

**JOINT ELECTRICITY REGULATORY COMMISSION
FOR THE STATE OF GOA AND UNION TERRITORIES
GURGAON**

Quorum

Shri M.K. Goel, Chairperson
Smt. Neerja Mathur, Member

Review Petition No. 252/2018

Date of Admission: 05.01.2018

Date of Hearing: 13.02.2018

Date of Order: 04.06.2018

In the matter of:

Petition to allow as a special case in which Solar Power generated at Water Works, Sector – 39, Chandigarh shall be fed to the grid in Gross Metering arrangement but the billing is to be carried out in Net Metering mode thereby total generated solar energy will be provided to DISCOM in the Grid and the same shall be adjusted against total electricity consumption imported from DISCOM by the Municipal Corporation, U.T. Chandigarh in all its establishments located in Chandigarh, as per Group Net Metering mode.

And in the matter of:

Chandigarh Renewable Energy and
Science & Technology Promotion Society (CREST),
1st Floor, Paryavaran Bhawan,
Sector – 19, Chandigarh.

..... Petitioner

And in the matter of:

Electricity Department,
UT Chandigarh.

.... Respondent

Present:

For the Petitioner

1. Shri Ravinder Singh, Project Director, CREST
2. Shri Amit Sahoo, Project Manager, CREST
3. Shri Ujjwal Kumar, Project Manager, CREST

For the Respondent

1. Shri Mukesh Anand, Chief Engineer, Electricity and PWD, UT Chandigarh
2. Shri M.P. Singh, Superintending Engineer, Electricity Department, UT Chandigarh
3. Shri Pawan Sharma, Executive Engineer, Electricity Department, UT Chandigarh
4. Shri Patel, Asstt. Executive Engineer, Electricity Department, UT Chandigarh.

ORDER

The Commission heard the Petitioner and the Respondent at length.

The Petitioner submitted that it is a Registered Society under the Department of Science & Technology and Renewable Energy, UT Chandigarh.

The Petitioner further submitted that the Ministry of New & Renewable Energy (MNRE), Government of India has declared Chandigarh as a Model Solar City. Accordingly, the Department of Science & Technology and Renewable Energy has been designated as a Nodal Department for undertaking the Renewable Energy Projects by UT Chandigarh. The Chandigarh Renewable Energy & Science and Technology Promotion Society (CREST) has been designated as the Executing Agency for all the Renewable Energy Projects including Solar Power Plants in the U.T. of Chandigarh.

The Petitioner further submitted that the Chandigarh Administration was directed to increase the generation of Renewable Energy Power to make the Chandigarh, 100% Renewable Energy Powered latest by 31.12.2018.

The Petitioner further submitted that it intends to install 15 MW power (MWp) Solar Power Plant on Raw Water Tanks of Water Works Station, Sector – 39, Chandigarh as a special case under the Gross Metering arrangement for which the output of 15 MWp Solar Power Plant would be fed to the nearby 66 KV substation of DISCOM but energy accounting is to be carried out as per the group Net Metering mode whereby total generated solar energy would be provided to the DISCOM in the grid and the same shall be adjusted against total electricity consumption imported from the Grid of the Discom by Municipal Corporation, Chandigarh in all its establishments located in the U.T. of Chandigarh as per the Group Net Metering mode.

The Petitioner further submitted that electricity consumption of 8 Nos. Water Works of Municipal Corporation, Chandigarh is approximately 3,39,08,000 kWh units per annum. The proposed 15 MWp Solar Power Plant would be able to generate 1,95,00,000 kWh units per annum. Thus the total generated solar energy from the said plant would be fully consumed at 8 Water Work Stations.

The Petitioner further submitted that the sanctioned connected load at Water Works substation, Sector 39 is 3913.496 KW.

The Petitioner further submitted that as per the site survey, a 66 KV substation of the Distribution Company is available within a radius of 1 KM from the Water Works substation, Sector – 39, Chandigarh where the output of the said Solar Power Plant would be terminated as per Gross Net Metering arrangements.

The Petitioner further submitted that Clause - 26 of the JERC Solar power- Grid Connected Ground Mounted and Solar Rooftop and Metering Regulations, 2015 (hereinafter may also referred to as the JERC Regulations, 2015), states that:

“The maximum capacity of the Solar Project, as mentioned on AC side at the output of inverter based on rated inverter capacity, shall not be more than the limits as specified in these regulations of the sanctioned Connected Load / Contract Demand (in kVA converted to kW at normative Power Factor of 0.90) of the consumer, and the minimum capacity shall not be less than 1 kWp. Eligible consumers should assess their Rooftop Solar plant capacity based on the shadow- less clear Rooftop area/vacant space(s), actual annual energy consumption pattern and the capacity of Distribution transformer”.

The Petitioner further submitted that as per the JERC Regulations, 2015, 15 MWp Solar Power Plant cannot be allowed to be installed against the total sanctioned connected load of 3913 kW under Net -Metering arrangement as per JERC Regulation, 2015.

The Petitioner further submitted that as per the JERC Solar Power- Grid Connected Ground Mounted and Solar Rooftop and Metering Regulations, 2015; Energy Meter(s), Voltage level, the solar power plant capacity more than 4 MWp will be terminated as three phase HT (11/22/33 KV) as per site availability.

The Petitioner further submitted that as per Clause 11(e) of the JERC Solar Power- Grid Connected Ground Mounted and Solar Rooftop and Metering Regulations, 2015, the Group Net-Metering facility is allowed to the Solar Prosumer at the consumer tariff applicable to the Consumer’s service connection.

The Petitioner, through this Petition, requested the Commission to grant its approval as a special case to install 15 MWp Solar Power Plant at Water Works, Sector 39, Chandigarh under Gross Metering arrangement and output of the substation shall be fed to a nearby 66 KV substation of Distribution Company, but the billing is to be allowed in Net Metering mode whereby total generated solar energy would be provided to the DISCOM in grid and the same shall be adjusted against the total electricity consumption imported from the Distribution Company by the Municipal Corporation, UT Chandigarh in its all establishments located in the U.T. of Chandigarh as per the Group Net Metering mode.

The Respondent, Electricity Department, Chandigarh submitted that the JERC Regulation, 2015 provided for 30% grid penetration of the total distribution transformer capacity, whereas the Petitioner has sought the Commission's approval for grid penetration beyond 30% capacity of the distribution transformer. The Respondent submitted that it would take 3 to 4 years to examine the loading of the transformers and the harmonic distortions, before deciding safe penetration capacity beyond 30% capacity of the distribution transformer.

The Respondent further submitted that for connecting the Solar Plant to grid at 66 KV substation, additional 66 KV bays along with the associated switchgears are required to be installed by the Petitioner in its premises and the connectivity from 39 Water Works to 39 Grid Sub-Station is also required to be examined.

The Respondent further submitted that adequate space at 66 KV Grid Sub-Station is required to cope up the additional electrical load of the nearby area and Residential Housing Complex Colony constructed by the Chandigarh Housing Board. Thus, to meet the requirement of Housing Residential Complex, a New Power Transformer is required to be installed for which the space is required and therefore, it will not be possible for the Electricity Department, Chandigarh to give its prime land for this 15 MWp Solar Plant at the cost of other consumers. Therefore, 66 KV Grid Sub-Station should be installed in the premises of Sector 39 Water Works of Municipal Corporation along with necessary transformer, switchgears etc. at its own cost.

The Respondent further submitted that as per Clause 11(e), the Group Net Metering facility is available to Net Metering consumers only and not for Gross Metering Solar Producers.

The Commission has considered the submissions made on behalf of the Petitioner and the Respondent. The Commission has examined the entire record placed before it and the relevant provisions of the Electricity Act, 2003, Rules & Regulations particularly Grid Connected Solar Power Regulations, 2015 of the Commission made thereunder. The Commission has also considered the reply of the Respondent dated 24.04.2018 in response to the Commission's Letter dated 19.04.2018.

The Commission has examined the various relevant Clauses and specific provisions provided in the Joint Electricity Regulatory Commission Regulations for the State of Goa & Union Territories (Grid Connected Solar Power Regulations), 2015 as follows:

"Clause 2 (a):

- xix. "Gross Metering" means total Solar Power generated without accounting for self-consumption/use.*

- xxii. *“Group Net-Metering” means adjustment of electricity consumption imported at another electricity service connection of the Prosumer within the same State or Union Territory and same licensed supplier of electricity, with the surplus energy exported to the Grid from a Solar Power Plant in excess of 100% (one hundred percent) of imported energy at the location of the Solar Plant premises.*
- xxvii. *“Net metering” means an arrangement whereby a Solar Power project is connected electrical service connection of a Prosumer and whereby solar energy exported to the Grid is deducted (adjusted) in terms of units from energy imported from the Supplier of Electricity / Distribution Licensee during the applicable billing period, to account for the net imported / exported energy.*
- xl. *“Rooftop Photovoltaic” means a Rooftop PV and other small Solar Power generating station, installed in the Premises, that uses Sunlight for its direct conversion into electricity.*
- liii. *“Solar Power Premises” means rooftops, land and elevated structures on the land, buildings or the infrastructure or part or combination thereof in respect of which a separate meter or metering arrangements have been made by the licensee for supply of electricity.*
- liv. *“Solar Power Project” means a grid-connected solar generating station including the evacuation system up to the Grid inter-connection point.*

Clause 11.e. Group Net-Metering facility is allowed to the Solar Prosumer at the consumer tariff applicable to the consumer’s service connection.

Clause 26 Installed capacity

The maximum capacity of the Solar Project, as mentioned on AC side at the output of inverter based on rated inverter capacity, shall not be more than the limits as specified in these regulations of the Sanctioned Connected Load / Contract Demand (in kVA converted to kW at normative Power Factor of 0.90) of the consumer, and the minimum capacity shall not be less than 1 kWp. Eligible consumers should assess their Rooftop Solar Plant capacity based on the shadow –less clear Rooftop area / vacant space(s) vacant space(s), actual annual energy consumption pattern and the capacity of Distribution transformer.

Clause 58. Deviation from provisions of these Regulations

The Commission may deviate from any of the provisions contained in these Regulations on a suo-moto basis having regard to the circumstances of the case: Provided that the reasons for such deviation shall be recorded in writing.”

The Commission has also noted that the Government of India has declared Chandigarh as Model Solar City and it has to be developed as 100% Renewable Energy powered Union Territory. Further, the Chandigarh Administration has been directed to increase the Renewable Energy power to make Chandigarh run on 100% Renewable power latest by 31.12.2018.

The Petitioner during the hearing informed that the cost of Solar Power fed to the Grid may be higher for the Discom (Respondent), if the Petitioner opts for the Gross Metering mode of energy accounting at the prevalent Solar Tariffs. The Net Metering is a solution to avoid higher Solar Power Purchase Cost which the respondent has agreed to purchase.

The Commission feels that Renewable Energy particularly Solar Power will certainly help in promoting Solar Power in Chandigarh. There is no doubt that generation of Green Power is the need of the hour and it is also in public interest at large. Keeping the above in view, the Commission has taken a conscious decision to allow this project as a special case with a direction to the Petitioner and the Respondent to work out the technical modalities at the operational level in mutual agreement.

In view of the above, the Commission hereby accords it's approval to install a 15 MWp Solar Power Plant at the raw water tanks of the water works stations in the Sector 39 Chandigarh with the direction to the Petitioner to feed the power to the grid by segregating the generation of Solar Plant of 1 x 15 MWp into 3x5 MWp each and feed the Solar power generated at these plants to the grid maintained by the Electricity Department, Chandigarh at 11 KV level instead of 66 KV as proposed in the Petition. The Petitioner and the Electricity Department, Chandigarh shall ensure that transformer should not be over loaded and maintain grid stability and harmonics of the system as well as safety of the personnel.

The Commission directs the Respondent to augment the system, if needed, as per the Regulation 22 – “Solar Power- Grid Connected Ground Mounted and Solar roof Top and Metering Regulation -2015” to facilitate the Respondent in unrestricted and uninterrupted evacuation of Solar Power through its distribution and transmission network.

The Commission further directs the Petitioner and the Respondent to execute an agreement regarding the Solar Power connection points with mutual consent.

Ordered accordingly.

Sd/-
(NEERJA MATHUR)
MEMBER

Sd/-
(M.K. GOEL)
CHAIRPERSON

Certified Copy

Sd/-
(Rajesh Dangi)
Secretary