

# CENTRAL ELECTRICITY REGULATORY COMMISSION

## Detailed Procedure for “Grant of Connectivity to Projects Based on Renewable Sources to Inter-State Transmission System”, 2018

Sl. No.	Description	Summary
1.	<b>Applicability</b>	<ol style="list-style-type: none"> <li>1. Generation projects based on renewable energy sources, including hybrid projects based on renewables and storage, Solar Power Park Developer, Wind Power Park Developer, Wind-Solar Power Park Developer and Power park developer based on hybrid of renewable source(s) and storage.</li> <li>2. CTU, Central Government designated agencies viz SECI etc., MNRE, RLDCs, SLDCs, STUs and concerned distribution companies.</li> <li>3. Applications for Connectivity by Solar Power Park Developer, Wind Power Park Developer, Wind-Solar Power Park Developer, and Generation Projects based on renewable energy sources including hybrid projects based on renewable and storage shall be processed in two stages: Stage-I Connectivity, Stage-II Connectivity.</li> <li>4. The application for Stage-II may be made along with or after Stage-I connectivity application.</li> </ol>
2.	<b>Communications with CTU</b>	<p>Communications with CTU wherever required, under this Procedure shall be done at the following address:</p> <p style="text-align: center;">Chief Operating Officer (CTU-Planning) Power Grid Corporation of India Limited Saudamini, Plot No.-2, Sector-29 Gurugram – 122 001, Haryana, India</p>
3.	<b>Eligibility</b>	<ol style="list-style-type: none"> <li>1. Stage-I Connectivity can be made by:               <ol style="list-style-type: none"> <li>(a) projects based on renewable energy sources including hybrid projects on renewables and storage for a capacity of 50 MW or above.</li> <li>(b) An entity acting as a Lead Generator on behalf of the constituting entities intending to set-up generation projects based on renewable energy sources including hybrid projects on renewables and storage and seeking connection from CTU at a single connection point, individually having less than 50 MW installed capacity but collectively having an aggregate installed capacity of 50 MW or above.</li> <li>(c) Any company authorized by the Central or State Government as Solar Power Park Developer, Wind Power Park Developer or Wind-Solar Power Park Developer or hybrid Power Park developer based on hybrid of renewable source (s) and storage.</li> </ol> </li> <li>2. The generation capacity already connected to grid (Inter-State Transmission System or Intra-State Transmission System) or for which connectivity is already granted under the present Regulations, cannot apply for additional connectivity for the same project capacity.</li> <li>3. The Applicants who have been granted Connectivity to ISTS for the Generation projects based on particular renewable energy source(s) may change the generation project to be based on another renewable energy source(s) in part or full, under intimation to CTU. In such cases CTU shall incorporate the necessary change in connection agreement.</li> </ol>

4.	<b>Utilisation of Connectivity granted to the Parent Company by its Subsidiary company (ies)</b>	<ol style="list-style-type: none"> <li>1. The Connectivity granted to a company may be utilised by its wholly owned (100%) subsidiary company(ies) including SPVs.</li> <li>2. In case of more than one wholly owned (100%) subsidiary of the same company, the lock-in period of one year shall apply from commencement of supply of power from the last such subsidiary.</li> <li>3. In the cases covered under clause (1), the parent company will act as lead generator and undertake all operational and commercial responsibilities for the renewable energy generating station(s) in following the provisions of the Indian Electricity Grid Code and other regulations of the Commission.</li> <li>4. parent company can exit only if, one of the subsidiaries is willing to take over as lead generator and is responsible for all activities.</li> </ol>
5.	<b>Scope of bays for dedicated transmission line</b>	<ol style="list-style-type: none"> <li>1. For the connectivity system, the dedicated transmission line including line bays at generation pooling station shall be under the scope of the applicant and the terminal bays at the ISTS sub-station shall be under the scope of transmission licensee owning the ISTS sub-station subject to compliance of relevant provision of tariff policy.</li> <li>2. Wind power developers who have emerged successful in the bidding conducted by Central/State Government designated agency, before coming into force of this Procedure, shall have the option to implement the bays associated with their dedicated lines at the ISTS sub-station by themselves or through the transmission licensee owning the sub-station subject to compliance of relevant provisions of tariff policy.</li> </ol>
6.	<b>Application for Stage-I Connectivity</b>	<ol style="list-style-type: none"> <li>1. Applications for Grant of Connectivity to ISTS shall be made online as per the application form [FORMAT-RCON-I] available at <a href="https://openaccess.powergrid.in">https://openaccess.powergrid.in</a>.</li> <li>2. The applications complete in all respects, received online shall have a time and date stamp.</li> <li>3. Upon submission of the online application, auto-generated acknowledgement for receipt of application shall be issued by the nodal agency.</li> <li>4. The applicant shall rectify the deficiency within one week thereafter, failing which the application shall be closed and 20% of the application fees shall be forfeited and balance shall be refunded. If the rectified application is received from the applicant after 2400 hrs of the last day of the month in which application is made, application shall be deemed to have been made in subsequent month and shall be processed accordingly.</li> <li>5. The Stage-I Connectivity grantees who fail to apply for Stage-II Connectivity within 24 months from grant of Stage-I Connectivity shall cease to be Stage-I grantee and their Application fees shall be forfeited.</li> <li>6. If entire or part of capacity granted under Stage-I is not utilized for Stage-II Connectivity, such unutilized capacity shall be cancelled under the timeframe their application fees shall be forfeited.</li> </ol>
7.	<b>Grant of Stage-I Connectivity</b>	<ol style="list-style-type: none"> <li>1. Upon receipt of the Connectivity application, new sub-stations for harnessing renewable generation potential shall be planned by CTU in consultation with CEA, and Ministry of New and Renewable Energy (MNRE) or its designated agency/authority / nodal officer. The sub-station plant shall be implemented in terms of the tariff policy.</li> <li>2. CTU shall grant Stage-I Connectivity by indicating two locations- one Primary and other alternate location- within 60 days of the last date of the month in which the application was received.</li> <li>3. Grant of Stage-I Connectivity shall not create any right in favour of the grantee on ISTS infrastructure including bays.</li> </ol>

		<p>4. CTU shall indicate to the Connectivity grantee, the Voltage level for the purpose of Connectivity of the Dedicated Transmission Line to the ISTS line bay.</p> <p style="text-align: center;"><b>Capacity of the Dedicated Transmission line</b></p> <table border="1"> <thead> <tr> <th>Sl. No.</th> <th>Voltage Level</th> <th>Minimum Capacity of the Dedicated Transmission Line (per circuit)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>132kV *</td> <td>80 MW</td> </tr> <tr> <td>2.</td> <td>220kV/230kV</td> <td>300 MW</td> </tr> <tr> <td>3.</td> <td>400kV</td> <td>900 MW</td> </tr> </tbody> </table> <p>*For North Eastern Region only</p>	Sl. No.	Voltage Level	Minimum Capacity of the Dedicated Transmission Line (per circuit)	1.	132kV *	80 MW	2.	220kV/230kV	300 MW	3.	400kV	900 MW
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8.	<b>Application for Stage-II Connectivity</b>	Applications for Grant of stage-II Connectivity to ISTS shall be made online as per the application form [FORMAT-RCON-II] available at <a href="https://openaccess.powergrid.in">https://openaccess.powergrid.in</a> .												
9.	<b>Eligibility for Stage-II Connectivity</b>	<ol style="list-style-type: none"> <li>An entity which has been selected through the tariff based competitive bidding, Such entity shall be required to submit letter of award issued by designated agency for development of the renewable generation project including hybrid projects.</li> <li>An entity who is a grantee of Stage-I Connectivity or who has applied for grant of Stage-I and Stage-II Connectivity simultaneously, and is not covered under above Clause, and having achieved the following milestones: <ul style="list-style-type: none"> <li>Ownership or lease rights or land use rights for 50% of the land required for the capacity of Stage-II connectivity; and</li> <li>Achievement of financial closure, (with copy of sanction letter) Or</li> <li>Release of at least 10% funds towards generation project execution supported by Auditor's certificate regarding release of such funds through equity.</li> </ul> </li> </ol>												
10.	<b>Conditions to be met by Stage-II Connectivity Grantees</b>	<ol style="list-style-type: none"> <li>After grant of Stage II connectivity, shall have to achieve the following milestones: <ol style="list-style-type: none"> <li>Ownership or lease rights or land use rights of the land required as per bidding documents for the capacity of Stage-II connectivity.</li> <li>Financial closure within the time stipulated in the PPA.</li> <li>Proof of release of at least 10% funds towards generation project execution within three months from the date of financial closure supported by Auditor's certificate regarding release of such funds through equity.</li> </ol> </li> <li>After grant of Stage II connectivity, the grantee covered under Clause 9.2.2 shall have to achieve the following milestones and submit the proof to CTU within nine months from date of grant of Stage-II Connectivity:</li> <li>In case of entity who has submitted documents regarding achievement of financial closures (least 10% funds) shall submit the proof of release of at least 10% funds.</li> </ol>												
11.	<b>Processing of Applications and Grant of Stage-II Connectivity</b>	<ol style="list-style-type: none"> <li>The applications complete in all respects, received online shall have a time and date stamp.</li> <li>The applicant shall rectify the deficiency within one week thereafter, failing which the application shall be closed.</li> <li>It may happen that an entity is eligible only for Stage-II Connectivity (subject to minimum of 50 MW) for part of the capacity covered under grant of Stage-I Connectivity. In such a case, grant of Stage-II Connectivity for part capacity</li> </ol>												

		<p>shall be allowed.</p> <ol style="list-style-type: none"> <li>4. The applications shall be processed by 15th day of the following month reckoned from 2400 hrs. of the last day of the month in which the applications were received.</li> <li>5. The intimation for grant of Stage-II Connectivity shall indicate the following, name of the ISTS Sub-station, Single line diagram (for existing sub-station) etc.</li> <li>6. The Stage-II Connectivity Grantee shall sign the Transmission Agreement for Connectivity and submit the Connectivity Bank Guarantee (Conn-BG) (as prescribed below) to CTU within 30 days of issue of intimation.</li> <li>7. Conn-BG shall be issued by a scheduled bank in favour of "Power Grid Corporation of India Ltd", as per the format given at FORMAT-RCON-BG, for the amount indicated below (as applicable):</li> </ol> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Connectivity Quantum sought</th> <th style="text-align: center;">Conn-BG</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Upto 80 MW (only in case of connectivity in NER)</td> <td style="text-align: center;">Rs. 1,00,00,000 (Rs. One Crore)</td> </tr> <tr> <td style="text-align: center;">Upto 300 MW</td> <td style="text-align: center;">Rs. 5,00,00,000/- (Rs. five Crore)</td> </tr> <tr> <td style="text-align: center;">For every incremental 300 MW</td> <td style="text-align: center;">Rs. 5,00,00,000/- (Rs. five Crore)</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>• Conn-BG shall be discharged six months after commencement of evacuation of power from the renewable project.</li> <li>• An entity shall be eligible to apply for LTA either with Stage-II Connectivity Application or after applying for Stage-II Connectivity Application.</li> </ul>	Connectivity Quantum sought	Conn-BG	Upto 80 MW (only in case of connectivity in NER)	Rs. 1,00,00,000 (Rs. One Crore)	Upto 300 MW	Rs. 5,00,00,000/- (Rs. five Crore)	For every incremental 300 MW	Rs. 5,00,00,000/- (Rs. five Crore)
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<b>12.</b>	<b>Monitoring of progress of renewable projects after grant of Stage-II Connectivity</b>	<ol style="list-style-type: none"> <li>1. Stage-II Connectivity grantee shall furnish progress of the monitoring parameters on quarterly basis in the format given at FORMAT-RCON-II-Mof by the last day of each quarter.</li> <li>2. The Stage-II Connectivity grantees shall be required to complete the dedicated transmission line(s) and pooling sub-station(s) within 24 months from the date of intimation of bay allocation at existing or new / under-construction ISTS sub-station.</li> <li>3. The payment received in terms of these provisions shall be adjusted in the POC pool.</li> <li>4. The grantee shall furnish certificate issued by Electrical Inspectorate of CEA under Regulation 43 of the CEA (Measures relating to Safety and Electric Supply) Regulations, 2010 for the dedicated transmission line(s) and pooling sub-station(s) within 10 days of receipt of same from CEA.</li> </ol>								
<b>13.</b>	<b>Technical requirements of Dedicated Transmission Infrastructure</b>	<p>The developer shall follow the following Regulations:</p> <p>Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2010, (Measures relating to Safety and Electricity Supply) Regulations, 2010, (Safety requirements for construction, operation and maintenance of electrical plants and electric lines) Regulations 2011, (Technical Standard for Connectivity to the Grid) 2007 and amendments thereof.</p>								
<b>14.</b>	<b>Dedicated Transmission Line (DTL)</b>	<ol style="list-style-type: none"> <li>1. The power transfer capability (MW) of the dedicated line from the pooling station of the renewable generating station to the ISTS sub-station shall not be less than the quantum (132kV-80 MW, 200/230 kV-300 MW, 400 kV-900 MW).</li> <li>2. CTU in coordination with ISTS transmission licensee implementing the ISTS pooling station shall indicate the requirement of D/c or M/c towers near ISTS pooling station end including sharing of such towers, for optimization of space. The developers of renewable generation projects shall comply with the directions of CTU in this regard.</li> </ol>								

		<ol style="list-style-type: none"> <li>Depending on the topology, CTU may plan the connectivity of renewable generation projects through loop in and loop out (LILO) of the Dedicated Transmission Line for injection of power.</li> </ol>
15.	<b>Pooling Station of the renewable generation projects</b>	<ol style="list-style-type: none"> <li>The Dedicated Transmission Line shall be terminated at the high voltage side of the generator/developer's pooling station. The bus switching scheme should be in line with the requirements specified in the CEA Manual on Transmission Planning Criteria, 2013 as amended from time to time.</li> <li>The minimum aggregate evacuation capacity of the generator pooling station of renewable generation project shall not be less than 100 MVA (50 MVA for 132kV level in NER).</li> <li>Short circuit rating and line bay rating of the generator pooling station at developer end may be finalized by project developer in consultation with CTU.</li> </ol>
16.	<b>Application for Additional Quantum (Enhancement) of Connectivity</b>	<ol style="list-style-type: none"> <li>Stage-I Connectivity grantee may apply for additional quantum of Connectivity, if required.</li> <li>Stage-II Connectivity grantee may apply for additional quantum of the Connectivity, if required, as per FORMAT-RCON-E. CTU shall consider the capacity of dedicated transmission line while granting the enhancement of Connectivity.</li> </ol>
17.	<b>Sharing of Connectivity and Dedicated Transmission Infrastructure</b>	<ol style="list-style-type: none"> <li>In case the developer of renewable generation project is not able to fully utilize the dedicated transmission infrastructure, it may be required to share the same with other developer(s) of renewable generation project(s) with a view to ensuring optimum utilization of the transmission system.</li> <li>Connectivity grantee, while remaining the lead generator and performing its responsibilities under IEGC and DSM Regulations may, in the interest of optimum utilisation of its bay(s) and ISTS outlets, share the balance capacity of the Dedicated Transmission Infrastructure over and above the connectivity granted, with its wholly owned (100%) SPVs or other entities.</li> <li>The Connectivity grantee or its legal assignee may share its dedicated transmission infrastructure with any other entity for optimum utilization. In such cases, the Connectivity grantee shall be required to perform duties of "Lead Generator" in terms of Connectivity Regulations and shall enter into an Agreement with the other entity(ies) to undertake all operational and commercial responsibilities.</li> <li>The Stage-II Connectivity grantee may charge the entity(ies) sharing the dedicated transmission infrastructure, one time transmission charges not exceeding Rupees Seven Crores Fifty Lakhs for each 25 MW with annual escalation of 3.5%.</li> <li>Operation and Maintenance expenses and Transmission Losses from the pooling station of the Connectivity grantee upto the ISTS connection point shall be shared in proportion to the capacity of the renewable projects sharing the transmission infrastructure.</li> </ol>
18.	<b>Utilization of pooling station of Stage-II Connectivity Grantee</b>	<ol style="list-style-type: none"> <li>The Stage-II Connectivity grantee shall be required to update the status/utilization of the dedicated transmission infrastructure as per FORMATRCON-UT available at CTU website by 30th day of June and 31<sup>st</sup> day of December of each year.</li> <li>CTU shall monitor the utilization of the dedicated transmission infrastructure.</li> <li>If, CTU is of the view that the spare capacity (underutilized) is not being put to use without reasonable justification, and it is resulting in denial of opportunity to other renewable generators/developers, the matter shall be brought to the notice of the Commission for directions with regard to the utilization of the available spare capacity.</li> </ol>

<b>19.</b>	<b>Transmission Planning for renewable generation project and Coordination with Ministry of New and Renewable Energy (MNRE)</b>	<ol style="list-style-type: none"><li>1. The location and capacity of various ISTS Pooling Stations and associated transmission facilities shall be developed keeping in view the exploitable wind or solar potential in the area based on the information to be made available by MNRE or any agency/authority/ nodal officer designated by MNRE.</li><li>2. CTU shall coordinate with MNRE and other associated organizations for planning and coordination with regard to development of the ISTS for evacuation of power from renewable energy generation.</li><li>3. The ISTS pooling stations including line bays at lower voltage for receiving power shall be developed as part of ISTS.</li><li>4. CTU shall share the available capacity of the ISTS sub-station (including bay wise availability) with the designated agencies as notified by the Government who may take the same into consideration while inviting the bids.</li></ol>
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