

**PUNJAB STATE ELECTRICITY REGULATORY COMMISSION
SITE NO. 3, BLOCK B, SECTOR 18-A MADHYA MARG, CHANDIGARH**

**Petition No. 21 of 2020
Date of Order: 11.01.2021**

Petition under Section 61,62 and 86 and Regulation 20 Punjab State Electricity Regulatory Commission (Grid Interactive Rooftop Solar Photo Voltaic Systems based on Net Metering) Regulation, 2015.

And

In the matter of: Punjab State Power Corporation Limited, The Mall Patiala.
.....Petitioner

Versus

1. Punjab Energy Development Agency
2. Renewable Energy Members Welfare Association (R.E.M.A)

.....Respondents

Present: Ms. Kusumjit Sidhu, Chairperson
Ms. Anjali Chandra, Member
Sh. Paramjeet Singh, Member

ORDER

PSPCL has filed the present petition under Section 61,62 and 86 of the Electricity Act, 2003 read with Regulation 20 of PSERC (Grid Interactive Rooftop Solar Photo Voltaic Systems based on Net Metering) Regulations, 2015 (hereinafter referred to as 'Net Metering Regulations) seeking amendments to these Regulations.

1. PSPCL submitted as under;
 - i. The Net Metering Regulations were notified to promote renewable power through the installation of Rooftop SPV system at consumers' premises. Due to the significant technological advancement, the cost of producing solar power has come down significantly and the solar power is available to PSPCL at about Rs. 2.60 per kWh plus trading margin. Thus procuring cheap solar power from market and

distributing it to the consumers would be more beneficial than allowing Rooftop SPV plants under the present Net Metering Regulations, which benefits the individual consumer only.

- ii. Punjab is power surplus and the avenues to sell the available surplus power are limited. Even when the surplus power is sold, as in the power exchanges, the rates discovered are lower than the purchase rate resulting in stranded power cost being passed on to the consumers.
- iii. With increasing number of consumers opting for Rooftop SPV systems under Net Metering, the distribution company loses out on the revenue due to lower sales and in addition ends up paying stranded power purchase costs. Installation of solar system under Net Metering by the subsidizing category of consumers will burden the other subsidized category of consumers. This affects the financial viability of the distribution licensee.
- iv. Consumers who have installed Rooftop SPV system are using the PSPCL's electrical network for banking within the settlement period of one year without any charges and associated losses.
- v. Solar power is infirm in nature and excessive installation of Rooftop SPV plants affects the demand forecasts of the distribution licensee resulting in DSM penalties on account of deviations in schedule and actual drawal.
- vi. Installation of Rooftop SPV system must be for self-consumption and not for commercial gains.
- vii. PSPCL has already planned and tied up power to achieve RPO compliance targets.
- viii. A consumer makes an investment for setting up Rooftop SPV plant to eventually reduce his own electricity charges and also to protect itself against future tariff hikes to the extent of power consumed from solar rooftops. The biggest incentive already in place is that a consumer has the flexibility to consume the power generated by its solar rooftop

installations at any time of the day irrespective of the fact that such energy is generated only during the daytime. Therefore, solar rooftops should not be promoted in a way that prosumers grow into a category of generators who seek to get into the business of selling power and make a commercial benefit out of the surplus power generated.

2. PSPCL has broadly proposed the following amendments in existing Net Metering Regulations;
 - i. There will be no settlement period beyond the billing cycle and the surplus at the end of a billing cycle, if any, injected in to the distribution system shall be procured at a specified rate.
 - ii. Atleast, 90% of the electricity generated from SPV plant in a financial year shall have to be consumed i.e surplus power to be procured by the distribution licensee shall not be more than 10% of the total generation in a financial year.
 - iii. Surplus power may be procured at the nominal rate of Rs. 2.25/kWh from domestic/government consumers and Rs.1.75/kWh from other consumers, as provided in Gujarat Electricity Regulatory Commission (GERC) Regulations.
 - iv. There may be different provisions for installation capacity and payment/credit of surplus electricity for domestic/government consumers and other consumers. The Capacity limit for domestic/government consumers may be 80% of the sanctioned load/demand and 50% for other consumers.
3. Punjab Energy Development Agency (PEDA) filed an IA for being impleaded as a respondent, being the State nodal agency for promotion and development of renewable energy in the State. After hearing the counsel for PEDA, IA was allowed vide Commission's order dated 19.08.2020.
4. The Commission vide order dated 19.08.2020 also sought certain information and data from PSPCL regarding the total capacity of SPV plants installed in the State, the quantum of power generated and the financial impact due to

loss of revenue on account of installation of these SPV plants while factoring in the benefits accrued to the distribution licensee due to RPO, reduced T&D losses and reduction in power procurement cost.

5. PEDA in its short reply dated 08.09.2020 opposed the amendments in Net Metering Regulations on the following grounds;
 - i. There are no changes in the circumstances which warrant amendments in the Regulations and the present Regulations are sufficient to deal with all the eventualities.
 - ii. The Net Metering Regulations are based on Government of India Guidelines and Net Metering policy of Government of Punjab. The amendments are in violation of MNRE and Gol guidelines.
 - iii. Punjab is an agrarian state and the land is scarce so Rooftop SPV plants needs to be promoted.
 - iv. PSPCL, through the amendments, intends to change the very concept of Net Metering by proposing stoppage of power being netted off and paying nominal charges for surplus power injected in to the system.
 - v. PSPCL is getting huge benefits of RPO from the RE power being netted off/exported by the consumer to PSPCL from Net Metering.
 - vi. The amendments will cause grave injustice to the existing consumers who have already installed Rooftop SPV plants under existing provisions of Net Metering Regulations.
 - vii. The amendments will derail the Net Metering scheme brought out by Gol and GoP.
6. PSPCL submitted the data/information sought by PSERC vide letter dated 29.09.2020. PSPCL informed that as per data supplied by PEDA, there are 5180 consumers with an installed capacity of 63.896 MW but as per PSPCL's record, ending March 2020, the number of consumers is 7516 with estimated installed capacity of 85-90 MW. The petitioner computed a revenue loss of Rs. 82 Crore by multiplying the category wise solar generation with average tariff per unit of respective category as per the tariff order for FY 2019-20. While submitting information regarding benefits accrued for RPO compliance,

PSPCL submitted that it is not possible to quantify benefits on account of reduction in distribution losses with the installation of SPV plants.

In response to PEDDA's reply PSPCL submitted that the respondent failed to quote the guidelines of GoI which may be violated with proposed amendments. PSPCL stated that the Commission has the powers to frame and amend the Regulations depending on the changed scenario/circumstances such as availability of cheap solar power in the market along with power surplus scenario of the State. PSPCL is not seeking to bar Rooftop SPV system but is proposing only to regulate it by a more appropriate and reasonable mechanism. The tariff of Rs. 2.25 per kWh for domestic/government consumers and Rs. 1.75 per kWh for other consumers has been proposed based on similar regulations by GERC. The intention of Rooftop SPV system should not be to export power but for self consumption. The prices being offered for injection of surplus power cannot be compared with renewable power being procured by PSPCL. Higher tariff will encourage consumers to install higher capacity SPV plants.

7. The Renewable Energy Members Welfare Association (R.E.M.A) also filed an IA for being impleaded as a necessary party. After hearing the counsel, IA was allowed vide Commission's order dated 15.10.2020 and the respondent no. 2 was directed to file its reply to the petition. The Respondent no. 2 vide its reply dated 09.11.2020 adopted all the submissions and pleadings of Respondent no. 1.
8. During hearing on 11.11.2020, the Commission asked the petitioner to justify the applicability of the proposed amendments on the existing consumers who have already installed the rooftop solar system under the existing Net Metering Regulations. PSPCL in its reply dated 04.12.2020 submitted that (a) the amendments to the Regulations have been proposed to be made applicable on all consumers, both who have already installed rooftop solar systems as well as for consumers who install in future. PSPCL submitted that the law cannot be different for the existing consumers and for future consumers as this would be discriminatory. Such differentiation would create

substantial logistic and functional issues in dealing with energy accounting, forecasting and invoicing as different consumers would be under different regime. PSPCL quoted the Hon'ble Supreme Court judgment in case of PTC India Limited v. Central Electricity Regulatory Commission (2010) 4 SCC 603 wherein it has been held that Regulations can even override the existing contracts. Therefore the contracts already entered into by any consumers would have to be aligned to the amended Regulations.

(b) PSPCL also refuted the allegation of respondents that proposed amendments will discourage the Rooftop Solar System and pleaded that the self consumption of rooftop solar will continue and a more reasonable mechanism for treating excess power generated by solar power plant over and above the electricity consumption of consumer in a particular billing cycle is being proposed to address various concerns and issues faced by Petitioner. The other submissions are reiteration of earlier replies submitted by PSPCL and thus have not been reproduced.

9. Respondent no. 2, while reiterating the submissions already made by respondent no.1, argued that;

(a) the existing regulations have been framed on the basis of Net Metering policy 2015 notified by Govt. of Punjab and the proposed amendments are totally contrary to this policy and thus the present petition is not maintainable. The various limits/conditions imposed in the existing Regulations protects the commercial interests of PSPCL.

(b) the proposed rates of Rs. 2.25 per kWh to the domestic consumers and Rs. 1.75 per kWh to other consumers for the surplus power exported to PSPCL have neither been determined in a transparent manner nor are the lowest bid rate of PSPCL/PEDA for similar plants.

(c) PSPCL needs to take into consideration the solar irradiation levels in the State and the actual CUF being achieved by operating plants in Punjab to justify the proposed tariff.

10. During the hearing on 09.12.2020, the counsel for PEDA submitted that PSPCL has raised certain new issues in its reply dated 04.12.2020 and reply

is required to be filed by PEDA, which was allowed. PEDA filed its detailed reply dated 16.12.2020 and submitted as under:

- (i) Changing the settlement period from 12 months to each billing cycle is an attempt to force the prosumers to install lower capacity projects and the proposed amendment is in-fact replacing the concept of monthly banking to daily banking.
- (ii) There is no rationale to adopt GERC determined rates to compensate the prosumers for surplus power injected in to the system since the ground realities are different. The solar irradiation in the two States is different and thus, the generation in Punjab is significantly less as compared to Gujarat. GERC Regulations provide that the rate will be Rs. 2.25/kWh or Rs. 1.74/kWh for Surplus Injection Compensation (SIC) rate as declared from time to time. PSERC is still working out the APPC in its tariff orders and not determining the SIC. PSPCL should first file a Petition for calculation of SIC and dispensing with APPC and only thereafter, should ask for adoption of the rates here.
- (iii) The petition also does not justify as to how the figure of 10% of solar generation has been decided for purchase of excess solar power injected into the system. In Punjab, most of the households have minimum consumption from November to February. GERC Regulations do not provide any limit for compensation and the amount is payable for whole of excess injection in the billing month itself whereas PSPCL is proposing a cap of 10% of solar generation for injection in to the system. Also the provisions for commercial settlement are different in GERC Regulations. While PSPCL has proposed the capacity limit of 80% of connected load/Contract Demand for Domestic and Govt consumers, there are no such restrictions in Gujarat. A consumer can install project of any capacity and inject surplus power.

- (iv) The tariff proposed is neither the lowest bid rate of PSPCL/PEDA for similar plants nor as per the rate determined by this Commission under KUSUM scheme.
- (v) The Commission has already determined the tariff for sale of power under Component A of the KUSUM scheme as Rs 2.748/kWh with Capital Cost as Rs 3.40 Cr/MW. The bench mark cost determined by PSPCL in the bidding process for Roof top plants in FY2019-20/FY 2020-21 is Rs 3.55 Cr/MW. In the earlier years, with subsidy of 30%, the capital cost varied from Rs.5.25 Cr./MW in FY 2016-70 to Rs. 3.85 Cr./MW in FY 2018-19. In view of the high capital cost incurred by the consumers in the previous years and lower tariff, there is need to protect such consumers and the amended Regulations should not be made applicable on the plants set up before the date of amendment in regulations.
- (vi) PSPCL has shortfall of non-solar power and to meet the non solar RPO this Commission is permitting adjustment of excess solar power (above the solar RPO) against non-solar RPO. PSPCL need to allow the solar roof top capacity with subsidy from MNRE to fully exploit the sector.
- (vii) In case the proposed amendments are made, the eligibility of PSPCL for getting benefit of RPO from the power generated by the prosumers from Rooftop Solar PV power plant shall have to be decided again since PSPCL is now deviating from the set conditions. It needs to be decided again whether, the self-consumption of power of Rooftop Solar plants set up under Net Metering by a prosumer under CAPEX/RESCO mode should be adjusted against RPO of PSPCL particularly when no such change has been proposed by FOR in draft Regulations. If power injected is less than 10% then such power will not be counted for RPO as the tariff proposed for such purchase is neither a generic tariff for purchase of solar power determined in a

transparent manner by this Commission nor competitively determined tariff nor the tariff of Power exchange. Further, if power injected is more than 10% of yearly generation, then there is no payment at all for the total surplus injection and thus, it will also not count for RPO.

- (viii) The amendment proposes that if credit at the end of financial year is less than Rs. 20,000/- such credits shall be carried forward to next financial year. The small consumers upto a load of 5 kW may need number of years to have credits of Rs. 20,000/-.
- (ix) PSPCL statement that it was short of power in 2015-16 is totally wrong and misleading. This Commission had estimated the surplus power in FY 2015-16 as 15383 MUs in Para 5.5.2 of Tariff order 2015-16. Any power purchase was to replace the costly power or to meet the exigency. The Net Metering regulations were framed to use abundantly available free of cost solar irradiation to generate pollution free, fuel free solar power and to utilize the freely available roof tops.
- (x) The surplus scenario of PSPCL or lower rates in the market/power exchange is not due to the projects set up under Net Metering Regulations 2015. The capacity which has come up under the Regulations so far is only around 90 MW which is equivalent to about 17 to 19 MW of coal capacity.
- (xi) The Banking facility is an essential and integral part of Rooftop SPC plants under Net Metering. PSPCL has large consumer base and meets the maximum demand varying from 13000 MW in summer to 6000 MW in winter. Addition of 100 to 200 MW of solar power by consumers should not be as big a problem as is being projected. PSPCL has to eventually design its system for the future in which the solar power will be a major contributor. PSPCL is required to bring in technology to deal with ever increasing solar power instead of discouraging the consumers and stalling investments in solar power.

11. After hearing the parties on 23.12.2020, the order was reserved.

12. Commission's Findings and Order

Scrutiny of the data submitted by PSPCL reveals that as on 31.3.2020, there were 7516 consumers who have installed the SPV plants under Net metering with a total capacity of about 85 MW, the majority being DS consumers (85%). The total solar generation during FY 2019-20 was 113.86 MU, which is just 0.25% of the total power purchase of 45298 MU approved by the Commission for FY 2019-20 in the Tariff Order for FY 2020-21. PSPCL estimated a revenue loss of about Rs. 82 crore due to reduced sale to these consumers which is 0.26% of the total revenue of Rs. 31445.96 crore from sale of power approved by the Commission for FY 2019-20. PSPCL has assumed that all the 113.86 MU solar units generated were consumed whereas any electricity generated above 90% of the electricity consumed is not carried forward to the next settlement period. Also while calculating the financial impact, PSPCL has not taken in to account the saving in power purchase cost, reduction in distribution losses and benefits accrued due to RPO. If all these factors are taken in to account then the net financial impact on PSPCL due to installation of Rooftop SPV plants under Net Metering is likely to be lower.

However, it has also been observed that 58% of the solar generation under net metering is from subsidizing categories of consumers i.e NRS/LS/MS/BS consumers. As per PSPCL's data, there are 7629 pending applications with combined capacity of 94.6 MW out of which 49.8 MW (52.64%) relates to large supply industrial and commercial category of consumers, which are the subsidizing category of consumers. Any reduction in billed energy to these categories of consumers will surely have impact on the revenue of the licensee, which may in turn put additional burden on the subsidized category of small consumers. PSPCL has projected a capacity addition of 50 MW each year for the Solar SPV plants during in next 5 years.

Section 181 of the Electricity Act, 2003 empowers the State Commissions to frame Regulations to carry out the provisions of the Act. Although the policies of the Central/State Government are kept in view while framing Regulations but the powers of the State Commission to frame Regulations under section 181 are subject to the provisions of the Act and the Rules framed there-under. One of the functions of the State Commissions, as per clause (e) of the section 86 of the Act, is to promote electricity from Renewable sources of power. However, a balance has to be maintained to safeguard the interests of all stakeholders including that of the Distribution licensee.

The Forum of Regulators have been constituted under sub-section (2) of section 166 of the Electricity Act, 2003 and one of the functions, as per Forum of Regulators Rules, 2005, is harmonization of Regulations in the Power sector. The PSERC (Grid Interactive Rooftop Solar Photo Voltaic Systems based on Net Metering) Regulations, 2015 were based primarily on the Model Regulations on Net Metering approved by FoR in 2013. Keeping in view the lower than expected growth of Rooftop Solar projects as compared to ground mounted solar projects in the country and an ambitious target set by Government of India to achieve 40 GW from Grid Connected Rooftop Photovoltaic systems by 2022, a study was commissioned to support FoR to update 2013 Model Net Metering Regulations which incorporated net billing to remove the factors which impede the growth of Rooftop SPV systems and at the same time propose equitable commercial arrangements. FoR in its 65th meeting held in November, 2018, has endorsed the new Model Regulations.

The Commission after considering the views of petitioners, PEDA and REMA directs the officers of the Commission to prepare a staff paper suggesting amendments in the Net Metering Regulations, 2015 keeping in view the provisions of the Act and the Rules framed thereunder, the Model Regulations for Grid Interactive Distributed Renewable Energy Sources endorsed by the FoR in its 65th meeting and the submissions made by the parties in this petition. The draft amendments shall be put up for public

comments/objections as per the procedure laid down in sub-section (3) of section 181 of the Act read with Electricity (Procedure for Previous Publication) Rules, 2005 and all the stakeholders will again get an opportunity to submit their comments/suggestions/objections to the proposed amendments.

The petition is disposed of accordingly.

Sd/-

(Paramjeet Singh)

Member

Sd/-

(Anjuli Chandra)

Member

Sd-

(Kusumjit Sidhu)

Chairperson

Chandigarh
Dated: **11.01.2021**