

**Central Electricity Regulatory Commission
New Delhi**

**Coram:
Shri P.K. Pujari, Chairperson
Shri M.K. Iyer, Member**

No.-L-1/(3)/2009-CERC

Date:9th January, 2019

In matter of

Central Electricity Regulatory Commission (Grant of Connectivity, Long-term Access and Medium-term Open Access in inter-State Transmission and related matters) (Seventh Amendment) Regulations, 2018

Statement of Reasons (SoR)

1. Introduction

- 1.1. The Commission vide notification dated 9.8.2018 issued the Draft Central Electricity Regulatory Commission (Grant of Connectivity, Long-term Access and Medium-term Open Access in inter-State Transmission and related matters) (Seventh Amendment) Regulations, 2018 along with Explanatory Memorandum seeking comments/ suggestions/ observations from the stakeholders/public.
- 1.2. Comments were received from 17 stakeholders and organizations, which included State Power utilities, Central Transmission Utility (CTU), Solar Energy Corporation of India Ltd. (SECI), The Energy and Research Institute (TERI), renewable energy generating companies and associations. Thereafter, the Commission conducted public hearing on 19.9.2018. Four (04) organizations/individuals made oral submissions or presentations during the public hearing. List of stakeholders/individuals who submitted written comments and who made oral submissions/power point presentation during the public hearing is given at Appendix-I & Appendix-II respectively. The detailed comments are available on www.cercind.gov.in. After due considerations of the comments/ suggestions/ objections received, the Commission has finalized the Seventh Amendment to the Connectivity Regulations.
- 1.3. The amendments proposed in the draft regulations, deliberation on the comments/suggestions offered by the stakeholders, statutory bodies and

association, etc., on the proposed amendments and the reasons for decisions of the Commission are given in the succeeding paragraphs. While an attempt has been made to consider all the comments/suggestions received, the names of all the stakeholders may not appear in the deliberations. However, the name of all the stakeholders is enclosed as Appendix-I and II.

2. The Commission while proposing the amendments in provisions related to 'Applicant' in respect of grant of Connectivity, had given following rationale:

1. Provisions related to 'Applicant' in respect of grant of Connectivity

1.1. The Ministry of New & Renewable Energy (MNRE) has vide notification No. 238/78/2017-Wind dated 14th May, 2018 issued "National Wind-Solar Hybrid Policy" with objective to provide a framework for promotion of large grid connected wind solar PV hybrid system for optimal and efficient utilization of transmission infrastructure and land, reducing the variability in renewable power generation and achieving better grid stability. The relevant portion of the said hybrid policy dated 14th May, 2018 is reproduced as under:

"1. INTRODUCTION

1.1 India has set an ambitious target of reaching 175 GW of installed capacity from renewable energy sources by the year 2022, which includes 100 GW of solar and 60 GW of wind power capacity. Various policy initiatives have been taken to achieve this target. At the end of 2017-18 the total renewable power installed capacity in the country was almost 70 GW.

1.2 Solar and wind power being variable in nature pose certain challenges on grid security and stability. Studies revealed that in India solar and wind resources are complementary to each other and hybridization of these two technologies would help in minimizing the variability apart from optimally utilizing the infrastructure including land and transmission system.

1.3 Superimposition of wind and solar resource maps shows that there are large areas where both wind and solar have high to moderate potential.

1.4 The existing wind farms have scope of adding solar PV capacity and similarly there may be wind potential in the vicinity of existing solar PV plant.

1.5 Suitable policy interventions are therefore, required not only for new wind-solar hybrid plants but also for encouraging hybridization of existing wind and solar plants.

1.6 To smoothen the wind solar hybrid power further, appropriate capacity of battery storage may also be added to the project.

2. AIMS AND OBJECTIVE

2.1 The main objective of the Policy is to provide a framework for promotion of large grid connected wind-solar PV hybrid system for optimal and efficient

utilization of transmission infrastructure and land, reducing the variability in renewable power generation and achieving better grid stability.

2.2 Policy also aims to encourage new technologies, methods and wayouts involving combined operation of wind and solar PV plants.

3. PERIOD OF ENFORCEMENT

This policy will remain in force unless withdrawn, modified or superseded by the Government. The Government will undertake a review of this Policy as and when required.

4. WIND-SOLAR HYBRID SYSTEMS

4.1 Under the category of wind-solar hybrid power plants, Wind Turbine Generators (WTGs) and Solar PV systems will be configured to operate at the same point of grid connection. There can be different approaches towards integrating wind and solar depending upon the size of each of the source integrated and the technology type.

4.2 In case of fixed speed wind turbines connected to grid using an induction generator, the integration can be on the HT side at the AC output bus. However, in case of variable speed wind turbines deploying inverters for connecting the generator to the grid, the wind and the Solar PV system can be connected to the intermediate DC bus of the AC-DC-AC converter.

4.3 The second important aspect would be related to the sizing – which would depend on the resource characteristics. In order to achieve the benefits of hybrid plant in terms of optimal and efficient utilization of transmission infrastructure and better grid stability by reducing the variability in renewable power generation, in the locations where the wind power density is quite good, the size of the solar PVs capacity to be added as the solar-hybrid component could be relatively smaller. On the other hand, in case of the sites where the wind power density is relatively lower or moderate, the component of the solar PV capacity could be relatively on a higher side.

However, a wind-solar plant will be recognized as hybrid plant if the rated power capacity of one resource is at least 25% of the rated power capacity of other resource.

5.4 Battery Storage:

Battery storage may be added to the hybrid project (i) to reduce the variability of output power from wind solar hybrid plant; (ii) providing higher energy output for a given capacity (bid/ sanctioned capacity) at delivery point, by installing additional capacity of wind and solar power in a wind solar hybrid plant; and (iii) ensuring availability of firm power for a particular period.

Bidding factors for wind solar hybrid plants with battery storage may include minimum firm power output throughout the day or for defined hours during the day, extent of variability allowed in output power, unit price of electricity, etc.....”

1.2. Accordingly, any company authorized by Central/State Government as Wind/Wind-Solar Power Park developer, generation projects based on renewable energy source including hybrid project based on renewable and storage has been proposed as an applicant eligible for grant of Connectivity or Access. The project based on storage can be of any technology such as Mechanical storage systems (Pumped hydro storage (PHS), Compressed air

energy storage (CAES), Fly wheel energy storage (FES)), Electro-chemical storage systems (Secondary batteries, Flow batteries), Chemical energy storage (Hydrogen (H₂), Synthetic natural gas (SNG)), Electrical storage systems (Double-layer capacitors (DLC), Superconducting magnetic energy storage (SMES)), Thermal storage systems, etc.

1.3. Further, for the integration of renewable energy generation into the grid, Storage plants can help ensuring availability of firm power from the renewable project. Therefore, it has been proposed to include storage plants (irrespective of technology used) of installed capacity 50MW and above as applicant eligible for grant of Connectivity. Such standalone storage may draw power from the grid. For example, in pumped hydro storage (PHS) water is released from the high reservoir through a hydroelectric turbine into the low reservoir to generate electricity during demand and power from the grid is drawn to pump water from a reservoir up to another reservoir at a higher elevation. Therefore, it has been proposed that PHS will apply for connectivity for the quantum of maximum injection or maximum drawal, whichever is higher, and sign separate agreements for both injection and drawal of power.

1.4. In case of hybrid wind-solar or wind-solar-storage projects, the aggregate power supplied from the project may be lesser than the combined installed capacity of wind and solar of the hybrid plant. Considering the same, the developer of the hybrid wind-solar or wind-solar-storage projects may apply for connectivity quantum based on assessed aggregate power supplied from the project which may be lesser than combined installed capacity of wind and solar of the hybrid plant. In such cases, the hybrid plant developer shall maintain power injection into the grid upto the requested connectivity quantum.

1.5. Based on above discussions, amendments have been proposed to sub clause (b)(i)(a), (b)(i)(b), (b)(i)(c), (b)(i)(e) and (b)(i)(f). Further, sub-clause (b)(i)(aa), has been added after clause (b)(i)(a), sub-clause (b)(i)(cc), has been added after clause (b)(i)(c) and a new sub-clause (b)(i)(h) have been added in clause (1) of Regulation 2 of the Principal Regulations.”

3. Amendment sub-clause (b)(i)(a) of Clause (1) of Regulation 2 of the Principal Regulations:

3.1. The sub-clause (b)(i)(a) of Clause (1) of Regulation 2 of the Principal Regulations was proposed to be substituted as under:

“(a) A generating station other than Renewable Energy Generating station, with installed capacity of 250 MW and above, including a captive generating plant of exportable capacity of 250 MW and above or;

3.2. **Comments have been received from GRIDCO and TERI:**

- 3.2.1. GRIDCO has suggested to include definition of 'Exportable Capacity' in the regulations as the generation capacity available with a captive generating plant for sale after accounting for the consumption by its captive user and/ generation capacity intended for wheeling of power to its plant located at non-contiguous place. GRIDCO has also suggested that in case of CGP having captive load at a different geographical place than its generating unit, the maximum exportable capacity equal to installed capacity less auxiliary consumption should be considered for applying connectivity to ISTS.
- 3.2.2. TERI has suggested adding definition of 'Captive Generating Plant (CGP)' in the regulations as a power plant fulfilling the conditions of CGP as prescribed under Electricity Rules, 2005.

3.3. **Analysis and decision**

- 3.3.1. With regard to suggestion of GRIDCO to define "Exportable Capacity" in the instant regulations, it is clarified that the Commission has issued draft CERC (Grant of Connectivity and General Network Access to the inter-State transmission system and other related matters) Regulations, 2017 hereinafter called as Draft GNA Regulations vide public notice on 14.11.2017 wherein definition "Exportable Capacity" has been proposed as under:

"2.1(o) "Exportable Capacity" means the generation capacity available with a captive generating plant for sale after accounting for the consumption by its captive user;"

Since, the Commission is in the process of finalizing the Draft GNA Regulations; the comments submitted by GRIDCO shall be duly taken care while finalising the same.

- 3.3.2. Regarding suggestion of TERI to define Captive Generating Plant (CGP) as prescribed under Electricity Rules, 2005, it is clarified that the "Captive generating plant" is defined at Clause (8) of Section 2 in the Electricity Act, 2003 as under:

"(8) "Captive generating plant" means a power plant set up by any person to generate electricity primarily for his own use and includes a power plant set up by any co-operative society or association of persons for generating electricity primarily for use of members of such cooperative society or association;"

Further, Clause 3 of the Electricity Rules, 2005 defines the “Requirements of Captive Generating Plant”.

Also, Regulation 2(2) of the instant Regulations provides as under

“2(2) Words and expressions used in these regulations and not defined herein but defined in the Act or the Grid Code or any other regulations specified by the Commission shall, unless the context otherwise requires, have the meanings assigned to them under the Act or the Grid Code or other regulations specified by the Commission, as the case may be.”

Hence, the definition of “Captive generating plant” as defined in the Electricity Act, 2003 and “Requirements of Captive Generating Plant” as defined in the Electricity Rules, 2005 shall also be applicable in the instant Regulations.

3.4. Accordingly, the sub-clause (b)(i)(a) of Clause (1) of Regulation 2 of the Principal Regulations shall be substituted as proposed in the draft as under:

“(a) A generating station other than Renewable Energy Generating station, with installed capacity of 250 MW and above, including a captive generating plant of exportable capacity of 250 MW and above or;

4. Addition of a newsub-clause after sub-clause (b)(i)(a) of Clause (1) of Regulation 2 of the Principal Regulations:

4.1. The following sub-clause was proposed to be added after sub-clause (b)(i)(a) of clause (1) of Regulation 2 of the Principal Regulations, namely:

“(aa) A Renewable Energy generating station with installed capacity of 50 MW and above, or;

4.2. Comments have been received from Greenko, GRIDCO and TANGEDCO:

4.2.1. Greenko has submitted that Renewable Power Developer and Renewable Power Park Developer having installed capacity of 50MW and above should also be allowed for grant of Connectivity.

4.2.2. GRIDCO and TANGEDCO have submitted that the minimum qualifying criteria for RE generating stations to be connected to ISTS as 50MW of installed capacity will severely skew the transmission system optimality. It will not only infuse inefficiency in terms of huge stranded /redundant

transmission asset creation at ISTS level but will pose humongous financial burden on existing DICs as well, as RE generators availing ISTS connectivity are waived from transmission charge payment as per MoP order. Hence, in order to have an efficient & economic transmission system in place, as mandated under the EA 2003, the minimum limit of RE installed capacity (either individually or in group aggregate) for ISTS connectivity should be 250 MW. Anything less than 250 MW may be tied up with intra-state network under coordinated planning to be carried out by CTU/CEA/STU and DISCOMs as per the CERC (Planning, Coordination and Development of Economic and Efficient Inter-State Transmission System by Central Transmission Utility and other related matters) Regulations, 2018. It will not only avoid redundant transmission capacity creation but also help to develop planned robust Intra State transmission system giving effect to distributed energy sources.

4.3. **Analysis and decision:**

- 4.3.1. With regard to suggestion of Greenko to allow Renewable Power Developer and Renewable power park developer having installed capacity of 50MW or more, it is clarified that Renewable Power Developer is same as Renewable Energy Generating Station. Renewable Energy Generating Station are already eligible to apply Connectivity under the various sub-clauses (b)(i) of clause (1) of Regulation 2. Renewable Power Park Developer as authorized by the Central Government or the State Government shall be eligible for grant of **Connectivity**. We have perused “**Guidelines for Tariff Based Competitive Bidding Process for Grid Connected Small Hydro Power (SHP) Projects above 10 MW Station Capacity**” which provides as follows:

“Project Developer” shall mean Bidding Company or a Bidding Consortium submitting the Bid. Any reference to the Bidder includes Bidding Company / Bidding Consortium/ Consortium, Member of a Bidding Consortium including its successors, executors and permitted assigns and Lead Member of the Bidding Consortium jointly and severally, as the context may require”;

We observe that such a project developer shall be responsible for establishing the generating station and hence shall be covered under

relevant Clause of Regulation 2(1)(b). Hence we donot find any need to separately include Renewable Power Developer under definitions.

4.3.2. Regarding suggestions of GRIDCO and TANGEDCO on minimum qualifying criteria for RE generating stations to be modified as 250 MW, it is clarified that minimum MW for Connectivity to ISTS as 50 MW was proposed vide draft amendment to CERC Connectivity Regulations on 15.5.2010. The relevant portion of the Explanatory Memorandum to said amendment dated 15.5.2010 is reproduced as under:

“3. Subsequent to the operation of the regulations, a number of Private developers of Hydro Power in the North Eastern Region represented to the Commission that their projects which are mostly below 250 MW are deprived of connectivity to the ISTS on account of Regulation 2(1)(b)(i) which requires the installed capacity of 250 MW and above for connectivity. Moreover, the State Transmission Utilities are slow in developing the required transmission infrastructure in the region. Similar requests have been received from other developers also. It has also been brought to the notice of the Commission that Central Electricity Authority in consultation with Central Transmission Utility and State Transmission Utilities had planned and finalized the transmission schemes for evacuation of power from a number of hydro projects, particularly in Sikkim, Himachal Pradesh and Arunachal Pradesh wherein it was intended to connect a number of medium size hydro projects of capacity below 250 MW directly to the Powergrid pooling points. Moreover, the State Transmission Utilities of Sikkim and Arunachal Pradesh are not geared up to provide transmission facilities to the IPPs. The load demands in these states being small, most of the power generated from these IPPs would have to be exported out of these States.

4. The Commission after considering the problems of the Hydro generating companies and to bring more power to the National Grid, has decided that the hydro generating projects having an installed capacity of 50 MW and above be allowed connectivity to the ISTS. Accordingly, the definition of ‘Applicant’ in Regulation 2(1)(b)(i) has been proposed to be amended to provide connectivity to hydro projects of 50 MW and above.
.....”

The Commission after considering the comments/suggestions given by stakeholders notified the amendment vide notification dated 3rd September, 2010 wherein, the threshold capacity for connecting to inter-State grid was reduced from 250 MW to 50 MW for the generating stations using Renewable sources of energy & hydro generating stations. Further vide the

instant amendment, the minimum quantum required for connectivity to ISTS was not proposed to be changed. We are not inclined to increase the minimum quantum as 250 MW.

- 4.4. Accordingly, following sub-clause shall be added after sub-clause (b)(i)(a) of clause (1) of Regulation 2 of the Principal Regulations:

“(aa) A Renewable Energy generating station with installed capacity of 50 MW and above, or;

5. Amendment in sub-clause (b)(i)(b) of Clause (1) of Regulation 2 of the Principal Regulations:

- 5.1. The sub-clause (b)(i)(b) of Clause (1) of Regulation 2 of the Principal Regulations was proposed to be substituted as under:

“(b) A Hydro Generating station of installed capacity between 50 MW and 250 MW”

5.2. Comments have been received from Greenko:

- 5.2.1. Greenko has submitted to include standalone storage projects also in the proposed amendment.

5.3. Analysis and decision:

- 5.3.1. With regard to suggestion of Greenko, the project based on standalone storage source(s) of installed capacity 50MW and above has already been proposed for grant of Connectivity under sub-clause (b)(i)(h) of Clause (1) of Regulation 2.

- 5.4. In view of above discussion, the sub-clause (b)(i)(b) of Clause (1) of Regulation 2 of the Principal Regulations shall be substituted as under:

“(b) A Hydro Generating station of installed capacity between 50 MW and 250 MW;”

6. Amendment in sub-clause (b)(i)(c) of Clause (1) of Regulation 2 of the Principal Regulations:

- 6.1. The sub-clause (b)(i)(c) of Clause (1) of Regulation 2 of the Principal Regulations was proposed to be substituted as under:

“(c) One of the Hydro Generating stations or standalone storage project individually having less than 50 MW installed capacity, but collectively having an aggregate installed capacity of 50 MW and above, and acting on behalf of all these generating stations, and seeking connection from CTU at a single connection point at the pooling sub-station under CTU, termed as the lead generator, or;”

6.2. Comments have been received from MSEDCL, MPPMCL, Greenko and TANGEDCO:

- 6.2.1. MSEDCL has submitted that standalone storage project should be allowed to apply for connectivity only after identification of beneficiaries and signing of commercial agreement between them for settlement for power drawn & injected.
- 6.2.2. MPPMCL has submitted that the Standalone storage project should be defined to avoid ambiguity.
- 6.2.3. Greenko has suggested that standalone storage project may also act as the lead generator.

6.3. Analysis and decision:

- 6.3.1. With regard to suggestion of MSEDCL that firm beneficiary should be identified in advance for grant of Connectivity cannot be accepted as there is no such condition for grant of Connectivity under the extent Regulations for other types of projects.
 - 6.3.2. We agree with suggestion of Greenko and it is already covered in the Regulations.
 - 6.3.3. MPPMCL has suggested that standalone storage project should be defined to avoid ambiguity. In this regard it is clarified that ‘storage’ is defined in these Regulations and a project based on such storage technology shall be covered under standalone storage project.
 - 6.3.4. Considering TERI’s suggestions the words “under CTU” shall be replaced as “forming part of ISTS”
- 6.4. Accordingly, sub-clause (b)(i)(c) of Clause (1) of Regulation 2 of the Principal Regulations shall be substituted as under:

“(c) One of the Hydro Generating stations or standalone storage project individually having less than 50 MW installed capacity, but collectively having an aggregate installed capacity of 50 MW and above, and acting

on behalf of all these generating stations or standalone storage project, and seeking connection from CTU at a single connection point at the pooling sub-station forming part of ISTS, termed as the lead generator, or;"

7. Addition of a newsub-clause after sub-clause (b)(i)(c) of Clause (1) of Regulation 2 of the Principal Regulations:

7.1. The following sub-clause was proposed to be added after sub-clause (b)(i)(c) of clause (1) of Regulation 2 of the Principal Regulations, namely:

"(cc) Renewable Energy generating station individually having less than 50 MW installed capacity, but collectively having an aggregate installed capacity of 50 MW and above, and acting on behalf of all these generating stations, and seeking connection from CTU at a single connection point at the pooling sub-station under CTU, termed as the lead generator, or"

7.2. Comments have been received from AGEL, Greenko, InWEA, MPPMCL, TANGEDCO and TERI:

7.2.1. AGEL has submitted that for efficient utilization of infrastructure, sharing of connectivity and Dedicated Transmission Infrastructure has been proposed to be allowed in the Connectivity Procedure. Considering the same, we suggest following changes in the existing clause as under:

"(cc) Renewable Energy generating station individually having any installed capacity, but collectively having an aggregate installed capacity of 50 MW and above, and acting on behalf of all these generating stations, and seeking connection from CTU at a single connection point at the pooling sub-station under CTU, termed as the lead generator, or;"

This shall allow even projects with collective capacity lower than the Bay/Dedicated Transmission Line capacity, irrespective of their individual capacity (whether lower than 50 MW or higher than 50 MW), one of them can apply as lead generator and connectivity can be granted to them for efficient utilization of Transmission Infrastructure.

7.2.2. Greenko has suggested that the proposed regulation may be modified to include Renewable Power Developer, Renewable Power Park Developer and Standalone storage Park Developer also.

7.2.3. InWEA has submitted that Renewable Power Park Developer may also be in such a situation like a generating company and has suggested that

Renewable Power Park Developer may also be included in the instant provision.

7.2.4. MPPMCL has suggested as under:

“Renewable Energy generating station individually having less than 50 MW installed capacity, but collectively having an aggregate installed capacity of 50 MW and above, and one of them acting on behalf of all these generating stations, and seeking connection from CTU at a single connection point at the pooling sub-station under CTU, termed as the lead generator’

7.2.5. TERI has suggested that the words 'under CTU' may be substituted with 'forming a part of ISTS'

7.3. **Analysis and decision:**

7.3.1. The submissions of AGEL to allow Renewable Energy generating station individually having any installed capacity but collectively having an aggregate capacity of 50MW and above are already covered under extant provisions.

7.3.2. With regard to suggestion of Greenko to include Renewable Power Developer, it is clarified that both Renewable Power Developer and Renewable Energy Generating Stations are same and already covered under Regulation 2(1)(b)(i)(cc). Further, with regard to Standalone Storage Park Developer, it is clarified that company or entity authorised by the Central Government or State Government as Renewable Power Park Developer were proposed for grant of Connectivity in these Regulations. With regard to suggestion of InWEA regarding inclusion of Renewable Power Park Developer in the instant provision, it is clarified that the same are already covered under sub-clause (b)(i)(f) of clause (1) of Regulation 2 and shall be as authorised by Central or State Government.

7.3.3. We agree with the suggestion of TERI and MPPMCL and changes have been made accordingly.

7.3.4. In view of following discussion, following sub-clause shall be added after sub-clause (b)(i)(c) of clause (1) of Regulation 2 of the Principal Regulations:

“(cc) Renewable Energy generating station individually having less than 50 MW installed capacity, but collectively having an aggregate installed capacity of 50 MW and above, and one of them acting on behalf of all these generating stations, and seeking connection from CTU at a single

connection point at the pooling sub-station forming part of ISTS, termed as the lead generator, or”,

8. Amendment in sub-clause (b)(i)(e) of Clause (1) of Regulation 2 of the Principal Regulations:

8.1. The sub-clause (b)(i)(e) of Clause (1) of Regulation 2 of the Principal Regulations was proposed to be substituted as under:

“(e) Any renewable energy generating station of 5 MW capacity and above developed by a generating company in its existing generating station of the description referred to in sub-clauses (b)(i)(a) to (cc) of this clause and seeking connectivity to the existing connection point with inter-State Transmission System through the electrical system of the generating station subject to availability of Connectivity capacity in existing station as assessed by CTU.”

8.2. Comments have been received from InWEA, MSEDCL and NTPC:

8.2.1. MSEDCL has submitted that CUF of RE generating station is normally very low & there will be always margin available in Transmission system. Hence CTU should not be allowed alone to take decision for granting connectivity in such case; rather procedure as outlined in CERC (Planning, Coordination and Development of Economic and Efficient Inter-State Transmission System by Central Transmission Utility and other related matters) Regulations, 2018 shall be followed.

8.2.2. NTPC has submitted that the Ministry of Power, Government of India vide letter dated 5.4.2018 has issued detailed mechanism for allowing flexibility in generation and scheduling of thermal power stations to reduce emissions. The scheme provides flexibility to the generating company of using its thermal power or renewable power to meet its scheduled generation from that thermal generating station. The generating company may either establish or procure renewable energy from anywhere in the country and Connectivity to the ISTS for RE generating station shall be applied as per the extant Regulations. RE generating stations of installed capacity less than 5 MW seeking connectivity through electrical system of existing generating station can also be developed. Further, RE generating stations outside the premises of the existing thermal station but located at the nearby locations can be connected through the electrical system of the existing thermal station. Hence, Renewable Energy Generating Station of capacity 1MW and

above seeking connectivity to existing connection point with ISTS through electrical system of existing generating company should be allowed connectivity.

8.2.3. InWEA has submitted that Renewable Park Developer should have the same rights as a generating company as WPPD has the right to get connectivity and commission the generating station.

8.3. **Analysis and decision:**

8.3.1. Regarding submission of NTPC that Renewable Energy Generating Station of capacity 1MW and above seeking connectivity to existing connection point with ISTS through electrical system of existing generating company should be allowed connectivity, it is clarified that the minimum capacity of 5MW required for RE generating station seeking connectivity to the existing connection point with ISTS through electrical system of existing generating station was not proposed to be changed in the instant amendment. Hence, we are not inclined to amend the minimum capacity to be allowed under this Clause. However, it is clarified that generation capacity less than 5MW shall be allowed to get connected to electrical system of existing generating station subject to condition that the Connectivity granted to existing generating station shall remain same and the existing generating station shall inform CTU in this regard atleast 3 months prior to the intended connection.

8.3.2. The suggestion of NTPC that connectivity for projects that may not be located in its existing generating station but may be located outside the premises of such generating station and wish to get connected through electrical system of existing generating station is acceptable and regulations have been modified to include this suggestion.

8.3.3. We agree with submission of MSEDCL that CTU should follow the procedure as outlined in CERC (Planning, Coordination and Development of Economic and Efficient Inter-State Transmission System by Central Transmission Utility and other related matters) Regulations, 2018.

8.3.4. We agree with the suggestion of InWEA and hence, to facilitate connectivity to a renewable energy generating station of 5MW and above developed in the existing Renewable Power Park, a new provision has been incorporated at Regulation 2(b)(i)(ee) in the existing Regulations as under:

“(ee) Any renewable energy generating station of 5 MW capacity and above developed by a Renewable power park developer in its existing power park of the description referred to in sub-clauses (b)(i)(g) of this clause and seeking connectivity to the existing connection point with inter-State Transmission System through the electrical system of the Renewable Power Park subject to availability of Connectivity capacity in existing Power Park as assessed by CTU;”

- 8.3.5. In view of above discussion, the sub-clause (b)(i)(e) of Clause (1) of Regulation 2 of the Principal Regulations shall be substituted as under:

“(e) Any renewable energy generating station of 5 MW capacity and above developed by a generating company in its existing generating station or near its existing generating station of the description referred to in sub-clauses (b)(i)(a) to (cc) of this clause and seeking connectivity to the existing connection point with inter-State Transmission System through the electrical system of the generating station subject to availability of Connectivity capacity in existing station as assessed by CTU.”

9. Amendment in sub-clause (b)(i)(f) of Clause (1) of Regulation 2 of the Principal Regulations:

- 9.1. The sub-clause (b)(i)(f) of Clause (1) of Regulation 2 of the Principal Regulations was proposed to be substituted as under:

“(f) Any company or entity authorized by the Central Government or State Government as Renewable Power Park developer or;”

9.2. Comments have been received from Greenko:

- 9.2.1. Greenko has suggested to include Central or State Government authorized Standalone Storage Park Developer for grant of connectivity.

9.3. Analysis and decision:

- 9.3.1. The suggestion of Greenko is outside the scope of present amendment.
9.3.2. In view of the above discussion, sub-clause (b)(i)(f) of Clause (1) of Regulation 2 of the Principal Regulations shall be substituted as under:

“(f) Any company or entity authorized by the Central Government or State Government as Renewable Power Park developer or;”

10. Addition of two sub-clauses after sub-clause (b)(i)(f) of Clause (1) of Regulation 2 of the Principal Regulations:

- 10.1. The following two sub-clauses was proposed to be added after sub-clause (b)(i)(f) of clause (1) of Regulation 2 of the Principal Regulations, namely:

“(g) Any company or entity designated by the Central Government or State Government as Implementing Agency on behalf of the Renewable Power Developers who are eligible for grant of connectivity under Clause 2(1)(b)(i)(aa) and 2(1)(b)(i)(cc) or;

(h) A Project Developer based on standalone storage source(s) of installed capacity 50 MW or above.”

- 10.2. **Commission had given following rationale while proposing the above amendment:**

“1.3. Further, for the integration of renewable energy generation into the grid, Storage plants can help ensuring availability of firm power from the renewable project. Therefore, it has been proposed to include storage plants (irrespective of technology used) of installed capacity 50MW and above as applicant eligible for grant of Connectivity. Such standalone storage may draw power from the grid. For example, in pumped hydro storage (PHS) water is released from the high reservoir through a hydroelectric turbine into the low reservoir to generate electricity during demand and power from the grid is drawn to pump water from a reservoir up to another reservoir at a higher elevation. Therefore, it has been proposed that PHS will apply for connectivity for the quantum of maximum injection or maximum drawal, whichever is higher, and sign separate agreements for both injection and drawal of power.”

“1.6. SECI has vide letter dated 21.4.2018 submitted that it is the designated implementing agency for the MNRE grid connected wind and solar scheme and requested the Commission to allow it to take connectivity as Implementing Agency on behalf of SPDs/WPDs shortlisted through competitive bidding. The relevant portion of suggestion given by SECI is reproduced as under:

“SECI is the designated implementing agency for the MNRE ISTS grid connected wind and Solar scheme. The scheme aims to provide wind and solar power at very competitive rates to obligated states/UTs to fulfill RPO obligations.

As per provisions of scheme, SECI will select developers through a transparent bidding process, purchase power from the selected developers and sell the same to utilities. PPA and PSA are valid for min. period of 25 years from the date of commissioning of 1stUnit.

Apart from above, SECI's role also includes financial closer, monitoring, and also successful commissioning of project through standard commissioning procedure including declaration of COD.

In view of above, it is pertinent to mention that SECI's role is not limited to signing of PPA, PSA but also doing all activities for successful implementation of project.

We would like to request Honourable Commission to allow SECI to take connectivity on behalf of SPDs/WPDs shortlisted through competitive bidding as implementing agency or as a park developer."

1.7. SECI has vide letter dated 21.4.2018 further submitted that the present regulation does not allow implementing agency to apply for connectivity and transfer connectivity right to the generator selected for implementation of solar or wind power projects. The relevant portion of suggestion given by SECI is reproduced as under

"In recent past SPDs and WPDs are facing problem to obtain connectivity in nearby CTU substations. During consultation with CTU, it was known that many applications were received for same substation and due to this constraint successful bidders under SECI's scheme are not able to get connectivity. To continue with developmental progress, role of Solar Energy Corporation of India Ltd (SECI) is very important. Due to SECI's effort market has received record low tariff for solar and wind power. Presently Renewable power price is much below the conventional power price

Present regulation does not allow implementing agency to apply and transfer connectivity right to other generator. It is requested to Honourable Commission to allow SECI to take connectivity on behalf of SPDs/WPDs for Stage-I connectivity and transfer the connectivity right to successful bidder under SECI's scheme before Stage-II application.

.... In continuation to that our humble submission is that SECI shall submit application fee for connectivity for stage-I to CTU and BG if any shall be submitted by generator after successful bidding and transfer of connectivity right before stage-II application.

As per clause of 16.5 of connectivity regulation, CTU shall share the available capacity of ISTS to bidding agency such as SECI. In that case SECI may take the same information for bidding purpose. According to the data, SECI may float the RfS based on substations which will eliminate risk of mismatch between development of project and connected substation/ transmission line.

Even before the bidding, SECI may file connectivity application as per available data shared by CTU on behalf of Generator. Based on approval from CTU, SECI may float bidding document. This will save time and give certainty to generator for investment, resulting reduction in tariff of renewable energy.

This will eliminate risk of blocking of bays in substations and bays would be used effective way through SECI's tender.

It is worthwhile to mention that DISCOMs shall express in buying power on finalization of rates only, After finalization of buying utilities, SECI shall share the information within 7 days to CTU for future planning of bays/substation and GNA.”

1.8. Considering the submissions of SECI, it is proposed that Central Government nominated Implementing Agency will be eligible for grant of Stage-I Connectivity and LTA on behalf of generators based on renewable source(s) or Renewable Hybrid projects. The said Implementing Agency or Designated Agency may apply for Stage I Connectivity or LTA to the nodal agency as per the extant Connectivity Regulations and detailed procedure issued therein.”

10.3. Comments have been received from Greenko, MSEDCL, MPPMCL, NTPC, POWERGRID and TANGEDCO:

10.3.1. Greenko has submitted that storage plants including pump storage hydro plant will apply for connectivity for the quantum of maximum injection or maximum drawal whichever is higher and sign separate agreement for both injection and drawal.

10.3.2. MSEDCL has submitted that the“ Detailed Procedure for grant of Connectivity to Projects based on Renewable Sources to inter-State transmission system” issued vide order dated 15.5.2018 also needs to be amended to incorporate changes suggested in this draft regulation with respect to applicant for connectivity for RE power station.

10.3.3. MPPMCL has suggested that ‘Project Developer’ should be defined in the Regulations.

10.3.4. NTPC has submitted that in order to promote renewable and facilitate/widen the ISTS Connectivity points, the Commission may consider allowing aggregation of RE Capacity through generating switchyards of ISGS which are already connected with ISTS. Accordingly, Generating Company, authorised by Central government as 'Implementing Agency' may undertake tariff based competitive bidding considering the ISGS switchyard as existing connection point.

10.3.5. POWERGRID has suggested that since Renewable Power developers are not known prior to bid, the provision should be modified to incorporate this.

10.4. Analysis and decision:

10.4.1. NTPC has suggested to consider allowing aggregation of RE Capacity through generating switchyards of ISGS which are already connected with ISTS. The proposal of NTPC is outside the present scope of amendment. The point has been noted.

10.4.2. We are in agreement with the suggestion of Greenko. Since, storage plant may also draw electricity from the grid, we are of the view that the storage plants shall apply for connectivity for the quantum of maximum injection or maximum drawal whichever is higher and shall sign separate agreement for both injection and drawal of power. A new Clause in this regard has been added after existing Clause (1) of Regulation 8 of the Principal Regulations as under:

“(1A) A project based on standalone storage source(s) shall apply for connectivity for the quantum of maximum injection or maximum drawal whichever is higher and shall sign separate agreement for both injection and drawal of power;”

10.4.3. With regard to suggestion of MSEDCL for inclusion of changes proposed vide instant amendment in the “Detailed Procedure for grant of Connectivity for Projects based on Renewable Sources to Inter-State Transmission System”, it is clarified that the Regulations will prevail over the detailed procedure in case of any mismatch. The necessary changes shall be brought out in detailed Procedure in due course of time.

10.4.4. Regarding suggestion of MPPMCL to define ‘Project Developer’, it is clarified that “project developer” words have been deleted in the amendment

10.4.5. With regard to suggestion of POWERGRID that Renewable Power Developers are not known to RE Implementing Agency prior to bid, it is clarified that Renewable Energy Implementing Agency shall apply for Connectivity on behalf of the Renewable Energy Generating station(s).

10.4.6. In view of above discussion, the following two sub-clauses shall be added after sub-clause (b)(i)(f) of clause (1) of Regulation 2 of the Principal Regulations:

“(g) Any company or entity designated by the Central Government or State Government as Renewable Energy Implementing Agency on behalf of the Renewable energy generating station(s) of the description under Clause 2(1)(b)(i)(aa) and 2(1)(b)(i)(cc) or;

(h) Project based on standalone storage source(s) of installed capacity 50 MW or above.”

11. Amendment in the definition of “Applicant” in respect of grant of Long-term Access or Medium-term Open Access:

11.1. The sub-clause (b)(ii) and sub-clause (b)(iii) of Clause (1) of Regulation 2 of the Principal Regulations was proposed to be substituted as under:

“(ii) A generating station including a captive generating plant, a consumer, an electricity trader or a distribution licensee or applicant covered under Clauses 2(1)(b)(i)(a) to (e) and 2(1)(b)(i)(h), in respect of long-term access or medium-term open access, as the case may be;”

“(iii) Applicants covered under Clause 2(1)(b)(i)(f) or Clause 2(1)(b)(i)(g), in respect of long term access.”

11.2. **The Commission had given following rationale while proposing the above amendment:**

“1.11. The addition of certain new categories as applicants for connectivity also necessitates amendment in the sub-clauses (ii) and (iii) of clause (1) of Regulation 2 of the Connectivity Regulations.”

11.3. No comments have been received from stakeholder on these Regulations.

11.4. Accordingly, sub-clause (b)(ii) and sub-clause (b)(iii) of Clause (1) of Regulation 2 of the Principal Regulations shall be substituted as under:

“(ii) A generating station including a captive generating plant, a consumer, an electricity trader or a distribution licensee or applicant covered under Clauses 2(1)(b)(i)(a) to (e) and 2(1)(b)(i)(h), in respect of long-term access or medium-term open access, as the case may be;”

“(iii) Applicants covered under Clause 2(1)(b)(i)(f) and Clause 2(1)(b)(i)(g), in respect of long term access.”

12. Addition of new definitions:

12.1. **The following provisions was proposed to be added after sub-clause (k) of clause(1) of Regulation 2 of the Principal Regulations:**

“(k-a) “Implementing Agency” means a company or entity designated by the Central Government or the State Government for selection of Renewable Power Developer and to act as Intermediary Procurer who shall buy power from these developers and sell the same to one or more distribution licensees in accordance with the Guidelines issued from time to time by the Ministry of Power, Government of India or the Ministry of New and Renewable Energy, Government of India or the State Government.”

12.1.1. The Commission had given following rationale while proposing the above amendment:

“1.12. SECI has been authorized as the “Implementing Agency” by MNRE for selection of developers based on tariff based competitive bidding for implementation of grid connected Solar and Wind Scheme. In line with SECI, the Central Government or the State Governments may nominate any other agency to act as “Implementing Agency” for selection of developers based on tariff based competitive bidding for implementation of grid connected Solar and Wind Scheme. Therefore, the word “Implementing Agency” has been defined in the Regulations.”

12.1.2. Comments have been received from GRIDCO, NTPC, POWERGRID and SECI:

- (a) GRIDCO has submitted that presently NLDC has been nominated as ‘Implementing Agency’ under the Sharing Regulations for calculation of ISTS charges & losses, so another IA term will create confusion. They have suggested that the Implementing Agency defined here may be renamed as ‘RE Implementing Agency cum Intermediary Procurer’ or any other suitable name.
- (b) NTPC has suggested that the definition of "Implementing Agency" may include Bulk Power Procurers/ Power Traders in addition to Distribution Licensees in order to provide more flexibility in the regulations.
- (c) POWERGRID has suggested that SECI may tie up with beneficiaries other than distribution licensees also such as bulk consumers in future.
- (d) SECI has submitted that as per clause of 16.5 of the ‘Detailed Procedure for Grant of Connectivity to projects based on renewable energy sources to inter-State Transmission System’, CTU shall share the available capacity of ISTS to bidding agency such as SECI. In that case SECI may

take the same information for bidding purpose. Before the bidding, SECI shall file connectivity application as per available data shared by CTU on behalf of Generator. Based on approval from CTU, SECI shall float bidding document. This will save time and certainty to generator for investment and which will also eliminate risk of mismatch between development of project and connected substation/transmission line. Further, SECIs tender comes under various magnitude i.e. 1000MW, 1200MW, 2000MW and 10,000MW, in which bidders are allowed to bid for Min capacity of 50MW. In a typical 2000MW tender 5 to 6 bidders were selected. Accordingly for a typical location SECI shall take Bulk Stage-I connectivity and distribute the capacity amongst the successful bidders based on LOI. SECI has requested that Government nominated implementing agency should not be allowed to hold the connectivity exceeding 9 months from date of Stage-1Connectivity and in case it goes beyond the 9 months then said connectivity will stand cancelled.

12.1.3. Analysis and decision:

- (a) We agree with suggestion of GRIDCO to rename 'Implementing Agency' to avoid confusion with existing Implementing Agency defined under the Sharing Regulations. Further, we also agree with suggestion of NTPC and POWERGRID that the 'Renewable Energy Implementing Agency' may also tieup with buyers other than distribution licensees as per guidelines of Government. Accordingly, the definition has been modified.
- (b) With regard to suggestion of SECI that the government nominated implementing agency should not be allowed to hold the connectivity exceeding 9 months from date of Stage-1 Connectivity and in case it goes beyond the 9 months then said connectivity will stand cancelled, it is clarified that the Commission has approved "Detailed Procedure for grant of Connectivity to Projects based on Renewable Source of Energy sources to inter-State Transmission System (ISTS) vide order dated 15.5.2018" wherein it has been provided that Stage-I Connectivity grantee shall cease to be Stage-I Connectivity grantee if it fails to apply for Stage-II Connectivity with 24 months from grant of Stage-I Connectivity. The relevant portion of the said detailed procedure reads as under:

“6.6 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.”

Accordingly, the provision prescribed under the said detailed procedure shall also be applicable in case of Stage-I Connectivity granted to SECI.

12.1.4. In view of above discussion, following provisions shall be added after sub-clause (k) of clause(1) of Regulation 2 of the Principal Regulations:

“(k-a) “Renewable Energy Implementing Agency” means a company or entity designated by the Central Government or the State Government to act as Intermediary Procurer to select and buy power from Renewable energy generating station(s) and sell the same to one or more distribution licensees or any other person in accordance with the Guidelines issued from time to time by the Ministry of Power, Government of India or the Ministry of New and Renewable Energy, Government of India or the State Government;”

12.2. **The following provisions was proposed to be added after sub-clause (r) of clause (1) of Regulation 2 of the Principal Regulations, namely:**

"(r-a) “Renewable Energy Generating Station” shall mean a generating station based on any renewable source of energy, and shall include Renewable Hybrid Generating Station

(r-b) “Renewable Hybrid Generating Station” shall mean a generating station based on hybrid of any renewable source(s) with or without storage;

(r-c) “Renewable Hybrid Power Park” shall mean the Power Park based on hybrid of any renewable source(s) with or without storage;

(r-d) “Renewable Power Developer” shall mean a Solar Power Developer or Wind Power Developer or Renewable Hybrid Power Developer which shall be responsible for developing the Renewable Energy Generating Station;

(r-e) “Renewable Power Park Developers” shall mean a Solar Power Park Developer or Wind Power Park Developer or Renewable Hybrid Power Park Developer;”

12.2.1. **The Commission had given following rationale while proposing the above amendment:**

“1.13. Further, projects based on renewable energy sources are getting connected to the grid in large number. In future, the developers may integrate storage with projects based on renewable energy sources to reduce intermittency of RE generation. In order to bring clarity to developers and to facilitate them in smooth integration with grid, some definitions have been added.”

12.2.2. No comments have been received from stakeholders on this regulation.

12.2.3. Since, Renewable Power Developer is same as the Renewable Energy Generating Station, therefore, the proposed definition of Renewable Power Developer at Regulation 2(1)(r-d) has been deleted. The following provisions shall be added after sub-clause (r) of clause (1) of Regulation 2 of the Principal Regulations:

"(r-a) “Renewable Energy Generating Station” shall mean a generating station based on any renewable source of energy, and shall include Renewable Hybrid Generating Station

(r-b) “Renewable Hybrid Generating Station” shall mean a generating station based on hybrid of any renewable source(s) with or without storage;

(r-c) “Renewable Hybrid Power Park” shall mean the Power Park based on hybrid of any renewable source(s) with or without storage;

(r-d) “Renewable Power Park Developers” shall mean a Solar Power Park Developer or Wind Power Park Developer or Renewable Hybrid Power Park Developer;”

12.3. The following provision was proposed to be added after sub-clause (u) of clause (1) of Regulation 2 of the Principal Regulations:

“(u-a) “Storage” means energy storage system utilizing methods and technologies like, Solid State Batteries, Flow Batteries, Pumped Storage hydro-power, Compressed Air, or any other technology, to store various forms of energy;”

12.3.1. Comments have been received from POWERGRID and SECI.

12.3.2. POWERGRID and SECI have suggested that the energy storage system should not only store various form of energy but also discharge or deliver the stored energy in the form of electricity.

12.3.3. We agree with the suggestion of POWERGRID and SECI that the energy stored in the storage devices will be ultimately be discharged in the form of electricity to the grid.

12.3.4. In view of above discussion, following provision shall be added after sub-clause (u) of clause (1) of Regulation 2 of the Principal Regulations:

“(u-a) “Storage” means energy storage system utilizing methods and technologies like, Solid State Batteries, Flow Batteries, Pumped Storage hydro-power, Compressed Air, or any other technology, to store various forms of energy and deliver the stored energy in the form of electricity.”

13. Amendment to Regulation 5 of the Principal Regulations:

13.1. The First proviso of Regulation 5 of the Principal Regulations was proposed to be substituted as under:

“Provided that an application for connectivity is not required to be made by any transmission licensee;”

13.2. No comments have been received from the stakeholders on this Regulation. Therefore, the clause is amended as proposed.

14. Amendment to 1st proviso to Regulation 8(1):

14.1. The First Proviso to Regulation 8 (1) was proposed to be substituted as under:

“Provided that where after filing of an application, there has been any material change in the location of the applicant or change in the quantum of power to be interchanged with the inter-state transmission system, by more than 100 MW in the case of applicant defined under sub-clauses (b)(i)(a) of Clause (1) of Regulation 2, 100 MW or 40% of the installed capacity, whichever is less, in the case of applicant defined under sub-clauses (b)(i)(aa), (b)(i)(b), and (b)(i)(h) of Clause (1) of Regulation 2 and 100MW or 40% of the aggregate installed capacity, whichever is less, in the case of applicant defined under sub-clauses (b)(i)(c) and (b)(i)(cc) of Clause (1) of Regulation 2, such an applicant shall make a fresh application, which shall be considered in accordance with these regulations.”

14.2. Comments have been received from AGEL, InWEA, POWERGRID, Greenko and TANGEDCO:

- 14.2.1. AGEL has submitted that a large wind farm spread over a larger area and depending upon land allocated by the state revenue authorities, such wind farm may be required to be established in different cluster. Therefore, the same should not be considered as a material change in the location of the applicant as long as the same wind farm is located in the same district of the State and going to be connected at the same PGCIL/ Transmission Licensee's sub-station where connectivity is granted. AGEL has requested to modify the proposed regulation in line with regulation 7.14 in the draft CERC (Grant of Connectivity and General Network Access to the inter-State transmission system and other related matters) Regulations, 2017.
- 14.2.2. InWEA has submitted that Renewable Power Park developer is also an eligible applicant and should have the same level playing field as the other stake holders in revising the MW connectivity applied for.
- 14.2.3. POWERGRID has suggested that the applicants referred to at 2(1)(b)(i)(d), 2(1)(b)(i)(e), 2(1)(b)(i)(f) and 2(1)(b)(i)(g) should also be mentioned in the this regulation.
- 14.2.4. Greenko has submitted that the proposed regulation may be modified to include new provisions proposed for standalone storage and hybrid projects.
- 14.2.5. TANGEDCO has submitted that as per the proposed regulation 40% of installed capacity for 50 MW implies that up to 30 MW there is no necessity for filing fresh application which infers that 30 MW is adequate to process the application and design the transmission system. This will lead to highly uneconomical and inefficient ISTS system since the ISTS Pooling Stations are either 765/400kV or 400/230kV substations. Hence the minimum requirement for connectivity to ISTS should be 250 MW and above (pooled capacity) to avoid creation of redundant capacity in the system.

14.3. Analysis and decision:

- 14.3.1. With regard to submission of AGEL to modify the instant provision in line with Regulation 7.14 in the draft CERC (Grant of Connectivity and General Network Access to the inter-State transmission system and other related matters) Regulations, 2017 (Draft GNA Regulations), it is clarified that the Commission is in the process of finalizing the Draft GNA Regulations and the

suggestion given by AGEL shall be taken care while finalizing draft GNA Regulations.

- 14.3.2. With regard to suggestion of Greenko, it is clarified that project based on standalone storage sources and hybrid projects are already covered under the proposed regulation.
- 14.3.3. We agree with the suggestion of InWEA that Renewable Power Park Developer should also be an eligible applicant and the same has been included in the Regulations.
- 14.3.4. We agree with suggestion of POWERGRID and the applicants referred to at 2(1)(b)(i)(d), 2(1)(b)(i)(f) shall be included in the instant provision. With regard to applicant defined under Regulation 2(1)(b)(i)(e), it is clarified that any revision in quantum shall be allowed only if it doesnot make the entity ineligible for grant of Connectivity to ISTS.
- 14.3.5. With regard to submission of TANGEDCO, it is clarified that the minimum quantum required for Connectivity to ISTS must be met at all times.

14.4. Based on above discussions, First Proviso to Regulation 8 (1) shall be substituted as under:

“Provided that where after filing of an application, there has been a material change in the location or in the quantum of power to be interchanged with the inter-state transmission system, by more than 100MW or 40% of the installed capacity, whichever is less, in the case of applicant defined under sub-clauses (b)(i)(a),(b)(i)(aa), (b)(i)(b), (b)(i)(d), (b)(i)(e), (b)(i)(f), (b)(i)(g)and (b)(i)(h) and 100MW or 40% of the aggregate installed capacity, whichever is less, in the case of applicant defined under sub-clauses (b)(i)(c) and (b)(i)(cc), of Clause (1) of Regulation 2, such an applicant shall make a fresh application, which shall be considered in accordance with these regulations.”

Provided further that such change in quantum of power to be interchanged with inter-State transmission system shall be allowed only if the applicant remains eligible under clause 2(1)(b).

15. Addition of new proviso after 1st proviso to Regulation 8(1):

- 15.1. A new proviso was proposed to be added after first proviso to clause (1) of Regulation 8 of the Principal Regulations as under:

“Provided that an applicant connected with the grid or granted connectivity for a specific project can, with prior approval of CTU, utilize the same Connectivity for additional generation capacity (for same or hybrid of renewable sources), subject to the condition that net injection at any point of time does not exceed the quantum of total Connectivity granted for the existing project. For such additional generation capacity, existing generating station shall undertake all operational and commercial responsibilities for the additional capacity in following the provisions of the Indian Electricity Grid Code and all other regulations of the Commission, such as grid security, scheduling and dispatch, collection and payment/adjustment of Transmission charges, UI charges, congestion and other charges etc., and submit an undertaking in this regard to the CTU, with copy to the respective RLDC in whose control area it is located.”

15.2. Comments have been received from AGEL, Greenko, MSEDCL, POWERGRID, TANGEDCO and TERI:

15.2.1. AGEL has supported this amendment.

15.2.2. GRIDCO has suggested that the Regulation should clearly stipulate "What if in case the net injection at any point of time does exceed the quantum of total Connectivity granted for the existing project?"The associated financial repercussions of such variation are to be clearly mentioned in the Regulation & UI Charges should be replaced with deviation charges wherever it is referred. The CERC (Deviation Settlement Mechanism and related matters) (2nd amendment) Regulations, 2015 to be applicable for RE generators as well.

15.2.3. Greenko has suggested some changes in the provision as under:

Provided that an applicant connected with the grid or granted connectivity (Stage-I and Stage-II) for a specific configuration/ technology of the project can, with prior approval of CTU, utilize the same Connectivity for different configuration/ technology or additional generation capacity (like interchangeability between solar and wind or between solar/ wind to hybrid of wind and solar with any type of storage options/ standalone storage or standalone storage), subject to the condition that net injection at any point of time does not exceed the quantum of total Connectivity granted (Stage-I and Stage-II)earlier. For such changes in the configuration or technology options or generation capacity addition, applicant granted connectivity earlier shall undertake all operational and commercial responsibilities for such changes in following the provisions of the Indian Electricity Grid Code and all other regulations of the Commission, such as grid security, scheduling and dispatch, collection and payment/adjustment of Transmission charges, UI charges, congestion and other charges etc., and submit an

undertaking in this regard to the CTU, with copy to the respective RLDC in whose control area it is located;

- 15.2.4. Greenko has further submitted that in case applicant applies for connectivity with some configuration of Solar / wind or Hybrid of Solar & wind with any type of storage and even if the application is in process, it can change its configuration so long the quantum of power to be exchange with ISTS remain same or change in quantum of power is maximum to 100MW or 40% of earlier applied connectivity (whichever is less). Greenko has also submitted that hybrid generation projects may apply for connectivity and LTA as per its commercial and technical agreement subject to condition that transaction of power should not be more than the quantum of connectivity granted.
- 15.2.5. MSEDCL has suggested that permission may be granted to use connectivity for RE generator for same or hybrid type of RE generation; provided there is no change in approved connectivity quantum. However permission to utilise existing connectivity for additional generation capacity shall not be allowed. This is because there is no mechanism by which it would be monitored that net injection at any point of time does not exceed the quantum of total connectivity. There is possibility of misuse of this facility by RE generators. Also there is no provision to restrict RE generator from injecting more power into grid than approved. This will affect system security of grid. There is no provision of penalty for exceeding approved injection, as RTDA charges are not applicable for RE generator with solar or wind as per the Sharing Regulations. Further, the generator may take connectivity for lesser quantum and inject more power into grid. This may lead to further network congestion as evacuation system would be designed considering connectivity & LTA.
- 15.2.6. POWERGRID has suggested some modification in the proposed amendment and sought clarification whether the “additional generation Capacity” refers to the applicant’s own or third party generation.
- 15.2.7. TERI has submitted that the words 'UI charges' may be substituted with 'charges for deviation'. Further, the Regulation may also address the situation where net injection exceeds the quantum of total connectivity.
- 15.2.8. TANGEDCO has submitted that the second proviso should be subject to point of injection and drawal remaining the same and does not require any

system augmentation. Further, the principle generators shall also undertake the commercial responsibilities and the CERC (Deviation Settlement Mechanism and related matters) (Second Amendment) Regulations, 2015 to be followed by the RE Generators.

15.3. Analysis and decision:

- 15.3.1. With regard to suggestion of Greenko for change in configuration or technology of the project during the period of processing of the application for grant of Connectivity or after Connectivity has been granted, , the applicant shall intimate the same to CTU and CTU shall process the application for grant of Connectivity accordingly.
- 15.3.2. GRIDCO ,TERI and MSEDCL have sought clarification of treatment of condition when the net injection at any point of time does exceed the quantum of total Connectivity granted for the existing project and associated financial repercussion of such variation. In this regard it is clarified that injection more than the quantum of granted Connectivity shall not be allowed. For the event that an entity resorts to over injection over and above quantum of Connectivity, Commission may come out with separate framework under CERC DSM Regulations..Further, in order to alleviate the concern of stakeholders regarding misuse of this provision by RE generators, we direct POSOCO to monitor injection by such applicants covered under this provision and file quarterly exception report to the Commission.
- 15.3.3. We agree with changes proposed by POWERGRID in the provision. Further, POWERGRID has sought clarification whether the “additional generation Capacity” refers to the applicant’s own or third party generation. In this regard it is clarified that the ‘additional generation capacity’ referred in the proposed amendment shall refer to the applicant’s own generation
- 15.3.4. With regard to suggestion of TANGEDCO that the proposed amendment should be subject to point of injection and drawal remaining the same and does not require any system augmentation, it is clarified that injection point of generators granted connectivity under this provision shall remain same but the drawal point may vary as the additional generation capacity may have PPA with different entities. Further, since Connectivity quantum

remains same, no transmission system augmentation shall be carried out for grant of Connectivity, We also agree with suggestion of TANGEDCO that the existing generating station shall undertake the commercial responsibilities and the CERC (Deviation Settlement Mechanism and related matters) (2ndAmendment) Regulations, 2015 and the same has already been proposed in the regulation.

15.3.5. We agree with suggestion of TERI to substitute 'UI Charges' with 'charges for deviation'.

15.3.6. We observe that an applicant approaching CTU under the instant Clause should also be liable to pay application fees for Connectivity based on additional installed capacity. Accordingly regulations have been amended to include this provision.

15.4. **Based on above discussions, a new proviso shall be added after first proviso to clause (1) of Regulation 8 of the Principal Regulations as under:**

“Provided that an applicant connected with the grid or granted connectivity for a specific project can, with prior approval of CTU, utilize the same Connectivity for additional generation capacity (for same or hybrid of renewable sources), subject to the condition that net injection at any point of time does not exceed the quantum of total Connectivity granted for the original project. For such additional generation capacity, the said generating station shall undertake all operational and commercial responsibilities for the additional capacity for compliance of the provisions of the Indian Electricity Grid Code and all other regulations of the Commission, such as grid security, scheduling and dispatch, collection and payment/adjustment of Transmission charges, charges for deviation, congestion and other charges etc., and submit an undertaking in the prescribed format in this regard to the CTU, with copy to the respective RLDC in whose control area it is located. The applicant shall make an application to CTU for Connectivity for additional capacity and pay the application fee as specified in Regulation 6 of these Regulations”

16. **2nd proviso to Regulation 8(1) (3rd proviso as per the proposed amendment):**

16.1. In the existing 2ndproviso to Regulation 8(1) (3rd proviso as per the proposed amendment), the words “and Regulation 2(1)(b)(i)(cc)” was proposed to be

added after the words “Provided further that the application by the applicant defined under Regulation 2(1)(b)(i)(c)”.

16.2. Comments have been received from Greenko and InWEA.

16.2.1. Greenko has submitted that the agreement among generators should be in place before grant of physical connectivity.

16.2.2. InWEA has submitted that Renewable Power Park Developer is on par with a generating company and hence need be included for consideration of Lead Generator.

16.3. Analysis and decision:

16.4. We don't agree with suggestion of Greenko. We are of the view that the applicant defined under Regulation 2(1)(b)(i)(c) and Regulation 2(1)(b)(i)(cc) shall have to formalize a written agreement among themselves before application for grant of Connectivity.

16.5. We don't agree with suggestion of InWEA as the role of Renewable Power Park Developer may be different from that of a generating company and hence, Renewable Power Park Developer cannot be included for consideration of Lead Generator. Further, the Regulations allow only government authorized park developers, the requirement of Lead Generator will not arise.

16.6. In view of above discussion, in the existing 2nd proviso to Regulation 8(1) (3rd proviso as per the amendment), the words “and Regulation 2(1)(b)(i)(cc)” shall be added after the words “Provided further that the application by the applicant defined under Regulation 2(1)(b)(i)(c)”.

17. Fourth Proviso (5th proviso as per the proposed amendment) to Regulation 8 (1):

17.1. The existing Fourth Proviso (5th proviso as per the proposed amendment) to Regulation 8 (1) was proposed to be substituted as under:

“Provided also that the Renewable Power Park Developer is authorised by the Central or State Government to undertake infrastructural activities including arrangement for connectivity on behalf of the Renewable power generators.”

17.2. Comments have been received from InWEA and Greenko.

17.2.1. InWEA has submitted that in order to give more clarity the relevant reference to regulation should be inserted after the word "Renewable power park developer".

17.2.2. Greenko has submitted that standalone Storage Developer should also be added in the amendment.

17.3. Analysis and decision:

17.3.1. With regard to the submission of InWEA, it is clarified that "Renewable Power Park Developer" is defined under the Regulation 2(1)(b)(i)(f) and it is not necessary to include a reference for the same.

17.3.2. The suggestion of Greenko is outside the scope of present amendment.

17.4. Based on above discussions, the existing Fourth Proviso (5th proviso as per the proposed amendment) to Regulation 8 (1) shall be substituted as under:

"Provided also that the Renewable Power Park Developer is authorised by the Central or State Government to undertake infrastructural activities including arrangement for connectivity on behalf of the Renewable power generators;"

18. Addition of new clause after Clause (2) of regulation 8 of the Principal Regulations:

18.1. The following clauses were proposed to be added after Clause (2) of regulation 8 of the Principal Regulations:

"(2A) Applications for grant of Connectivity made by applicants covered under sub-clauses (aa), (cc), (e), (f), (g) and (h) of Clause (1)(b)(i) of Regulation 2 shall be processed in two stages:

- (a) Stage-I Connectivity
- (b) Stage-II Connectivity

(2B) Grant of Stage-I and Stage-II Connectivity shall be as per the Detailed Procedure issued from time to time.

Provided that the Detailed Procedure for grant of Connectivity to Projects based on renewable Sources to inter-State transmission system issued vide order dated 15.5.2018 in File No. L-1/(3)/2009-CERC shall be deemed to have been issued under these Regulations.

(2C) In case of applicants covered under sub-clause (b)(i)(g) of clause (1) of Regulation 2, the connectivity granted to such applicants may be

transferred or assigned, in part or full, in favour of the Renewable Power Developers selected by the said applicants after award of the project. On transfer or assignment of connectivity, such developers shall enter into Connectivity Agreement with CTU and accept all responsibilities and liabilities for connectivity as required under these Regulations and Detailed Procedure.”

18.2. Comments have been received from AGEL, IL&FS, POWERGRID and TANGEDCO:

18.2.1. AGEL and IL&FS have submitted that clause 9.2.2 of the ‘Detailed Procedure for grant of Connectivity to projects based on renewable energy sources to inter-State Transmission System’ sets out various milestones to be achieved by the ‘Applicant’ before applying for grant of Stage-II Connectivity. However, in case of a Solar/Wind/Hybrid Power Park Developer, achieving financial closure or release of 10% funds towards generation project milestones is not possible without identification of the RE Project Developer for setting up of generating station in the park. They have requested for suitable amendment in the detailed procedure for exemption of Renewable Power Park Developer from prerequisites for grant of Stage-II Connectivity.

18.2.2. IL&FS has also submitted that CTU should also provide a time frame as on when the connectivity would be completed from the date of application of Stage-II Connectivity. Such indicative time frame would enable the RE project developers and RE park developers to estimate risk associated with the connectivity and accordingly take actions to mitigate the same.

18.2.3. POWERGRID has submitted that connectivity for applicant under Clause 2(1)(b)(i)(e) is to be granted at the existing connection point, requirement of separate stage-II connectivity may not be there. Further, in case of Clause 2(1)(b)(i)(g) stage-II connectivity is not required as per Clause 12(1)(A). Accordingly, connectivity is to be granted as Stage-II Connectivity with firm location to facilitate application for LTA. However, Connectivity BG and Connectivity agreement shall be required under stage-II connectivity for both the above cases. POWERGRID has further submitted that in case of transfer or assignment of connectivity granted to applicant covered under sub-clause (b)(i)(g) of clause (1) of Regulation 2, such Applicant shall be liable for all

regulatory, operational and commercial obligations of a connectivity grantee up to such transfer or assignment. Also, upon transfer or assignment, the transferee Renewable Power Developer shall be liable for all regulatory and commercial obligations of a connectivity grantee for the quantum of connectivity so transferred or assigned.

18.2.4. TANGEDCO has submitted that an additional clause should be added after Regulation 8(2C) providing that the Stage-II connectivity applicant will enter into an indemnifying agreement with CTU upon grant of Stage II connectivity. CTU shall process the implementation of the transmission scheme only after indemnification between CTU and the developer of RE project is signed to recover the transmission charges for the assets created on account of the RE generator in case of non-firming up of generation project or end beneficiaries.

18.3. Analysis and decision:

18.3.1. With regards to AEGL and IL&FS submissions regarding achieving financial closure or release of 10% funds for generation project milestones, it is clarified that in case of Power Park Developers, release of 10% fund shall be equal to 10% of the cost towards Power Park which may be funds released for land or any other activity associated with the park, and does not necessarily mean the 10% toward cost of generation projects to be established in the Power Park.

18.3.2. With regards to IL&FS submissions to clearly provide timeframe by which Connectivity shall be assured by CTU, it is clarified that CTU shall provide a firm date when it will provide Connectivity to the applicant. In case of default, the mechanism are built in the Regulations.

18.3.3. We agree with POWERGRID's suggestion that applicant under Clause 2(1)(b)(i)(e) shall not apply for stage-II connectivity separately since it shall be connected through electrical system of existing generating station. It shall apply for Connectivity under extant Regulations and shall not fall under detailed Procedure dated 15.5.2018. We do not find any requirement for Connectivity BG as per Procedure dated 15.5.2018 in these cases. However we do not agree with Powergrid's suggestions regarding requirement of Stage-II Connectivity for applicants under Regulation 2(1)(b)(i)(g). In respect of applicant defined under Regulation 2(1)(b)(i)(g), Stage-II Connectivity shall

be required. Keeping in view other proposals of POWERGRID we have incorporated the changes as suggested. We also observe that applicant under Regulation 2(1)b(i)(g) may also seek LTA and may need to transfer the same to Renewable Energy Generating station. Accordingly same has been added in the Clause.

18.3.4. With regard to suggestion of TANGEDCO for addition of an additional provision regarding signing of indemnification agreement between CTU and Stage-II Connectivity grantee to recover cost of transmission system implemented for them in case of non-firming of beneficiaries, it is clarified that the concern of TANGEDCO has already been addressed by the Commission vide the Statement of Reasons to the CERC (Grant of Connectivity, Long-term Access and medium-term Open Access in inter-state Transmission and related matters) (5thAmendment) Regulations, 2015, and CERC (Grant of Regulatory Approval for execution of Inter-State Transmission Scheme to Central Transmission Utility) (1stAmendment) Regulations, 2015 that transmission charges for delay in commissioning of solar power generators are required to be paid by such solar generators/SPPD on the same line as the liability for payment by the thermal and hydro generating stations in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014. The relevant portion of the Statement of Reasons is extracted as under:

“8.2.1 With regard to the suggestions of PGCIL, it is clarified that SPPD who shall apply for Connectivity/Long term Access shall be liable to deposit Application Bank Guarantee/Construction Bank Guarantee as required under Connectivity Regulation. Further, SPPD shall also be liable for payment of transmission charges for delay in commissioning of generator and relinquishment charges towards transmission access under Connectivity Regulations and Sharing Regulations. Regulation 7(1)(u) of the Sharing Regulations provides that "No transmission charges for the use of ISTS network shall be charged to solar based generation" is applicable only when the power is evacuated through the transmission system to the beneficiaries after the commercial operation of the generating station. Therefore, transmission charges for delay in commissioning of solar power generators shall be payable by such solar generators/SPPD on the same line as the liability for payment by the thermal and hydro generating station in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

8.2.2 With regard to delay of internal system, it is clarified that SPPD shall be executing internal system on behalf of solar power generators. The treatment of delay or other modalities should be covered in Agreement between solar power generators and SPPD. In regard to NTPC's comments on development of transmission matching with generation, it is clarified that CTU shall carry out coordination with the SPPD/solar power generators in accordance with Section 38 of the Act.”

18.4. Based on above discussions, the following clauses shall be added after Clause (2) of regulation 8 of the Principal Regulations:

“(2A) Applications for grant of Connectivity made by applicants covered under sub-clauses (aa), (cc), (f), (g) and (h) of Clause (1)(b)(i) of Regulation shall be processed in two stages:

(a) Stage-I Connectivity

(b) Stage-II Connectivity

(2B) Grant of Stage-I and Stage-II Connectivity shall be as per the Detailed Procedure issued from time to time.

Provided that the Detailed Procedure for grant of Connectivity to Projects based on renewable Sources to inter-State transmission system issued vide order dated 15.5.2018 in File No. L-1/(3)/2009-CERC shall be deemed to have been issued under these Regulations.

(2C) In case of an applicant covered under sub-clause (b)(i)(g) of clause (1) of Regulation 2, the connectivity and LTA granted to such an applicant may be transferred or assigned, in part or full, in favour of the Renewable Energy Generating Station(s) selected by the said applicants after award of the project. On transfer or assignment of connectivity and LTA, such Renewable Energy Generating Station(s) shall enter into Connectivity and LTA Agreement with CTU and accept all responsibilities and liabilities for connectivity as required under these Regulations and Detailed Procedure;

Provided that up to such transfer or assignment, such Applicant shall be liable for all regulatory, operational and commercial obligations of a connectivity and LTA grantee;

Provided further that upon transfer or assignment, the transferee Renewable Energy Generating Station(s) shall be liable for all regulatory and commercial obligations of a connectivity and LTA grantee for the quantum of connectivity and LTA so transferred or assigned.”

19. Amendment in Regulation 8(3) and addition of a new clause after clause 3 of Regulation 8 of the Principal Regulations:

19.1. In the Clause (3) of the Regulation 8, the words “except applicants indicated in Clause 3A below” was proposed to be added after the words “While granting connectivity, the nodal agency shall specify the name of the sub-station or pooling station or switchyard where connectivity is to be granted”.

19.2. The following new sub-clauses was proposed to be added after Clause (3) of Regulation 8 of the Principal Regulations:

“(3A) For applicants covered under sub-clauses,(aa), (cc), (e), (f), (g) and (h) of clause (1)(b)(i) of Regulation 2, CTU shall grant Stage-I Connectivity by indicating two locations - one Primary and other alternate location.”

19.3. Comments have been received from Greenko and TANGEDCO:

19.3.1. Greenko has queried as to whether the proposal shall include Renewable Power Park Developer and Standalone Storage Developer. Further, with reference to the “Detailed Procedure for grant of Connectivity to projects based on Renewable Source of Energy to Inter-State Transmission System”, in case some developer get eligible for stage 2 either by winning a bid from central/state agency or get eligible by purchasing the land and capex inclusion, will there be timeline to be given by CTU to ensure connectivity. This aspect is very important particularly looking into the provision that after grant of stage 2 connectivity, the applicant need to develop pooling station and connectivity line in 24 months and also the developer has deposited BG. .Under this situation CTU need to ensure that there is availability of grid station to get connected.

19.3.2. TANGEDCO has submitted that the alternate location should be mentioned as "subject to the primary location becomes infeasible”.

19.4. Analysis and decision:

19.4.1. With regard to Greenko submission, it is clarified that the timeline for implementation of transmission system shall be provided to the grantee by CTU..

- 19.4.2. With regard to suggestion of TANGEDCO that the alternate location should be mentioned as "subject to the primary location becomes infeasible", it is clarified that we have done away with identification of two locations. We observe that in case an Applicant does not apply for Stage-II Connectivity within 24 months of Stage-I Connectivity, its Stage-I Connectivity shall be cancelled as per detailed Procedure.
- 19.4.3. We observe that provision of alternate location was kept in the detailed procedure dated 15.5.2018 to indicate that a situation may arise that capacity at the location gets fully allocated and few grantees have to be allocated a new location. To make things clear, we have included a provision in the instant amendment that CTU shall grant Stage-I Connectivity indicating only one location. It may happen that such a location has capacity of 5000 MW but CTU gets applications for 10000 MW. CTU shall grant Stage-I Connectivity to all such applicants at the same location. Out of this 10000 MW applicants, first 5000 MW who becomes eligible for Stage-II will get confirmed at the location as per detailed procedure. Such additional Stage-I grantees who becomes eligible for Stage-II Connectivity shall be confirmed Stage-II Connectivity at alternate location. In case such Stage-I grantees have also been granted LTA, modified LTA grant shall be issued by CTU from alternate location. In case of any conflict between detailed procedure and Regulations, provisions of regulation shall prevail. The necessary changes shall be brought out in detailed Procedure in due course of time.
- 19.4.4. Based on above conclusion no change shall be done in existing Clause 3 of Regulation 8.
- 19.5. **Based on above discussions, following new sub-clauses shall be added after Clause (3) of Regulation 8 of the Principal Regulations:**
- “(3A) Notwithstanding any provision to the contrary in any other Regulations or the Procedure applicants covered under sub-clauses, (aa), (cc), (f), (g) and (h) of clause (1)(b)(i) of Regulation 2 shall be grant Stage-I Connectivity by CTU by indicating one location and such other information as required under Clause (3) of this Regulation:

Provided that if the capacity in the said location is fully allocated to Stage-II grantees, the balance Stage-I grantees shall be allocated Stage-II Connectivity to an alternate location.”

20. First Proviso to Clause (8) of Regulation 8:

20.1. The First Proviso to Clause (8) of Regulation 8 of the Principal Regulations was proposed to be substituted as under:

“Provided that in case of a thermal generating station of 500 MW and above or a hydro generating station or a renewable energy generating station or a project based on standalone storage source(s) of capacity of 250 MW and above, CTU shall plan the system such that maximum length of dedicated transmission line does not exceed 100 km from switchyard of the generating station till the nearest pooling substation of transmission licensee.”

20.2. Comments have been received from Greenko, SECI and TANGEDCO:

20.2.1. Greenko has submitted that the time required for setting up RE generating station is less compared to make new pooling within 100 km. In case, there is no sub-station within 100km, under this situation applicant should have a choice to make dedicated line beyond 100 km also.

20.2.2. SECI has requested for amendment in the Connectivity Regulations to enable setting up of Dedicated Transmission Line of length more than 100km by the project developer/entities other than CTU.

20.2.3. TANGEDCO has submitted that this provision is against the mandate of the Electricity Act, 2003 under Sections 9 and 10. Hence, the dedicated transmission lines shall be under the purview of the generator irrespective of nature of the source. Hence, this proviso shall be modified in such a way to recover the cost of the dedicated lines from the concerned generators. Further, the bays for the dedicated lines at ISTS substation shall also be built, operated and maintained by the generators.

20.3. Analysis and decision:

20.3.1. We have considered the comments of stakeholders.

20.3.2. Keeping in view suggestions of Greenko and SECI, a new proviso has been added after 1st proviso to Regulation 8(8) of the Principal Regulations.

20.3.3. With regard to submission of TANGEDCO the cost of dedicated line should be recovered from the concerned generators, it is clarified that provision regarding recovery of charges for dedicated line is already in force since 17.2.2017 vide 6th amendment to the Connectivity Regulations. Further, regarding, construction of bays by the generators for the dedicated lines at ISTS substation, we are of the view that the bays for termination of dedicated transmission line should be constructed by the concerned generating station to avoid mismatch between commissioning of dedicated transmission line and associated bay at ISTS sub-station. However, the detailed procedure approved vide order dated 15.5.2018 in context of renewables provides as under.

“5.3 Scope of bays for dedicated transmission line

5.3.1 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.

5.3.2 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. The transmission licensee and the project developer shall endeavour to match the implementation of bays with that of associated dedicated transmission line.”

We observe that bay at ISTS substation associated with dedicated line should be made by the Applicant itself. However a provision was made in detailed procedure for Renewables issued vide Order dated 15.5.2018 that such bays shall be under the scope of transmission licensee owning the ISTS sub-station. This was introduced keeping in view that a situation may arise that applicant doesnot construct its dedicated line or generating units and the allocated bay is not getting utilized. In such a case CTU shall allocate the bay to other Applicants. Such reallocation may be dispute free and easier, if the bay is under the scope of ISTS licensee.

However keeping in view the comments, we direct that in said cases for renewables covered under detailed procedure dated 15.5.2018, Applicant may enter into an agreement with CTU to construct the bay associated with dedicated line at ISTS substation by itself. However if it doesnot utilize the bay, CTU may cancel its Connectivity as per provisions of detailed procedure and reallocate the bay to new applicant. In such a case, the equipments installed by the grantee have to be dismantled by the grantee within a period of 2 months cancellation of Connectivity or may be utilized by the new grantee as per Agreement between outgoing grantee and new grantee.

20.4. Further to above changes minor changes are required in the main Clause 8 of Regulation 8 to clarify that dedicated line may be constructed by generating station of the applicant generating Company or any other entity on behalf of generating company such as Renewable Power Park Developer or Renewable Energy Implementation agency who are otherwise eligible applicant.

20.5. **Based on above discussions, Clause (8) of Regulation 8 of the Principal Regulations shall be substituted as under:**

“The dedicated transmission line from generating station of the applicant generating Company or any other entity on behalf of generating company to the pooling station of the transmission licensee (including deemed transmission licensee) shall be developed, owned and operated by the applicant generating Company or any other entity on behalf of generating company. The specifications for dedicated transmission lines may be indicated by CTU while granting Connectivity or Long term Access or Medium term Open Access:

Provided that CTU shall plan the system such that maximum length of dedicated transmission line does not exceed 100 km from switchyard of the applicant till the nearest pooling substation of transmission licensee.

Provided further that dedicated transmission line may exceed 100 km, if such an Applicant, so chooses.

Provided also that in case any connectivity grantee is not utilizing the bay allocated to it at ISTS substation, CTU may cancel its Connectivity as per provisions of these regulations and detailed procedure and allocate the bay to other Applicants. In such an event, the original grantee shall either dismantle its bay or enter into an Agreement with a new grantee as indicated by CTU for utilization of the bay within a period of 2 months of cancellation of Connectivity.”

21. Addition of a new Regulation after Regulation 8 of the Principal Regulations:

21.1. A new Regulation 8(A) was proposed to be added after Regulation 8 of the Principal Regulations as under:

“8A. Transfer of Connectivity and LTA

A person shall not transfer, assign or pledge its connectivity or LTA and the associated rights and obligations to any other person.

Provided that the above provision shall not be applicable to applicants defined under Regulation 2(1)(b)(i)(g).

Provided further that 100% subsidiary companies shall be allowed to utilize the connectivity granted to the parent company and vice versa.”

21.2. The Commission had given following rationale while proposing the above amendment:

“3.1. The Commission vide order dated 29.9.2017 in Petition No. 145/MP/2017 inter alia observed as under:

120. The Commission has considered this issue. Though there is no provision for transfer of connectivity to any other entity, RfS issued by SECI allows creation of SPVs for project implementation. The Respondents have submitted that such SPVs face difficulties in implementation of their projects since they cannot utilize the connectivity granted to their parent companies.

.....

122. Keeping in view the fact that creation of SPV is an option under RfS issued by SECI and that a number of companies are executing the projects through creation of 100% subsidiaries after winning the bids, we are of the view that the 100% subsidiary companies should be allowed to utilize the connectivity granted to the parent company.....”

3.2. In view of the above, it is hereby clarified that a person who has been granted Connectivity or LTA shall not transfer, assign or pledge its connectivity or LTA and the associated rights and obligations to any other person. Only, the 100% subsidiary companies shall be allowed to utilize the connectivity granted to the parent company and vice versa. However, the applicants covered under the sub-clause (b)(i)(g) of Clause (1) of Regulation 2, i.e., the central Government or the State Governments authorized implementing agency can transfer the Connectivity and LTA granted to them as they have been permitted to take LTA on behalf of the Renewable Power Developers.”

21.3. **Comments have been received from Adani Green Energy Ltd. (AGEL), Greenko, Indian Wind Energy Association (InWEA), Inox Wind Infrastructure Services Ltd (IWISL),MPPMCL, National Solar Energy Federation of India (NSEEFI) and POWERGRID.**

21.3.1. AGEL has suggested that if LTA has not yet been taken by the parent company and 100% subsidiary companies are utilizing parent's connectivity, the parent company shall apply for LTA on behalf of its 100% subsidiary companies and vice versa.

21.3.2. Greenko has suggested that in case pooling station and dedicated transmission line has capacity to accommodate more power transfer/ connectivity space, this can be allocated to new applicant by CTU. The new applicant shall pay proportional transmission charges to the first applicant who developed the dedicated line and pooling station. This sharing of transmission charges will be considering the benchmark of the cost determined by CERC for different components of such dedicated system.

21.3.3. InWEA has suggested that transfer of Connectivity should also be allowed in case of applicant defined under Regulation 2(1)(b)(i)(f) provided that it undertakes such activities under the supervision of the transfer or. Further, transfer of connectivity is possible even now in state sector from renewable power park developer to several individual owners and the same needs to be extended to central sector with control as suggested.

21.3.4. IWISL has submitted that there appears to be mismatch between the language as envisaged under the proposed regulation and under approved "Detailed Procedure for grant of Connectivity to Generation Projects based on Renewable Sources of Energy to Inter-State Transmission system" and the same may be clarified or removed to synch both. Further, there is no such risk of connectivity trading with the enforcement of the aforesaid procedure as to apply for Stage-II Connectivity one must have to achieve the milestone mentioned therein. IWISL has also submitted the payers made by it in petition no. 29/MP/2018 as under:

(a) Direct the Respondent No.1 to allow the Petitioner to utilize the connectivity granted to the Petitioner by its fully owned SPVs for

execution of the projects awarded through the competitive bidding carried out by SECI, only subject to the terms and conditions stipulated in RFS issued by SECI and/or the subsequent Agreements/ Contracts entered into between the Petitioner and the Respondents governing the controlling shareholding of the Petitioner and its SPVs.

- (b) Direct that the directions contained in paragraph 122 of the order dated 29.09.2017 passed by this Commission in Petition No. 145/MP/2017 as also the order dated 31.10.2017 passed by this Commission in Petition No. 173/MP/2017, in so far as they are inconsistent with the terms and conditions of the RFS issued by Respondent No.1, shall not be applicable to the Petitioner and the Petitioner shall be governed by the terms and conditions of the RFS issued by Respondent No.1.

21.3.5. MPPMCL has suggested deleting the proposed 2nd proviso as the subsidiary companies are separate legal entities than parent company.

21.3.6. NSEFI and AGEL have submitted that the Commission has provided that *"....sale of shares in the subsidiary company(ies) shall be allowed only after one year of the commencement of supply of power from the SPV"*. Further, by limiting only to "utilization", the parent and 100% subsidiary relationship needs to remain forever. This situation would not be in line with Bidding Documents as well as the Order and Procedures. Even the RfS only provides for 51% shareholding lock-in i.e. 49% is allowed to be transferred any time after signing of PPA. Thus to make it in line with RfS document, condition should be made subsidiary/parent relationship and not 100% subsidiary/parent relationship.

21.3.7. POWERGRID has suggested that the clause may be modified as "A person shall not transfer, assign or pledge its connectivity or LTA, in full or in part and the associated rights and obligations to any other person".

21.4. **Analysis and decision:**

21.4.1. We agree with suggestion of AGEL that if LTA has not yet been taken by the parent company and 100% subsidiary companies utilizing parent's connectivity, the parent company shall apply for LTA and its 100% subsidiary company(ies) may utilize the same and vice versa. We would like to clarify that LTA can either be applied by an entity holding the Connectivity or has applied for Connectivity. Further, the 100% subsidiary

companies shall be allowed to utilize the connectivity or LTA granted to the parent company and vice versa.

- 21.4.2. Greenko's suggestions on sharing of dedicated infrastructure is already covered in detailed procedure dated 15.5.2018.
- 21.4.3. We do not agree with suggestion of InWEA to allow transfer of Connectivity granted to applicant defined under Regulation 2(1)(b)(i)(f) i.e., entity or company authorized by the Central Government or State Government as Renewable Power Park Developer,. The Renewable Power Park Developers develop transmission network within the park to collect power from each project and transmitting it to the transmission sub-station of ISTS, provide transmission facility to allow connection of individual projects with pooling stations. Hence, entity or company authorized by the Central Government or State Government as Renewable Power Park developer can't be allowed to transfer connectivity to individual generators..
- 21.4.4. Regarding submission of IWISL that there is some mismatch between the proposed regulations and the detailed procedure for grant of connectivity to RE projects, it is clarified that in case of mismatch, the Regulations will prevail over the detailed procedure. Further detailed procedure shall be amended in due course. With regard to the concerns raised by IWISL in Petition no. 29/MP/18 in respect of requirement of RFS vis a vis the provisions of regulations and detailed procedure it is clarified that sale of shareholding have been covered in detailed procedure approved by the Commission vide order dated 15.5.2018 as under:

“5.2 Utilisation of Connectivity granted to the Parent Company by its Subsidiary company (ies)

5.2.1 The Connectivity granted to a company may be utilised by its wholly owned (100%) subsidiary company(ies) including SPVs. In such cases, the parent company cannot sell its shareholding in the subsidiary company (ies) before the lock-in period of one year after the commencement of supply of power from such subsidiary.

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. An illustration is given below:

“A company is granted Connectivity for 1000 MW and it wins a bid for 250 MW. It forms five wholly owned (100%) subsidiaries of 50 MW each. In such a case lock-in period shall be 1 year

from commencement of supply from last subsidiary (i.e. subsidiary which is commissioned last) out of this 250 MW.”

5.2.2 In the cases covered under clause 5.2.1, 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, related to grid security, scheduling and dispatch, collection and payment/adjustment of Transmission charges, deviation charges, congestion and other charges etc. The consortium agreement amongst lead generator and other generators shall be as per FORMAT – CON – LGN.”

21.4.5. Keeping in view MPPMCL suggestion that subsidiary companies are separate legal entities we have modified the Clause to allow transfer of Connectivity to Subsidiary after the specified lock-in period.

21.4.6. We agree with the suggestion of POWERGRID and regulation has been amended to include words “full or parts”.

21.4.7. With regard to suggestion of NSEFI and AGEL suggestion, it is clarified that 100% subsidiary companies are allowed to utilize the Connectivity granted to the parent company and vice-versa. Regarding shareholding pattern in the subsidiary companies, Clause 5.2.1 of the Detailed Procedure dated 15.5.2018 provides that the parent company cannot sell its shareholding in the subsidiary company(ies) before the lock-in period of one year after the commencement of supply of power from such subsidiary (last subsidiary in case of more than one subsidiaries).

Further, to take care of comments of NSEFI and AGEL, transfer of connectivity and LTA has been allowed.

21.5. Based on above discussions, a new Regulation 8(A) shall be added after Regulation 8 of the Principal Regulations as under:

“8A. Transfer of Connectivity and LTA

A person shall not transfer, assign or pledge its connectivity or LTA either in full or parts and the associated rights and obligations to any other person.

Provided that the above provision shall not be applicable to applicants defined under Regulation 2(1)(b)(i)(g).

Provided further that 100% subsidiary companies shall be allowed to transfer their connectivity and LTA to the parent company and vice versa one year after achieving commercial operation of Renewable Energy generating station(s):

Provided further that transfer of Connectivity and LTA from the parent company to more than one 100% subsidiary shall be permitted one year after the commercial operation of the generating station of the last subsidiary and subject to minimum capacity as per Regulation 2(1)(b):

Provided also that till such Connectivity and LTA are transferred, the concerned subsidiary company(ies) shall be allowed to utilize the Connectivity and LTA granted to the parent company and vice versa.”

22. Amendment of Regulation 9 of the Principal Regulations

22.1. The Clause (1) of Regulation 9 of the Principal Regulations, the word “awarding” was proposed to be substituted with the word “granting”.

22.2. Comments have been received from TANGEDCO:

22.2.1. TANGEDCO has submitted that a proviso may be added under the clause (1) of Regulation 9 such that in case of RE generators, for augmentation of the ISTS, CTU shall also take into account of the Intra-State transmission system planned and under execution to avoid redundant transmission capacity and to develop such planned Intra-State transmission system under Central financial Assistance.

22.3. Analysis and decision:

22.3.1. We agree with submission of TANGEDCO. The Commission has vide notification dated 23.7.2018 published the CERC (Planning, Coordination and Development of Economic and Efficient Inter-State Transmission System by Central Transmission Utility and other related matters) Regulations, 2018 wherein it has been provided that the CTU shall carry out transmission planning for augmentation and strengthening inter-alia considering existing and under-construction inter-State and intra-State transmission network up to desired voltage level.”

Hence, the concern raised by TANGEDCO has been duly considered by the Commission.

22.4. Based on above discussions, the Clause (1) of Regulation 9 of the Principal Regulations, the word “awarding” shall be substituted with the word “granting”.

23. Amendment of Regulation 12 of the Principal Regulations:

23.1. In the Third Proviso to Clause (1) of Regulation 12 of the Principal Regulations, the words “except in cases involving Renewable Energy generating Station(s),” was proposed to be added after the words “Provided also that”.

23.1.1. The Commission had given following rationale while proposing the above amendment:

“5.1. Regulation 12 deals with the processing of applications for long term access. The gestation period of renewable generating station is very less in comparison to the transmission system and the criteria of minimum 10% award of EPC contract by renewable energy generator to start implementation of transmission project may leave very less time for implementation of transmission system required for evacuation of renewable power. 10% EPC will be done by the successful bidder. Hence, it has been proposed that implementation of transmission system associated with renewable generation may be taken up by the CTU in consultation with CEA and MNRE even if EPC contract for 10% has not been placed. CTU shall quarterly monitor the progress of renewable energy generators and in case of adverse progress, CTU may review implementation of transmission system.

5.2. Accordingly, in the 3rd proviso to Clause (1) of the Regulation 12 of the Principal Regulations, the words “except in cases involving Renewable Energy generating Station(s)” has been proposed to be added after the words “Provided also that”.

23.1.2. Comments have been received from MSEDCL, Greenko and TANGEDCO:

- (a) MSEDCL has suggested that 10% EPC condition shall not be waived for Renewable Energy generating Station(s); otherwise separate Bank Guarantee shall be taken from renewable Energy generating station toward expected cost of transmission network required to be erected by CTU for evacuation of power. This is to avoid unnecessary expenditure from CTU, if generating station doesn't later on complete project, for which transmission network developed.

- (b) Greenko has asked for approach to be adopted in case of Renewable generation.
- (c) TANGEDCO has stated that exception to RE generators will lead to creation of redundant assets. The Stage-I connectivity applicants will vanish after grant of connectivity due to their inability to acquire land, financial closure and other issues. The asset created will become redundant and will pose a huge financial burden to the existing DICs. This has been witnessed in the case of green energy corridor being developed for RE generators in Tuticorin area and the transmission corridors being developed for solar power parks. Hence, in order to avoid creation of redundant capacity, it is essential to have a check on the preparedness of the RE promoters and hence, phasing of the transmission assets should be matching with the commissioning of the RE generators. Considering the huge RE capacity addition, this Clause is inevitable to safeguard the interest of DISCOMS, end consumers as well as CTU. Further, indemnification agreement is also essential to safeguard the interest of CTU

23.1.3. **Analysis and decision:**

- (a) MSEDCL and TANGEDCO have stated that 10% EPC value for Renewable Energy generating Station(s) should not be waived off keeping in view low gestation period of renewable energy generators vis-à-vis transmission. We would like to clarify that Central Electricity Regulatory Commission (Planning, Coordination and Development of Economic and Efficient Inter-State Transmission System by Central Transmission Utility and other related matters) Regulations, 2018 provide for regular matching to ensure that redundant assets are not created and envisages wider stakeholder participation. The reason for waiving of 10% EPC requirement was adequately explained vide the draft amendment whereby we noted that criteria of 10% award of EPC contract by renewable energy generator to start implementation of transmission project may leave very less time for implementation of transmission system for evacuation of renewable power in view of less gestation period of renewable generating station in comparison to the transmission system. Hence, CTU may take up implementation of transmission system associated with renewable

generation in consultation with CEA and MNRE even if EPC contract for 10% has not been placed. CTU shall quarterly monitor the progress of renewable energy generators and in case of adverse progress, it may review implementation of transmission system.

23.1.4. Accordingly, in the Third Proviso to Clause (1) of Regulation 12 of the Principal Regulations, the words “except in cases involving Renewable Energy generating Station(s),” shall be added after the words “Provided also that”.

23.2. In the Fifth Proviso to Clause (1) of Regulation 12 of the Principal Regulations, the words “or 40%, as the case may be, as per first proviso to Regulation 8(1)” was proposed to be added after the words “Provided also that in cases where there is any material change in location of the applicant or change by more than 100 MW”.

23.3. **Comments have been received from SECI:**

23.3.1. SECI has submitted that it has been noted in the Explanatory Memorandum of the proposed draft that the implementing agency or designated agency may find it difficult to indicate firm beneficiary /target beneficiary in the applications for LTA prior to completion of Bid and they can apply for LTA without indicating any beneficiary /region. SECI has suggested that in case quantum (MW) change is more than 100MW or 40% of applied quantum (MW) then in line with proposed Connectivity Regulations, Government nominated implementing agency will be exempted for fresh LTA application.

23.4. **Analysis and decision:**

23.4.1. We don't agree with suggestion of SECI that it will not apply for target region. The extant Regulations require all Applicants to indicate target region and accordingly Renewable Energy Implementing Agency should also indicate target region.

23.4.2. Further, the existing 5th proviso to Clause (1) of Regulation 12 of the Connectivity Regulations provides for fresh applications for grant of LTA in case of material change in location of the applicant or change in quantum to be interchanged with ISTS by more than 100MW or change in region from which electricity is to be procured or to which supplied. If the target

region is not specified in the first instance, informing the same shall not be considered under change of region. We note that Applicant covered under 2(1)(b)(i)(g) should also be covered under first proviso to Regulation 8(1). Accordingly the same have been included in Regulation 8(1) There are certain category of applicants for which fresh application for grant of LTA shall be required if change in quantum to be interchanged with ISTS is more than 40% of installed capacity. Accordingly, in the Fifth Proviso to Clause (1) of Regulation 12 of the Principal Regulations, the words “or 40%, as the case may be, as per first proviso to Regulation 8(1)” shall be added after the words “Provided also that in cases where there is any material change in location of the applicant or change by more than 100 MW”.

23.5. A new Clause was proposed be added after Clause (1) of Regulation 12 of the Principal Regulations as under:

“(1A) Notwithstanding anything contained in Clause 2A of Regulation 8, Stage-II Connectivity shall not be a pre-requisite for applying for LTA for applicants under Regulation 2(1)(b)(i)(e) and 2(1)(b)(i)(g).”

23.5.1. Comments have been received from Greenko, Indian Wind Energy Association (InWEA), Indian Wind Power Association (IWPA), SECI and TANGEDCO:

- (a) Greenko has queried that whether the renewable generation applicant can apply for LTA without Stage- 2 connectivity granted?
- (b) Indian Wind Energy Association (InWEA) has suggested that this provision needs be extended to the applicant covered under Regulation 2(1)(b)(i)(f) with proper controls.
- (c) IWPA has submitted that adding a new clause which does not insist for stage-II Connectivity as a pre-requisite for particular category of applicants alone does not appear to be considering all applicants in the Renewable Energy Sector on equitable footing. Condition for applying for Stage-II involves substantial financial inputs by the applicants. Therefore, not insisting Stage-II connectivity prior to applying for LTA in case of a limited category of applicants only shall put the others under lot of disadvantages specifically in competitive bidding scenarios. Therefore,

this clause may be suitably amended to consider all applicants on equitable footing to ensure fair opportunity for all interested players in the Renewable Energy Sector.

- (d) TANGEDCO has suggested that if the company or entity defined under Regulation 2(l)(b)(i)(g) is relieved off the requisite for Stage-II Connectivity, then without the mandatory requirements under Stage-II Connectivity or even without any firm commitment from the RE generators the agency acting on behalf of RE generators can apply for LTA. This will lead to uncertainty in planning the transmission system and also unjustifiable capital investment by the TSP and burden to beneficiaries. Hence, the mandatory conditions under Stage-II connectivity shall have to be fulfilled by the RE generators who avails LTA through the Nodal agency or company acting on behalf of RE generators.

23.5.2. Analysis and decision:

- (a) In regard to Greenko's and InWEA's submissions, it is clarified that the requirement of Stage-II for LTA has been done away with for all types of Applicants.
- (b) With regards to submissions of TANGEDCO, we note an Applicant can apply LTA with Connectivity application or after Connectivity is granted. Due safeguards are built in the Regulations to address the concerns of revision of planned transmission system under CERC Planning Regulations. The nodal agency may undertake revision in planned transmission system, if required, to transmit power from renewable generating station to the beneficiaries.

23.5.3. Based on above discussions, a new clause shall be added after clause (1) of Regulation 12 as under:

“(1A) Notwithstanding anything to the contrary in the Procedure, Stage-II Connectivity shall not be a pre-requisite for applying for LTA.”

24. Amendment of Regulation 13 of the Principal Regulations:

- 24.1. The First proviso of Regulation 13 of the Principal Regulations was proposed to be deleted.

24.1.1. **The Commission had given following rationale while proposing the above amendment:**

“6.1. The nodal agency for grant of Connectivity, long term access and medium term open access is the CTU and hence, the CTU can approach the Commission any time in case it faces any difficulty in implementation of the provisions of these Regulations. Accordingly, the first proviso to Clause (1) of the Regulation 13 has been deleted.”

24.1.2. No comments have been received from the stakeholders on this Regulation. Accordingly, 1st proviso of Regulation 13 of the Principal Regulations shall be deleted.

24.2. The Clause (3) of Regulation 13 of the Principal Regulations was proposed to be deleted.

24.2.1. **The Commission had given following rationale while proposing the above amendment:**

“6.2. The Commission vide notification dated 23.7.2018 issued the CERC (Planning, Coordination and Development of Economic and Efficient Inter-State Transmission System by Central Transmission Utility and other related matters) Regulations, 2018. The objectives of the said Regulations are as under:

“2. Objectives of the Regulations - The objectives of this Regulation are to:

(1) lay down the broad principles, procedures and processes to be followed for planning and development of an efficient, co-ordinated, reliable and economical system of inter-State transmission system (ISTS) for smooth flow of electricity from generating stations to the load centres;

(2) ensure wider participation of stakeholders in the planning process and specify the procedures for stakeholder’s consultation and participation;

(3) specify procedures to bring about transparency in the planning process; and

(4) demarcate the roles and responsibilities of various organisations in line with the Act for meeting above objectives;”

6.3. Hence, the matters related to transmission planning, coordination/consultation with stakeholders shall be dealt with under the aforesaid Regulations. Accordingly, the Clause (3) of the Regulation 13 of the Principal Regulations has been proposed to be deleted.”

24.2.2. **Comments have been received from MSEDCL.**

- (a) MSEDCL has submitted that the deletion of this provision is contradictory to clause 7.2 of “Detailed Procedure for grant of Connectivity to Projects based on Renewable Sources to inter-State transmission system” issued vide order dated 15.5.2018. Hence, amendment needs to be made in detail procedure of RE connectivity, so as to make provision in line with provision under the CERC(Planning, Coordination and Development of Economic and Efficient Inter-State Transmission System by Central Transmission Utility and other related matters) Regulations, 2018.

24.2.3. **Analysis and decision:**

- 24.2.4. We have considered the submissions of MSEDCL. We don't agree with the suggestions of the MSEDCL that the proposed amendment in 1st proviso to the Regulation 13 of the Connectivity Regulations is against the Clause 7.2 of the “Detailed Procedure for grant of Connectivity to Projects based on Renewable Sources to inter-State transmission system” issued vide order dated 15.5.2018. the Clause 7.2 of the aforesaid detailed procedure is reproduced as under:

“7.2 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. CTU shall regularly interact with MNRE or its designated agency / authority / nodal officer in this regard. The sub-station plant shall be implemented in terms of the tariff policy.”

- 24.2.5. We note that Clause 7.2 of the above said detailed procedure deals with the planning of transmission system for harnessing renewable generation potential by CTU in consultation with CEA and MNRE. Whereas the existing Clause 3 of Regulation 13 of the Connectivity Regulations deals with implementation of transmission system in accordance with the tariff based competitive bidding process.

- 24.2.6. Further, the Clause 3 of Regulation 6 of the CERC (Planning, Coordination and Development of Economic and Efficient Inter-State Transmission System by Central Transmission Utility and other related matters) Regulations, 2018 provides that while planning to augment ISTS may have consultation with MNRE and the Departments responsible for

renewable energy development of the State Governments. The said Regulation 6(3) is reproduced as under:

“6(3) The Central Transmission Utility may have consultations, with regard to renewable energy potential and its capacity addition, with Ministry of New and Renewable Energy (MNRE), Government of India or its authorized agencies and Departments responsible for renewable energy development of the State Governments, in advance.”

24.2.7. Hence, the matters related to transmission planning, coordination/consultation with stakeholders shall be dealt in accordance with the CERC (Planning, Coordination and Development of Economic and Efficient Inter-State Transmission System by Central Transmission Utility and other related matters) Regulations, 2018.

24.2.8. Based on the above discussions, Clause (3) of Regulation 13 of the Principal Regulations shall be deleted.

25. Amendment of Regulations 15 and 21 of the Principal Regulations:

25.1. The Regulation 15 and Regulation 21 of the Principal Regulations were proposed to be substituted to include para numbering.

25.2. The Commission had given following rationale while proposing the above amendment:

“7. The Regulations 15 and 21 of the Principal Regulations have been proposed to be amended as per the draft Regulations for the purpose of clarity without changing the intent of these Regulations.”

25.3. No comments have been received from the stakeholders on this Regulation.

25.4. Analysis and decision:

25.4.1. The proposed amendments (para numbering) in the Regulation 15 and in 2nd proviso to clause (1) of Regulation 21 of the Connectivity Regulations have been done for purpose of clarity. The intent of these regulations has not been changed.

26. Amendment of Regulation 27 of the Principal Regulations:

26.1. The First proviso of sub-clause (c) of Clause (2) of Regulation 27 of the Principal Regulations was proposed to be substituted as under:

“Provided that the time period for construction of the transmission elements shall be consistent with the timeline for completion of projects as specified in the relevant Tariff Regulations issued by the Commission from time to time.”

26.2. No comments have been received from the stakeholders on this Regulation.

26.3. **Analysis and decision:**

26.3.1. The timeline for construction of projects have not been included in draft Tariff Regulations 2019-24.

26.4. **Based on the above discussion above discussions, following amendment is proposed:**

26.4.1. The sub-clause (c) of Clause (2) of Regulation 27 of the Principal Regulations shall be deleted

27. Amendment of Regulation 29 of the Principal Regulations:

27.1. The Regulation 29 was proposed to be deleted.

27.2. **The Commission had given following rationale while proposing the above amendment**

“8. The Commission vide order dated 29.4.2011 inter alia approved the Billing, Collection and Disbursement Procedure under Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses), Regulations, 2010 which govern the matters related to payment of inter-State transmission charges and losses. Further, vide notification dated 18.5.2015, the Commission issued the CERC (Fees and Charges of Regional Load Despatch Centres and other related matters) Regulations, 2015 which is applicable for determination of fees and charges to be collected by RLDCs from generating companies, DISCOMs, ISTS Licensees, buyers, sellers and ISTS trading licensees. In view of the aforesaid, the Regulation 29 of the Principal Regulations, which provides for payment of transmission charges and fees and charges for the Regional Load Dispatch Centre, has been proposed to be deleted.”

27.3. No comments have been received from the stakeholders on this Regulation.

27.3.1. Accordingly, The Regulation 29 shall be deleted.

28. Additional comments:

28.1. CTU vide letter dated 5.12.2018 has suggested to allow rectification of deficiency by an Applicant under these Regulations as allowed for Renewable projects under detailed Procedure dated 15.5.2018. A separate Clause (5A) has been added after regulation 5 to include the Clauses as per detailed procedure dated 15.5.2018.

28.2. IWTMA has submitted that clause 12.2.2 (vi) of the 'Detailed Procedure for grant of Connectivity to Project based on Renewable Sources to inter-State Transmission System' provides that the developer of renewable generation project shall comply with requirements specified at Clause 16.4 of CEA Manual on Transmission Planning Criteria 2013, with regard to requirement of reactive compensation at the pooling station. CTU while conveying grant of connectivity stipulates that the wind developers shall provide adequate reactive power compensation so that under all dispatch scenarios power factor of 0.98 shall be maintained at injection point. IWTMA has submitted that the stipulations regarding maintaining power factor of 0.98 absorbing at injection point under all dispatch scenarios is for Planning Purpose. The dispatch scenarios in the planning criteria are with reference to light load conditions and peak load conditions of the system and relatable dispatches of the generating stations. It is technically not feasible to maintain power factor of 0.98 absorbing under insignificantly very low generation dispatches, below a generation dispatch of say 20% of the connected capacity of the generating station. Further, the Central Electricity Authority (Technical Standards for connectivity to the Grid) Regulations (amendment of October, 2013) provide that the power factor of the generating station should lie between the limits of 0.95 lag (export) and 0.95 lead (absorbing).

28.3. We have considered the submission of IWTMA. The clause 16.4 of the CEA Manual on Transmission Planning Criteria provides as under:

“16.4 The wind and solar farms shall maintain a power factor of 0.98 (absorbing) at their grid inter-connection point for all dispatch scenarios by providing adequate reactive compensation and the same shall be assumed for system studies.”

28.4. Clause 12.2.2 (iv) of the 'Detailed Procedure for grant of Connectivity to Project based on Renewable Sources to inter-State Transmission System' provide as under:

"12.2.2 (iv) The developer of renewable generation project shall comply with requirements specified at Clause 16.4 of CEA Manual on Transmission Planning Criteria 2013, with regard to requirement of reactive compensation at the pooling station."

28.5. Also CEA (Technical Standard for Connectivity) (Amendment) Regulations, 2013 provide as under

"B2. For generating station getting connected on or after completion of 6 months from date of publication of these Regulations in the Official Gazette,

(1) The generating station shall be capable of supplying dynamically varying reactive power support so as to maintain power factor within the limits of 0.95 lagging to 0.95 leading.

(2) The generating units shall be capable of operating in the frequency range of 47.5 Hz to 52 Hz and shall be able to deliver rated output in the frequency range of 49.5 Hz to 50.5 Hz.

Provided that above performance shall be achieved with voltage variation of up to $\pm 5\%$ subject to availability of commensurate wind speed in case of wind generating stations and solar insolation in case of solar generating stations."

28.6. We have perused the provision regarding power factor as provided in the CEA (Technical Standard for Connectivity) (Amendment) Regulations, 2013 and CEA Manual on Transmission Planning Criteria. It is observed that the requirement of power factor of 0.98 (absorbing) at grid inter-connection point for all dispatch scenarios by providing adequate reactive compensation is for the purpose of transmission planning and hence the same shall be considered for planning transmission system. Further, for all operation purpose, CEA (Technical Standard for Connectivity) (Amendment) Regulations, 2013 provide that generating station shall be capable of supplying dynamically varying reactive power support so as to maintain power factor within the limits of 0.95 lagging to 0.95 leading. Therefore, for all operational purpose, the limits of 0.95 (lagging) to 0.95 (leading) as provided in the CEA (Technical Standard for Connectivity)

(Amendment) Regulations, 2013 shall be used. Necessary changes shall be brought out in detailed procedure in due course.

- 28.7. Stakeholders have suggested amendments on certain issues not covered under the draft amendment and amendment in the 'Detailed Procedure for grant of Connectivity to projects based on Renewable source of energy to inter-State Transmission system'. We have noted the suggestion of stakeholders and shall be kept in view while proposing future amendment to the Connectivity Regulations.

Sd/-
(M.K. Iyer)
Member

Sd/-
(P.K. Pujari)
Chairperson

List of stakeholders submitted their written comments/suggestions:

Sl. No.	Name of Stakeholder
1.	Adani Green Energy Ltd. (AGEL)
2.	EDEN Renewable Cite Private Ltd
3.	GREENKO
4.	GRIDCO
5.	Gujarat Fluorochemicals Limited
6.	IL&FS Energy Development company Limited
7.	Indian Wind Energy Association (InWEA)
8.	Indian Wind Power Association (IWPA)
9.	Indian Wind Turbine Manufactures Association (IWTMA)
10.	Inox Wind Infrastructure Services Ltd
11.	Maharashtra State Electricity Distribution Company Ltd (MSEDCL)
12.	National Solar Energy Federation of India (NSEFI)
13.	NTPC
14.	POWERGRID
15.	Solar Energy Corporation of India Ltd (SECI)
16.	The Energy and Research Institute (TERI)
17.	TANGEDCO

List of Stakeholders given comments/suggestions during Public Hearing held on 19.09.2018

Sl. No.	COMPANY/STAKEHOLDER/INDIVIDUAL
1.	TANGEDCO
2.	GRIDCO
3.	Adani Green Energy Ltd.
4.	POWERGRID