co-generator.
5. Write up on generator protection scheme with protection diagrams in quadruplicate.
6. Documents in respect of the following (Whichever is applicable to different types of generators):
 - i) Site identification and land acquisition.
 - ii) Environmental Clearance
 - iii) Forest clearance
 - iv) Fuel arrangements
 - v) Water linkage
 - vi) CEIG safety certificate.
 - vii) TNPCB consent to establish/operate
 - viii) CEA certificate with unique ID
7. Electrical single line diagram (SLD) of the plant. Location of Interface meter(s) and energy accounting meters (for auxiliary consumption, start up power consumption, generation of individual units and industrial loads etc.) shall also be included.
8. In case an applicant who opts as CGP shall furnish all the documents and formats as prescribed by the Commission in its orders, provisions of Electricity Act,2003/Rules.
9. Copy of purchase order for the generator.
10. Generator Technical details & Generator Transformer details along with the signature of the authorized signatory, in the prescribed format below.
11. Generator Transformer Data:

Sl. No	Description of details required	Data
1	MVA Rating	
2	Primary Voltage	
3	Secondary Voltage	
4	Type of cooling	
5	Winding configuration (Primary & Secondary)	

6	Breaker Rating in MVA	
7	Normal Tap setting	
8	Tap step (off- Load and On-Load Tap)	
9	Tap ratio (in %)	
10	Maximum and Minimum Tap number	
11	Maximum and Minimum Tap voltage	
12	Phase displacement	
13	% Impedance	
14	Leakage Reactance	
15	Resistance	
16	Reactance	

12. Generator Details:

Sl. No	Description of details required	Data
1	MW/MVA Rating	
2	KV Rating	
3	Armature Resistance (R_a)	
4	Direct Axis Reactance (X_d)	
5	Quadrature Axis Reactance (X_q)	
6	Negative Seq. Reactance (X_n)	
7	Zero Seq. Reactance (X_o)	
8	Direct Axis Transient Reactance (X_d')	
9	Quadrature Axis Transient Reactance (X_q')	
10	Direct Axis sub Transient Reactance (X_d'')	
11	Quadrature Axis sub Transient Reactance (X_q'')	
12	Inertia in MU/MVA	
13	Damping factor	

14	Winding connection	
	Mass details	
i)	Mass no	
ii)	Inertia	
iii)	Damping factor	
iv)	Stiffness Co-efficient	
v)	Capability Curve diagram to be enclosed	

In case of Lead Generators, the above details of each generator for lead group shall be enclosed separately.

Declaration for Lead Generator

We the lead generator hereby declares that all the above details are true and correct. We the lead generator certifies that the formal agreement between the lead generator and the group of generator has been executed whereby the lead generator is authorized to submit the agreements on behalf of group generators as executed. We are also agreeable to furnish any other details as may be required by the DISCOM/TANTRANSCO from time to time. We also agree for the following.

1. In case of captive generating plant in the group, the individual CGPs shall obtain the approval and consent as mentioned in the procedure. Similarly individual Co-generating plant in the group shall get the approval of the distribution licensee for Co-gen status separately.
2. Wherever consent from the distribution licensee is required such consent for the consumer shall be obtained as mentioned in the procedure before availing open access.
3. The qualifying requirement of captive power plant status has to be maintained by the individual generator and their captive users and proof furnished for the same as per the Regulations/Procedure issued by the Commission.

Date :

Place:

Signature of the Authorized Signatory of the Applicant with designation

Seal of the Company of the lead generator

Format IB - Power evacuation Scheme Agreement Format for Generator interfacing at voltages above 33 kV level as per Load Flow Study

This agreement is executed at _____ on this _____ day of _____ Two thousand _____ between (Name of the Generating Plant and its address) hereinafter called " **Name of the Generating Plant/CPP/Co-gen,**" which expression shall wherever the context so permits means and includes the successors in interest, executors, administrators and assigns represented by Thiru. Son of Thiru. officiating as in the generating plant and having authorization to execute this agreement on behalf of its as Party of the **First part.**

And

STU/ Transmission licensee (concerned Superintending Engineer / Operation Circle / Licensee owning the substation/ Pooling station/ Switch yard as the case may be where connectivity is being granted and) having its office at herein after called "STU" / "Licensee" *as the case may be* which expression shall wherever the context so permits means and includes the successors in interest, administrators and assigns represented by Thiru. Son of Thiru. officiating as as Party of the **Second part.**

WITNESSTH AS FOLLOWS

WHEREAS the agreement is to record the terms and conditions for the power evacuation scheme for **(Proposed units)** of **NAME OF THE GENERATOR** at address, as per Load flow study results vide Lr.No. _____ / D. ____ / 20 , dt. dd.mm.yyyy

WHEREAS **NAME OF THE GENERATOR with place,** has informed **STU / Licensee** its intension to connect **proposed units** of **Name of the Generating plant** at **place of generator** in the state of Tamil Nadu to generate electricity primarily for its own use;

Now THESE PRESENTS WITNESSETH AND THE PARTIES HEREBY AGREE AS FOLLOWS.

TERMS AND CONDITIONS

1. It is suggested that the **proposed units** may be connected with STU / Licensee grid through the **(name of Evacuation line)** from their plant to **(Name of the SS)**, subject to the specific conditions, if any.
 - a. _____
 - b. _____

2. As per section 10.1 of Electricity Act 2003, the generator has to establish operate and maintain the dedicated transmission line. The applicant shall interface his plant / unit with the STU/Licensee's Transmission network through 66/110/230/400KV lines and shall erect interfacing line from the point of switchyard to STU/Licensee's Substation and pay for the cost of bay at the STU's substation/ switching station as the case may be including cost of switchgear, metering, protection, data communication system, initial testing, commissioning and other arrangements which will be executed by the STU/Licensee towards augmentation.
3. **Name of the Generator, Place** shall pay the Operation and Maintenance (O&M) Charges for the _____ bay provided at **Name of the SS / Switching Station** erected as the case may be.
4. The company has to provide and maintain the following at their cost.
 - a. Breakers and necessary protection arrangement at their plant switch yard end.
 - b. Interface meters (with AMR compatibility) for recording their supply of power at plant end.
 - c. Generator shall establish day survey, load survey and instantaneous data transfer facility to the servers at SLDC.
5. The company have to pay applicable charges towards terminal equipments provided by STU /Licensee at SLDC.
6. The Speech communication to adjacent stations shall be provided either by land line or PLCC depending on the infrastructure available at the premises of the generating company.
7. The company shall provide their data through 256/512 Kbps MPLS network through any of the service providers via IEC-104 protocol at their own cost. The list of the RTUs and the service provider may be intimated to the P&C wing of STU / Licensee. The service provider shall be suitably intimated that only one Ethernet port will be given to them at control centre end irrespective of the number of RTUs connected to their network.
8. The Interface meters (with AMR compatibility) shall have facility for communication of data on real time basis to SLDC server and AMR data transfer suitable to the protocol specified by STU / Licensee.
9. The generator shall furnish an undertaking to the effect that the company shall not claim any compensation or responsibility for any unforeseen outage or scheduled maintenance outage of _____ kV radial line between the plant and '**Name of the SS**'.
10. All protection scheme in respect of the generating plant shall be as per STU / Licensee norms and is to be got approved from P&C wing of STU / Licensee.
11. The company shall provide the protection arrangements, data transfer facility to nearby LD centre and AMR data transfer facility as mentioned above in co-ordination with P&C wing without which grid connectivity approval will not be accorded.
12. If the applicant or STU/Licensee could not complete the works within the specified period, the parties to the agreement shall in mutual consultation agree for revised schedule for completion of works.
13. The load flow studies are carried out corresponding to the commissioning schedule proposed by the generator at the time of Grid connectivity application. Hence, the study results hold good only to the corresponding specified year. If there is any delay beyond the

scheduled period, fresh load flow study has to be conducted based on the network conditions of the time period in which the generating plant is to be commissioned.

- 14. The company shall abide by CEA technical standards for construction of electrical plants and electrical lines Regulations 2010 and subsequent amendments there on.
- 15. **Name of the Generator, Place** shall abide by the provisions of Electricity Act 2003, CERC and TNERC Regulations and subsequent amendments there on.

IN WITNESS WHEREOF Thiru..... acting for and on behalf of

Name of the Generator, Place, of the generating plant and the Superintending Engineer / Operation Circle concerned, the Authorized Officer of the STU/Licensee have hereunto set their signatures on the day, month and year first above mentioned.

In the presence of witnesses:

- 1) Signature
Name of the Generator with Common Seal
- 2)

In the presence of witnesses

- 1) Signature
Superintending Engineer / Operation Circle concerned
(Authorized Officer of the STU)
- 2) / Licensee (Authorized Officer of the Licensee)

Format IC - Grid Connectivity Agreement for Generator interfacing at voltages above 33 kV

This agreement executed at _____ on this _____ day of _____ Two thousand _____ between M/s. _____ (Name of Generating Plant/Consumer/Licensee and address) hereinafter called "the applicant" which expression shall wherever the context so permits means and includes the successors in interest, executors, administrators and assigns represented by Thiru. _____ Son of _____ officiating as _____ in the _____ and having authorization to execute this agreement on behalf of its as Party of the **First part**

AND

STU/ Transmission licensee (concerned Superintending Engineer / Operation Circle / Licensee owning the substation/ pooling station/ Switch yard *as the case may be* where connectivity is being granted and) having its office at herein after called "STU" / "Licensee" *as the case may be* which expression shall wherever the context so permits means and includes the successors in interest, administrators and assigns represented by Thiru. _____ S/o _____ officiating as as Party of the **Second part.**

WHEREAS the parties herein have executed this agreement for Grid connectivity of the applicant with STU/Licensee. This agreement is only for Grid connectivity. The applicant has to execute separate agreement for open access/wheeling after getting approval from the appropriate agency.

WHEREAS the applicant has expressed his consent to the STU/ Transmission Licensee, his proposal to synchronize Generating Plant having capacity of _____ MW installed at _____ village _____ taluk in _____ district, EDC commissioned / to be commissioned on or before _____ through the STU/Licensee's network.

WHEREAS the applicant has paid the application fees inclusive of load flow fee wherever applicable as notified by the Tamil Nadu Electricity Regulatory Commission, hereinafter called "the Commission".

AND WHEREAS the STU/Licensee has accepted the proposal of the applicant for Grid Connectivity to Transmission networks as per Lr. No. _____ on the terms and conditions hereinafter mentioned.

NOW THESE PRESENTS WITNESSETH AND THE PARTIES HEREBY AGREE AS FOLLOWS:

TERMS AND CONDITIONS:-

1. Definitions.-

In this agreement, -

- 1.1. **"Force Majeure"** means any event which is beyond the control of the parties to this agreement which they could not foresee or with a reasonable amount of diligence could not have foreseen or which could not be prevented and which substantially affect the performance of either party such as but not limited to -
 - i) natural disasters (earthquakes, hurricane, floods);
 - ii) wars, riots or Civil Commotions and other upheavals;
 - iii) grid / Transmission system's failure not attributable to parties hereto;
 - iv) Pandemic as declared by State Government/Central Government.
- 1.2. **"Inter connection point"** means
 - i) in relation to fossil fuel based generators, the Generating Plant's switchyard at which point the interconnection is established between the Generating Plant and the Transmission system;
 - ii) in relation to wind energy projects and solar photovoltaic projects, inter connection point shall be line isolator on outgoing feeder on HV side of the pooling substation;
 - iii) in relation to small hydro power, biomass power and non fossil fuel based cogeneration power projects and Solar Thermal Power Projects, the inter connection point shall be line isolator on outgoing feeder on HV side of the generator transformer;
- 1.3. **"Interface line"** means the electric line between the interconnection point and the nearest point at which the electric line could technically be connected to the existing Transmission system;
- 1.4. **"Meter"** means a 'Meter' as defined in the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006 as amended from time to time.

2. Interfacing and evacuation facilities:-

- 2.1. The applicant shall interface his plant/unit with the STU/Licensee's Transmission network through 66/110/230/400 kV lines and shall erect interfacing line from the point of switchyard to STU/Licensee's Substation and pay for the cost of bay at the STU/Licensee's substation / Switching Station erected as the case may be including cost of switchgear, metering, protection, data communication system which includes online data transfer to SLDC server and AMR data transfer, initial testing, commissioning and other arrangements etc. which will be executed by the STU/Licensee towards augmentation. The generating company shall pay the cost within 30 days of receipt of cost of works.

- 2.2. The party to the first part will erect the interfacing line as per sec 9 and 10 (1) of E-Act 2003 as the case may be and complete the works within the time frame and the ownership of the line will rest with the company.
- 1.1. The party to the second part will complete the bay works and augmentation works, if any, in the substation co-terminus with the completion of works by party to the first part. In case where augmentation of the Transmission licensee's sub-station is involved, the generator shall also bear the cost of bay extension, data communication system and initial testing and commissioning. [Alternatively, the party to the first part may also undertake the bay works, augmentation works, etc. on mutual consent basis by paying establishment and supervision charges to the Transmission Licensee]
- 2.3. If the generating company or the Licensee could not complete the works within the specified period, the parties to the agreement shall in mutual consultation agree for revised schedule for completion of works.
- 2.4. Where a dedicated transmission system used for connectivity of the applicant has been constructed for their exclusive use, the transmission charges for such dedicated system shall be worked out by the licensee and got approved by the Commission and shall be borne entirely by such applicant till such time the surplus capacity is allotted and used by other persons or for other purposes.
- 2.5. In case intra state transmission system/ distribution system is used by an applicant in addition to inter-state transmission system, transmission charges and wheeling charges as fixed and approved by the Commission shall be payable for use of intra-state transmission system in addition to payment of transmission charges for inter-state transmission.
- 2.6. The applicant and the Transmission Licensee shall comply with the provisions contained in Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations, 2007 which includes the following namely:
 - i) Connection Agreement;
 - ii) Site responsibility schedule;
 - iii) Access at Connection site;
 - iv) Site Common Drawings;
 - v) Safety;
 - vi) Protection System and Co-ordination; and
 - vii) Inspection, Test, Calibration and Maintenance prior to Connection.
- 2.7. The applicant shall comply with the safety measures contained in section 53 of the Electricity Act, 2003;
- 2.8. Both the parties shall comply with the provisions contained in the Indian Electricity Grid Code, Tamil Nadu Electricity Grid Code, the Electricity Act, 2003, Rules framed there under, other Codes and Regulations issued by the Commission / Central Electricity Authority and amendments issued thereon, from time to time; and
- 2.9. Both the parties shall comply with the guidelines issued by the Government of India/ Government of Tamil Nadu, from time to time.

3. Conditions Precedent to the implementation of the Commissioning Instructions:-

The applicant or intra -State transmission licensee shall have to get appropriate "Commissioning instruction" prior to actually first charging of the equipment through the grid. The charging instruction shall be issued only when the STU/Licensee is satisfied (by acting reasonably) that:

- 3.1. the Connection Works have been completed;
- 3.2. the applicant has complied with its obligations as set out in the Offer Letter
- 3.3. the applicant/intra-State transmission licensee has demonstrated the voice & data communication facilities to SLDC with the payment of necessary charges towards terminal equipments at LD centre.
- 3.4. the applicant has completed the provision of Interface meter with AMR facility and establishment of online data connectivity to the AMR server at SLDC with the payment of necessary charges.
- 3.5. the applicant / intra-State transmission licensee has obtained necessary approvals like PTCC, CEIG/Electrical Inspectorate of CEA etc. from competent authority;
- 3.6. the applicant / intra - State transmission licensee has complied with its obligations under the Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations, 2007 as amended from time to time.

4. Operation and Maintenance:-

- 4.1. The applicant agrees that the starting current of the Generators shall not exceed the full load current of the machine and also agrees to provide the necessary current limiting devices like thyristor during the start.
- 4.2. The applicant agrees to minimize drawal of reactive power from the STU/Licensee's network at an interconnection point as per the provisions of the Tamil Nadu Electricity Grid Code, the Indian Electricity Grid Code, Commission's Regulations/orders as the case may be.
- 4.3. The applicant agrees to provide suitable automatic safety devices so that the Generator shall isolate automatically when the grid supply fails.
- 4.4. The applicant agrees to maintain the Generator and the equipments including the transformer, switch gear protection equipments and other allied equipments at his cost to the satisfaction of the authorized officer of the STU/Licensee.
- 4.5. The changing of the rupturing capacity of the switch gear and settings of the relays, if any, shall be subject to the approval of the authorized officer of the STU/Licensee.
- 4.6. The applicant agrees that the STU/Licensee shall not be responsible for any damage to his Generating Plant resulting from parallel operation with the Transmission network and that the STU/Licensee shall not be liable to pay any compensation for any such damage.
- 4.7. In the case of a generator, the Generating Plant shall be maintained effectively and operated by competent and qualified personnel.
- 4.8. In case of unsymmetrical fault on HV bus, the applicant shall share the fault current according to impedance of the circuit. To meet such contingency and for safe operation

of the Generating Plant, the applicant shall provide the following scheme of protection, namely,

- i) Separate overload relays on each phase and earth fault relays shall be installed by the generator. Under no circumstances, these relays shall be by-passed;
 - ii) With suitable Current Transformer and relay connections, the load sharing by the generator and Transmission Licensee shall be limited to their rated capacity;
 - iii) Adequate indication and control metering for proper paralleling of the Generating Plant on the HV bus shall be made available; and
 - iv) Protection co-ordination shall be done by the Transmission Licensee in consultation with the Regional Power Committee / State Transmission Utility and relays and the protection system shall be maintained as per site responsibility schedule.
- 4.9. Grid availability shall be subject to the restriction and control as per the orders of the State Load Despatch Centre and as per Tamil Nadu Electricity Grid Code;
- 4.10. The users can avail power from the generating plant subject to the Restriction and Control measures imposed / approved by the Commission from time to time.
- 4.11. If the interfacing line is established by the generator, the interfacing line(s) shall be maintained by themselves. The maintenance works shall be carried after availing proper line clearance from the concerned officer of the STU/Distribution licensee. Further, the generator agrees to pay the Annual bay maintenance cost for the bay at the STU / licensee's substation or cost of Operation and maintenance of switching station as the case may be to the Transmission licensee where the interfacing line is terminated. The bills shall be raised by the licensee towards bay / switching station maintenance as the case may be on annual basis and the generator shall pay the amount within 5 working days of receipt of bill.
- 4.12. The Generator may also request the licensee to maintain the interfacing line and if the interfacing line is maintained by the Transmission licensee, the cost of maintenance of line including cost of bay maintenance / switching station maintenance as the case may be shall be paid by the generator.

5. Metering Arrangements:-

- 5.1. Interface Meters with AMR facility: - Interface meters with AMR facility shall be installed as specified in the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006 as amended from time to time. The meters shall be provided by the STU or the Transmission Licensee as the case may be, at the cost of applicant both at the injection and drawal points. The applicant can opt for supply and installation of meters as per the standards recommended by the STU or the Transmission Licensee, as the case may be and approved by the Commission. The cost of meters and installation, have to be borne by the applicant and the readings shall be taken by the Licensee as per the CEA Regulations.
- 5.2. The meters shall have facility for communication of data on real time basis to SLDC server and AMR data transfer suitable to the protocol specified by STU / licensee.

- 5.3. The Interface meters with AMR facility shall be open for inspection by any person authorized by the State Transmission Utility or the State Load Despatch Centre or the Transmission Licensee.
- 5.4. The STU or Transmission Licensee may provide Check Meters of the same specifications as that of the main meters.
- 5.5. The applicant can have a standby meter of the same specification tested by the NABL accredited laboratory and sealed by the STU / Transmission Licensee.
- 5.6. Main and Check Meters shall have facility to communicate its readings (day survey, load survey and instantaneous data) to State Load Despatch Centre / Transmission Control Centre on real time basis or otherwise.
- 5.7. The Main and Check Meters shall be periodically tested and calibrated by the generators / Licensee as the case may be in the presence of other party involved. Both parties shall seal Main and Check meters. Defective meter shall be replaced immediately. The periodicity of testing, checking, calibration etc. will be governed by the Regulations issued by the Central Electricity Authority in this regard.
- 5.8. The periodical readings of the meters (Main & Check) obtained through AMR or through downloaded data is to be communicated to generator /consumer(s) by the Licensee before preparation of monthly bill.
- 5.9. Check meter readings shall be considered when Main Meters are found to be defective or stopped functioning. Provided that, if difference exists between the readings of main and check meters, viz. main meter reading exceeds twice the percentage error applicable to relevant class, both meters shall be tested and the defective meter shall be immediately replaced and reading of other will be considered.
- 5.10. If during test or calibration, both the main meter and the check meter are found to have errors beyond permissible limits, the bill shall be revised for the previous 3 (Three) months or for the exact period if known and agreed upon by both the parties, by applying correction as determined by the STU or Transmission Licensee to the consumption registered by the meter with lesser error.
- 5.11. The applicant shall check the healthiness of metering arrangement by superficially checking indicator lamps or by taking readings as frequently as possible. If both the main meter and the check meter fail to record energy either due to the blowing of the P.T. fuses or due to any other causes, the energy imported or exported may be arrived at based on the standby meter, if available, or by mutual agreement of the parties involved.
- 5.12. The main and check meters shall be tested for accuracy as per the CEA (Installation and Operation of meters) Regulations 2006 and amendments thereon. The meters may be tested using NABL accredited mobile laboratory or at any accredited laboratory in the presence of parties involved. Both parties shall seal main and check meters. Defective meters shall be replaced immediately.
- 5.13. Energy Accounting Meters: The generator shall provide energy accounting meter as per the provisions of CEA Regulations 2006 and its subsequent amendments in order to ascertain the quantum of energy generated unit wise, auxiliary consumption and consumption of energy for startup power. The energy meters shall be provided at

various locations as agreed between parties to the agreement and approved by the licensee in the drawing.

6. Charges:-

The following are the charges that an applicant has to pay-

6.1. Startup power Charges:-

In case of outage of generator, the power drawn by the Generating Plant for startup and other purpose shall be charged at the rate fixed in the Commission's Tariff order/other relevant orders issued from time to time.

6.2. Reactive energy charges:-

Reactive Energy Charges is recoverable as per the Commission's Regulation / Code /order in force.

6.3. Parallel Operation charges:-

Generating Plants who opt for parallel operation of the generator with licensee for safe and secure operation of the generator has to pay Parallel Operation charges every month as notified in Commission's Regulations/ Orders. The bills for the same will be sent by the concerned officer of the STU/ Distribution Licensee in the succeeding calendar month and the generator shall pay the bill within five working days of receipt of the bill.

6.4. O&M Charges:-

Operation and Maintenance (O&M) Charges towards bay(s) provided at STU/ Licensee's substation / Switching Station erected as the case may be shall be borne by the applicant as per prevailing orders of the commission.

6.5. Any additional charges that may be notified by the Commission at a later date shall also be levied, from the date as approved by the Commission.

6.6. In case of deviation between the schedule and the actual injection or drawal in respect of an applicant, settlement will be made as per the provisions of Commission's prevailing Deviation Settlement Mechanism Regulations.

6.7. The existing procedure will be followed for collection of application fee and all other charges until procurement of necessary software to implement the accounting procedure as per the Regulations.

6.8. In case the applicant fails to make any payment due to STU / Distribution licensee within the specified due dates, open access / connectivity shall be discontinued after issue of 15 days notice without prejudice to its rights to recover the charges by suit.

7. Standard terms and conditions:-

7.1. The applicant should adhere to the directions received from the State Load Despatch Centre which are covered under Sec 32,33 & 37 of Electricity Act,2003 and directions if any, issued under Sec.11 of Electricity Act,2003.

7.2. The State Transmission Utility will not be responsible for any damage to the generator sets or other equipment as a result of such grid connectivity.

7.3. There should not be any fluctuation or disturbance to the grid due to paralleling of the generator sets. The generator shall provide adequate protection as required by STU/Licensee to facilitate parallel operation of the generator sets with the grid and to prevent any disturbance in the grid. The generator shall undertake to install such

equipments at their own cost to ensure that they will safeguard the STU/Licensee's property in accordance with this condition.

- 7.4. The generating plant shall be maintained effectively and operated by competent and qualified persons.
- 7.5. The applicant shall adhere to the various provisions of Electricity Act 2003, Commission's various orders, Intra state open access Regulations 2014, Tamil Nadu Electricity Grid Code etc., and their amendments issued from time to time.
- 7.6. The applicant shall adhere to the instructions of SLDC for grid availability and safe operation of the grid.
- 7.7. The applicant shall make good the loss, if any, due to any damage that may occur to the personnel or equipments of the STU/Licensee installed in connection with power supply to the generator on account of parallel operation.
- 7.8. Any power injected in to the grid without valid contractual agreement and open access approval will not be accounted for payment except in the case specified in the Regulations (Regulation 6(6)). The same will not be treated as sale of power to the STU / Transmission licensee and there will be no liability for making payments under any circumstances, by the licensee.
- 7.9. In case of parallel operation of generator(s) with the licensee's network without evacuation /open access there shall not be any power export into the licensee's network under any circumstances and the generator shall install appropriate protection arrangements for preventing such exports. In case of power export or load over throw is noticed action deemed fit in accordance with provisions of the Electricity Act 2003 will be taken, and further the generator shall pay for the damages/loss incurred by the STU/Licensee.
- 7.10. The permission accorded for parallel operation shall not absolve the generator from getting other statutory approvals required from various state and central government agencies, such as the approval of the Chief Electrical Inspector to Government for installation, operation and maintenance etc.,
- 7.11. The generator shall bear the entire cost of all equipments required for paralleling with the grid.
- 7.12. The Company has to bear any revision in charges for Terminal equipments
- 7.13. Any additional data points if required by SLDC, the same has to be configured by the company.
- 7.14. The data has to be provided to SLDC consistently by the company
- 7.15. Periodical inspection of the Generating station, Switch yard, Substation, tie lines and other electrical installations of the generating station shall be got carried out by the Chief Electrical Inspector to Govt. of Tamil Nadu.
- 7.16. Notice of accidents in such form and within such time as may be prescribed by the State Government shall be sent to Electrical Inspector and to such other authorities as State Government may or by special order directs, under Electricity Act, 2003.
- 7.17. If any Tax under Tamil Nadu Tax on consumption or sale of Electricity for either sale of energy to persons other than STU/Licensee or captive consumption has to be paid, such

tax shall be paid along with the returns as prescribed in the Tamil Nadu Tax on consumption or sale of Electricity Act 2003.

- 7.18. In case of necessity to work on the secondary side of the CTs and PTs it should be done only in the presence of authorized representatives of STU/Licensee.
- 7.19. The applicant shall under take to install such equipments at their own cost to ensure that harmonics are maintained within the prescribed limit as per the CEA norms/Commission's orders.
- 7.20. STU/Licensee will not be responsible for loss of generation if any, due to breakdown of lines or any evacuation constraint and no compensation is payable by STU/Licensee to the generator if the cause is attributable to the generator.
- 7.21. In case the generator fails to make any payment due to STU/Licensee within the specified due dates, wheeling/energy adjustment will not be made and action will be taken to withdraw the Connectivity granted.
- 7.22. The company shall back down / shutdown the generation / generator as per the instructions of LD centre as and when required according to the grid conditions and no compensation shall be claimed from STU/Licensee.
- 7.23. In case of captive generating plants, they shall furnish the prescribed documents and formats as per the Commission's orders, provisions of Act, Rules.,
- 7.24. The company shall arrange to provide necessary communication facilities as per the requirements of STU/Licensee / SLDC to communicate the data required on real time basis to the SLDC, Chennai. It is the responsibility of the generator to ensure the continuous availability of AMR data transfer facility to SLDC and Online data transfer facility to AMR server at SLDC, Chennai.
- 7.25. The applicant shall comply with orders on R&C measures, if any.
- 7.26. The STU/Licensee reserves the right to withdraw the concurrence for grid connectivity to operate the company's generator set in parallel with grid if any of the condition is violated.
- 7.27. Any alteration or deletion in the terms and conditions of this agreement is to be carried out based on mutual agreement between the STU/Licensee and the applicant.
- 7.28. STU/Licensee will not compensate the generator under any circumstances in case power could not be evacuated due to various reasons not limited to such as breakdown of line / equipment of STU/Licensee, grid disturbance etc. However all efforts will be made to maintain the equipments of STU/Licensee at appropriate standards.

8.0. Specific Conditions

- 8.1. On completion of all erection works (generator/lines, etc) by the generating company as well as by the Transmission licensee, provision of interface meter with AMR facility and establishment of online data connectivity with AMR server at SLDC, the company shall inform Transmission Licensee/Nodal agency for obtaining grid connectivity approval and concurrence of synchronization of generator with the transmission system and Transmission licensee shall issue grid connectivity approval and concurrence for synchronization; taking into account the field condition.

- 8.2. Synchronizations of the generating unit with the transmission system shall be permitted only after ensuring proper protection arrangement by officials of Transmission licensee/SLDC and after obtaining statutory clearances like consent to operate from MOEF, TNPCB, and clearance from various authorities such as CEIG etc. The synchronization (for the first time) shall be in presence of the officials of Transmission licensee and shall be with consent of SLDC.
- 8.3. It is the sole responsibility of the generator to declare COD of the generator. The date of declaration of COD and the capacity of the individual unit shall be final.
- 8.4. At the time of synchronization as well as at the time of COD, meter readings at Interface point shall be taken.
- 8.5. The generator shall be synchronized in presence of Transmission Licensee's officials. Payment for the energy pumped if any for testing and commissioning purpose from the date of synchronization till declaration of COD will be paid as per the formula notified in TNERC's Tariff Regulations 2005 and the amendments issued from time to time and Orders of the Commission issued from time to time. On attaining COD the company shall furnish the details of energy pumped till COD to this office for fixing of tariff as per the formula notified by TNERC. Necessary clearance shall be obtained from SLDC before pumping energy for testing and commissioning
- 8.6. The company shall inform the date of synchronization and COD to this office and the SE/EDC concerned and the bills for such supplies shall be submitted to the SE/EDC concerned for payment.

9.0. Captive Generating Plants / Co- generating Plants:-

- 9.1. **Captive Generating Plant Status:-** The captive generating plants shall maintain CGP status in accordance with Rule 3 of Electricity Rules 2005 and Regulations / procedure issued by the Commission from time to time and shall furnish the prescribed documents and formats as per the approved procedures by the Commission for verification of CGP status.

9.2. CO-Generating Plant Status:-

The Co-gen holder shall furnish necessary documents and maintain Co-gen status as per MOP's Resolution/Orders and TNERC's order No.4, dt.15.05.2006 and any other Regulations/orders issued from time to time by the competent authority authority before 31st January of succeeding Calendar year to the SE/EDC concerned.

10.0. Applicability of the Acts, Regulations and Guidelines:-

The parties shall be bound by the provisions contained in the Electricity Act, 2003, Rules, instructions of MoP, Regulations, notifications, orders and subsequent amendments, if any, made there under from time to time by the Commission and the guidelines issued by the Government of India / Government of Tamil Nadu, as the case may be.

11.0. Agreement Period:-

- 11.1. This agreement is valid till

11.2. In case of any breach or violation of any of the clauses in this agreement or any other valid reasons, by any party, the other party shall be at liberty to cancel this agreement by giving thirty (30) days notice.

11.3. The parties to the agreement may at any time renegotiate the existing agreement mutually within the framework of the then existing relevant Regulations, codes and orders of the Commission in force for reasons other than clause 11.2 of this agreement.

12.0. Settlement of Disputes:- If any dispute or difference of any kind whatsoever arises between the parties to this agreement, it shall, in the first instance, be settled amicably, by the parties, failing which either party may approach the Commission for the adjudication of such disputes under section 86 (1) (f) of the Electricity Act, 2003;

13.0. Force Majeure:- Both the parties shall ensure compliance of the terms and conditions of this agreement. However, no party shall be liable for payment of any claim on any loss or damage whatsoever arising out of failure to carry out the terms of this agreement to the extent that such failure is due to force majeure. But any party claiming the benefit of this clause shall satisfy the other party of the existence of such an event(s), within 30 days of occurrence of the event(s)

In witness whereof Thiru. _____ acting for and on behalf of _____ (applicant) and Superintending Engineer / Operation Circle _____(concerned) Authorized Officer acting for and on behalf of the STU/Licensee have hereunto set their hands on the day, month and year herein above first mentioned.

In the presence of witnesses:

Signature
Generator with Common seal

1)

2)

In the presence of witnesses:

Signature

1)

Superintending Engineer / Operation Circle concerned
(Authorized Officer of the STU)

2)

/Transmission Licensee

Secretary
Tamil Nadu Electricity Regulatory Commission