

Rajasthan Electricity Regulatory Commission

Petition No. RERC/1989/2022

Petition filed under Section 86(1)(b) of the Electricity Act 2003, read with regulation 19 and 21 of RERC (Transaction of Business), Regulations, 2021, for approval of levelized tariff discovered through transparent competitive bidding carried out by JVVNL for 4.24 MW pilot Solar Power Project for feeder level solarization under Component-C of PM-KUSUM scheme.

Coram:

Dr. B.N. Sharma, Chairman
Shri S. C. Dinkar, Member

Jaipur Vidyut Vitran Nigam Ltd.

Petitioner

Date of hearing:

10.02.2022

Present : Sh. Sandeep Pathak, Advocate for Petitioner.
Sh. Umesh Gupta, SE (Regulation), JVVNL.

Order

Date: 07.03.2022

Order

1. Petitioner has filed the present petition under Section 86 (1)(b) of the Electricity Act, 2003 and Regulations 19 and 21 of the RERC (Transaction of Business), Regulations, 2021 for approval of levelized tariff discovered through transparent competitive bidding carried out by JVVNL for 4.24 MW pilot Solar Power Project for feeder level solarization under Component-C of PM-KUSUM scheme.

2. Matter was heard on 10.02.2022, Sh. Sandeep Pathak, Advocate along with Sh. Umesh Gupta, SE (Regulation), appeared on behalf of Petitioner.

3. Petitioner in their petition and during the hearing mainly submitted as under:

3.1. Ministry of New and Renewable Energy (hereby referred to as "MNRE") launched Pradhan Mantri Kishan Urja Suraksha evam Uthan Mahabhiyan Scheme (PM-KUSUM) scheme for farmers on 08.03.2019 which covers the following components:

Component - A: Installation of Decentralized Ground Mounted Grid Connected Renewable Power Plants of individual plant size up to 2 MW.

Component - B: Installation of 17.50 lakh standalone Solar Powered Agriculture Pumps of individual pump capacity up to 7.5 HP.

Component C: Solarisation of 10 Lakh Grid-connected Agriculture Pumps of individual pump capacity up to 7.5 HP.

3.2. MNRE issued guidelines for implementation of all three components of PM-KUSUM on 22.07.2019. Further, on 04.12.2020, MNRE introduced and issued guidelines for implementation of Feeder Level Solarization under Component-C of PM-KUSUM scheme (hereinafter the 'MNRE Guidelines'). As per the MNRE Guidelines grid connected solar power plant of capacity that can cater to the annual power requirement of one or more segregated agriculture feeders can be installed either through CAPEX mode or RESCO mode to supply power to that feeder(s). For CAPEX mode of implementation, Central Financial Assistance (CFA) of 30% of the project cost is provided by MNRE or, Rs. 1.05 Cr per MW provided under RESCO mode.

3.3. The MNRE Guidelines mandate to use indigenously manufactured solar panels with indigenous solar cells and modules, Remote Monitoring of solar power plant and connected agriculture consumers through Remote Monitoring System (RMS) for 25 years in line with MNRE guidelines for proper energy accounting and incentivize the Farmers for the reduction in energy consumption below benchmark levels.

3.4. On 21.06.2021, MNRE sanctioned 25,000 grid connected agriculture pumps (including 8,000 pumps to JVVNL) to the Distribution licensees of Rajasthan for feeder level solarization under Component-C of PM-KUSUM scheme for FY 2020-21.

Pilot project in JVVNL for feeder level solarization under Component C of PM-KUSUM Scheme

3.5. As a pilot project for implementing feeder level solarization under Component- C of PM-KUSUM scheme, JVVNL identified 4 (four) segregated agriculture 11kV feeders of 33/11kV Datwas Substation under A-II Newai of Tonk District having 656 nos. connected agriculture consumers for the purpose of setting up grid connected solar power plants to meet the annual power requirement of feeders using solar energy.

3.6. The Petitioner decided to implement the pilot project under the RESCO mode. In line with MNRE guidelines for feeder level solarization, Petitioner calculated the required solar power plant capacity of 4.99 MW along with eligible Central Financial Assistance (CFA) for the pilot project and shared the same with MNRE vide letter dated 09.07.2021 for approval.

3.7. On 09.07.2021 JVVNL published Request for Selection (RfS) of Solar Power Generator (SPG) vide TN-06 on e-procurement portal (eproc.rajasthan.gov.in) of Rajasthan for Design, Survey, Supply, Installation, Testing, Commissioning, and Operation & Maintenance of Grid Connected 4.99 MWp Solar Power Plant, its associated 33kV Line and Remote Monitoring System (RMS) of Solar Power Plant & 656 Nos. Ag. Consumers for 25 Years through RESCO mode for Solarization of 4 nos. 11kV feeders of 33/11kV Datwas Substation under A-II Newai of Tonk District.

3.8. In response to the letter of JVVNL, MNRE through mail dated 07.09.2021 clarified:

“ Please note that as solar power plants under feeder level solarization are to be installed near the point of consumption, distribution losses will be low. Further, the guidelines for feeder level solarization does not cover such losses under CFA. Accordingly, with the agriculture consumption

data provided, MNRE CFA will be available for 4.24 MW capacity of solar power plant."

3.9. In view of the response from MNRE, JVVNL revised the solar power plant capacity for the pilot project to 4.24 MW through a corrigendum dated 08.09.2021.

3.10. Further vide corrigendum, dated 01.11.2021, Petitioner included the provision of the electronic reverse auction with upper ceiling / maximum allowable levelized tariff of Rs. 2.890 per unit. This ceiling tariff was based on the lowest levelized tariff discovered through competitive bidding under Component-A of PM- KUSUM scheme for 25 years for which PPA has also been executed.

3.11. Owing to the poor response of the bidders, JVVNL extended the due date of bid submission TN-06 multiple times, and finally, the techno-commercial bid was opened on 7.12.2021 with one bidder (i.e./s Ultimate Sun Systems Pvt. Ltd.) after due approval from the competent Authority of JVVNL in line with RTPP Act 2013.

3.12. The levelized tariff for 25 years including all applicable taxes (incl. GST), duties, etc. quoted by the bidder in the price bid of TN-06 is Rs. 2.890 per unit.

3.13. The following benefits to Discoms are anticipated under Feeder level solarization:

- (i) Availability of cheap solar power at distribution end;
- (ii) Reduction in AT&C losses;
- (iii) Reduction in overall power purchase cost;
- (iv) Proper energy accounting of solarized agriculture consumers using RMS data.

3.14. In view of above and in line with RfS document, the petitioner requests for approval of levelized tariff of Rs. 2.890 per unit for the pilot project of feeder level solarization under Component-C of PM-KUSUM scheme, which has been discovered through the transparent competitive bidding process of MNRE guidelines and the Rajasthan Transparency in Public Procurement Rules, 2013.

3.15. As MNRE has sanctioned target of solarization of 25,000 grid connected agricultural pumps to Rajasthan Discoms for FY 2020-21 under Component C - feeder level solarization of PM-KUSUM scheme. Petitioner is in the process of finalizing the substation-wise solar power plant capacities against the MNRE allocated target of 8,000 pumps for FY 2020-21 and as per the tentative figures, around 26 nos. solar power plants with a cumulative capacity of 87 MW is planned for installation for feeder level solarization under Component C of the PM-KUSUM scheme. To avoid any delay on account of filing of numerous individual petitions for approval of discovered levelized tariff for each solar power plant and to ensure timely achievement of targets for feeder level solarization under Component C of PM-KUSUM scheme, it is requested that :

3.15.1. For solar power plants under feeder level solarization wherein the discovered levelized tariff for 25 years is less than or equal to Rs. 2.890 per unit, the Hon'ble Commission may allow the petitioner to file a single petition, say on a quarterly or half yearly basis, for such group of solar power plants for approval of levelized tariff.

3.15.2. For solar power plants under feeder level solarization wherein the discovered levelized tariff for 25 years is more than Rs. 2.890 per unit, the Hon'ble Commission may allow the petitioner to file individual/ project specific petition for each such solar power plant, for approval of levelized tariff.

3.15.3. Further, Section 91 of the RERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2020 provides for 'Other charges' applicable on existing as well as upcoming Renewable Energy projects in Rajasthan as under:

"91 Other Charges

91.1 The following charges shall be applicable for existing as well as upcoming Renewable energy projects:

...

91.3 Import of power by Generating Stations

91.3.1 Energy drawn by the generating station from the grid during shutdown and outages, and for restarting after shut down, shall be set off against the energy sold to the Distribution Licensee within the State on a quarterly basis:

Provided that in case of drawal by the generating station is more than its injection in a month, the excess drawal during the month shall be carried forward to the subsequent month and so on. Such cumulative excess drawal, if any, shall be settled on quarterly basis at tariff applicable to a Large Industrial consumer. The first quarter would begin from April 1 of the relevant year:

Provided further that where sale to Distribution Licensee is not being effected or where sale to distribution licensee is under REC mechanism, such drawal from the grid shall be billed at tariff for temporary supply applicable to HT Industrial consumer (tariff category HT-5) on daily basis."

3.15.4. It is requested to clarify whether the above mentioned Section 91 of the said regulation will be applicable on the solar power plants to be installed for feeder level solarization under Component C of PM-KUSUM scheme. Also, clarity may be provided on the applicable tariff on the energy import by such solar power plants if Section 91 of the said regulation is not applicable.

4. In view of the above, it is prayed as under:

4.1. To admit and approve the petition for approval of the levelized tariff of Rs. 2.890 per unit for 25 years for the pilot project of 4.24 MW Solar Power Plant for feeder level solarization under Component- C of PM-KUSUM scheme.

4.2. To allow the petitioner to file single petition, say on a quarterly or half yearly basis, for approval of levelized tariff for such group of solar power plants to be installed under Component-C (feeder level solarization) wherein the discovered levelized tariff for 25 years is less than or equal to Rs. 2.890 per unit.

4.3. To allow the petitioner to file individual/ project specific petition for approval of levelized tariff for each such solar power plant under feeder level solarization wherein the discovered levelized tariff for 25 years is more than Rs. 2.890 per unit.

4.4. To clarify whether Section 91 of RERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2020 will be applicable on the solar power plants to be installed for feeder level solarization under Component C of PM-KUSUM scheme. Also, clarity may be provided on the applicable tariff on the energy import by such solar power plants if the quoted Section 91 of the said regulation is not applicable.

4.5. To condone any error/omission and to give opportunity to rectify the same.

4.6. To permit the Petitioner to make further submission, additions, and alteration to this Petition as may be necessary from time to time;

4.7. To pass any such other order/s and/or direction/s, which the Hon'ble Commission may deem fit and proper in the facts and circumstances of the case.

5. The matter was heard on 10.02.2022 wherein the Commission directed the petitioner to file the detailed justification indicating the reasonability of the price discovered in the bidding conducted for the pilot solar power project.

6. Pursuant to the above, the Petitioner vide their communication dated 14.02.2022 have submitted the justification as under :

6.1. Commission vide its order dated 11.02.2020 had determined a levelized tariff of Rs 3.14/ unit under Component-A where no Central Financial Assistance (CFA) is available to the project developer whereas, under Component-C, 30% of the capital cost of the project (or Rs 1.05 Cr/ MW) is being provided as CFA by the MNRE.

6.2. However, the following various factors are likely to impact the levelized tariff discovered under Component-C:

6.3. Mandatory Remote Monitoring System (RMS) for all solarized agriculture consumers as well as the solar power plant and Bank Guarantee against CFA

6.3.1. **Remote Monitoring System (RMS):** Unlike Component A, MNRE guidelines for feeder level solarization under Component C mandates the installation of RMS for all solarized agriculture consumers as well as the solar power plant which requires additional capital expenditure towards the replacement of defective meters and Advanced Metering Infrastructure (AMI).

6.3.2. **Bank Guarantee (BG):** Also, in order to get the eligible CFA, the RESCO developer is required to submit Bank Guarantee (BG) of equivalent value to Discoms which shall be released in four lots of 25% each on the successful operation of plant after 2.5 years, 5 years, 7.5 years and 10 years from Commercial Operations Date (CoD). There is an additional cost associated with such BG requirement which adds to the tariff.

6.4. **Comparatively higher level of Guaranteed annual CUF requirement**

6.4.1. Under Component A, the Solar Power Generators (SPG) are required to maintain a minimum annual CUF of 15% throughout the solar plant life of 25 years. However, the minimum annual CUF requirement for 25 years under the Pilot project of JVVNL for feeder level solarization is kept at 17%. Maintaining a higher level of CUF for 25 years shall require additional replacement and O&M cost by the developer.

6.5. **Increase in raw material prices**

6.5.1. Since, the cost of solar panels, module mounting structure (made from galvanized CR iron), and glass accounts for more than 65% of the total capital cost of a solar power plant, the increase in raw material cost has a significant impact on levelized tariff for a solar power plant.

6.6. **Negligible impact of land procurement responsibility on levelized tariff**

6.6.1. Land cost (if procured on lease rent under Rajasthan Solar Energy Policy 2019) accounts for less than 1% of the overall solar power project cost. For the pilot project, JVVNL has procured 8 hectares land from Govt. of Rajasthan with annual lease amount payable by JVVNL and sub-lease

amount payable by developer. Therefore, even though under Component-A, the Solar Power Generator (SPG) is responsible for procurement of land for the project while the required Land for the pilot project under feeder level solarization (Component-C of PM-KUSUM) is being provided by JVVNL, there is negligible or, no impact on the levelized tariff discovered under the two components of the scheme.

6.7. Mandatory use of DCR (Domestic Content Requirement) cells & modules

6.7.1. In contrast to Component-A of the scheme, under Component-C (feeder level solarization) use of indigenously manufactured solar panels with indigenous solar cells and modules is mandatory as per MNRE guidelines. Since indigenous solar cells and modules are comparatively expensive, its mandatory use also impacts the overall project cost under Component-C.

6.7.2. In view of the above, the competent authority found the quoted tariff by the bidder as reasonable.

6.7.3. In view of the above Commission may consider and approve the discovered levelized tariff of Rs. 2.890 per unit for the pilot project of 4.24 MW in JVVNL under Component- C (feeder level solarization) of PM-KUSUM Scheme.

7. Subsequently, vide their communication dated 25.02.2022 Petitioner submitted that in the petition it was mentioned that the land for the pilot project is being procured by JVVNL on lease from Govt. of Rajasthan. However, subsequent to submission of justification vide letter dated 14.02.2022, Additional District Collector vide letter no. 970 dated 15.02.2022 requested JVVNL to deposit Rs. 2,08,76,050 for the proposed land (Rs. 1,98,81,952 as cost of land and Rs. 9,94,098 annual rent) for the pilot project of 4.24 MW in JVVNL under KUSUM Component-C (Feeder level solarization). Therefore, the lease amount payable by JVVNL mentioned at point (9) (d) of justification for reasonability of the price discovered under TN-06 already submitted to the

commission is hereby revised and the additional impact due to revision in annual lease rent on JVVNL of the same is as follows:

Particulars		Original amount considered in the bid to be payable by JVVNL (@subsidized rate)	Revised amount payable by JVVNL (allotted @ DLC rate)	Additional impact on JVVNL due to amount revision
Annual lease amount	First 10 years:	Rs. 20,000	Rs. 9,94,098 (to be escalated 5% every year)	8 paise per unit (levelized for 25 years)
	11th Year to 20th Year:	Rs. 25,000		
	21st Year to 26th Year:	Rs. 31,250		
Land cost (one time)		Rs. 19,88,195	Rs. 1,98,81,952	

8. Petitioner submitted that since the land cost is towards the creation of land asset to be owned by JVVNL, therefore, effectively there will be an additional impact of 8 paise per unit on JVVNL due to annual lease rent payable in 25 years over and above the discovered tariff of Rs. 2.890 per unit for the pilot project, which is considerable.

9. In view of the above, Petitioner requested that if deemed appropriate, Commission may consider and approve the discovered levelized tariff of Rs. 2.890 per unit for the pilot project of 4.24 MW in JVVNL under Component C (feeder level solarization) of PM-KUSUM Scheme.

Commission's View:

10. Commission has considered the submissions made on behalf of the petitioner.

11. It is observed that the Petitioner has filed the petition under Section 86(1)(b) of the Electricity Act, 2003 which mandates the Commission to regulate the electricity purchase and procurement process of the Distribution Licensees.

12. It is observed that Petitioner has undertaken the pilot project in pursuance of the MNRE Guidelines and has also indicated the benefits

likely to accrue from the implementation of the Pilot project. The project is distributed generation which also promotes the indigenous production of solar components. The Distribution Licensee will also get benefited not only by way of reduction in losses, deferment of capital expenditure on network upgradation but it will also help it in meeting its RPO.

13. Further as also mentioned by the Petitioner, the implementation of the pilot project will help it in proper energy accounting of solarized agriculture consumers using RMS data. Apart from this implementation of the pilot will also result in saving of the subsidy outgo and at the same time, farmers will get daytime power also.

14. The Petitioner revising their justification for the implementation of the scheme have submitted that since the land cost is towards the creation of land asset to be owned by JVVNL, therefore, effectively there will be an additional impact of 8 paise per unit on JVVNL due to annual lease rent payable in 25 years over and above the discovered tariff of Rs. 2.890 per unit for the pilot project, which is considerable and shown the same as the additional impact on JVVNL due to the aforesaid revision.

15. In view of the above, the petitioner has requested that if deemed appropriate, the Commission may consider and approve the discovered levelized tariff of Rs. 2.890 per unit for the pilot project of 4.24 MW in JVVNL under Component-C (feeder level solarization) of PM-KUSUM Scheme.

16. In order to promote the implementation of the KUSUM scheme, the Commission has issued order on 11.02.2020 whereby determining the pre-fixed levelized tariff Rs 3.14/unit for component-A and rate of sale for surplus energy as Rs 3.44/unit. In the order Commission further, provided that tariff and other conditions stipulated under the order shall remain applicable for the capacity initially allocated to the State by MNRE under the Component-A and the number of consumers under the Component-C of the Scheme. If need be, based on their learning and analysis, DISCOMs

may file a suitable petition for redetermination of predetermined levelized cost/tariff and increase in the limits in terms of capacity or number of consumers, as the case may be, under the Component-A & C of the scheme.

17. As regards the prayer in respect of regulation 91.1.3 of the RERC RE Tariff Regulations, 2020 it is stated that this regulation will be squarely applicable to the pilot project and also for other solar projects set up for feeder solarization under Component-C of the Scheme akin to any other plant supplying power to the Distribution Licensees.

18. The Commission notes that the land cost and lease rental as per submission dated 25.02.2022 of Discom are likely to affect tariff and these costs should be appropriately built in the Levelized tariff and its impact should be well known to the Discom while carrying out the power purchase.

19. In consideration of the foregoing discussion, and the fact that the pilot is a package in itself and the pilot project undertaken by the Petitioner deserves to be promoted to have better learning for effective implementation of distributed generation schemes. Commission orders as under:

19.1. This being the pilot project, Commission approves the levelized tariff of Rs. 2.890 per unit for 25 years for the pilot project of 4.24 MW solar power plant for feeder level solarization under Component-C of PM-KUSUM scheme. The additional impact of annual lease rent payable in 25 years as projected by the petitioner vide submission dated 25.02.2022 over and above this tariff will be borne by the Petitioner.

19.2. However, the Petitioner shall take up the matter of payment of lease rent and land cost with the State Govt., so as to minimize its impact on the Discom for pilot as well as future projects under Component-C.

19.3. The Commission also observes that the tariff of ₹2.89/unit was discovered on the basis of a single bid only. The Discom also needs to analyse the reasons for non-receipt of bids in requisite numbers and suitably modify the documents and timelines keeping in view the guidelines of KUSUM 'C' scheme with a view to entice the higher participation and discovery of a competitive tariff.

19.4. The Petitioner is further directed that after taking up the matter with State Govt. to minimize the land cost and lease rent it will incorporate the appropriate provision of land cost and lease rent payment in its future bids so as to receive appropriate cost-reflective bids. If after issue of revised bids the State Government allows any changes in the structure of land cost/ lease rent same should be recovered/borne by the Discom.

19.5. After making changes as discussed in preceding paras for bringing in the clarity about various costs and facilitating for higher participation of the bidders in the bid process, the petitioner may invite future bids appropriately and file a separate petition for approval of levelized tariff under feeder level solarization and for further directions on the issues arising out of learning from the pilot project.

19.6. Regulation 91.3.1 of the RERC RE Tariff Regulations 2020 will be applicable to the pilot project and also for other solar projects set up for feeder solarization under Component-C of the Scheme.

20. The petition stands disposed of accordingly.

(S. C. Dinkar)
Member

(Dr. B.N. Sharma)
Chairman