

**BEFORE THE HARYANA ELECTRICITY REGULATORY COMMISSION
BAYS No. 33-36, SECTOR-4, PANCHKULA- 134112, HARYANA**

Case No. HERC/PETITION NO. – 47 of 2023

Date of Hearing : 22.12.2023

Date of Order : 22.12.2023.

IN THE MATTER OF:

Petition for revision of levelized tariff approved by the Commission for purchase of surplus power from framer under individual pump level solarization and determination of the ceiling tariff for purchase of power under feeder level solarization through RESCO mode under Component-C of the PM KUSUM SCHEME

Petitioner

Uttar Haryana Bijli Vitran Nigam Limited (UHBVNL)

Dakshin Haryana Bijli Vitran Nigam Limited (DHBVNL)

Present on behalf of the Petitioner (s)

1. Smt. Sonia Madan, Advocate
2. Shri Deepak Popli, SE/Comml, UHBVNL
3. Smt. Abha Xen/Commercial, DHBVNL

Quorum

Shri Naresh Sardana

Member

ORDER

1. The present petition has been filed jointly by UHBVNL and DHBVNL seeking the revision of the levelized tariff from Rs. 2.33/kWh earlier approved by the Hon'ble Commission vide Order dated 04.01.2023 in Petition no. 68 of 2022 filed by UHBVN to Rs. 2.61/kWh for procurement of power from the RESCOs selected through competitive bidding for feeder level solarization under Component-C of PM KUSUM Scheme (Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan).
2. **The petitioner has submitted as under:-**
 - 2.1 That UHBVN had earlier approached the Hon'ble Commission with the detailed computation based on prevailing factors and relevant assumptions. It was the case of UHBVN that considering the project cost of Rs. 3.50 Cr/MW, the levelized ceiling tariff works out to Rs. 2.33/kWh. Accordingly, the Hon'ble Commission approved a tariff of Rs. 2.33/kWh. There has been subsequent development to the effect that it was observed that capital cost earlier assumed as Rs. 3.5 Cr/ MW (without taking benefit of subsidy) has been escalated owing to following reasons: -
 - a. Increase in Basic Custom Duty (BCD) pertaining to solar module (from 0% to 40%) and solar cell (0% to 25%).
 - b. The GST rate for the goods component has also been increased from 5% to 12%.

- 2.2 That the RESCO developers will be selected on the basis of lowest tariff offered for the supply of required solar power for a period of 25 years. As the RESCO developer will receive 30% subsidy in the eligible cost of CAPEX, there is a requirement of setting up the ceiling tariff above which bids should not be eligible.
- 2.3 That the requirement of total annual power for an agriculture feeder will be assessed and a solar power plant of capacity that can cater to the requirement of that annual power for that agriculture feeder can be installed either through CAPEX mode or RESCO mode, which will supply solar power to that feeder.
- 2.4 That the developer will get CFA @ 30% of the estimated cost of installation of solar power plant i.e. Rs. 1.05 Cr/MW (30% of Rs. 3.5 Cr/MW). Solarisation of pumps of any capacity is allowed, however, in case of pumps of capacity above 7.5 BHP, the CFA to the developer will be limited to the solar power plant capacity required for solarization of 7.5 BHP pumps.
- 2.5 That CFA up to 100% of the total eligible CFA will be released to the RESCO developer through DISCOM on successful operation and performance of the solar plant for two months after the commissioning, with at least one month CUF as per minimum CUF agreed in PPA. Further, a suitable clause in PPA shall be included to ensure that RESCO developer does not sell solar power to any other buyer except the concerned Discom during tenure of PPA, including penal provision calling for refund of proportionate CFA granted to the project by MNRE on violation of this condition. In case of any liquidation of assets of the solar power plant prior to completion of PPA period, the first charge shall be towards recovery of proportionate CFA granted to the project by MNRE.
- 2.6 That farmers will get daytime reliable solar power for irrigation. Farmers can be incentivized for saving water and enhancing their income. The DISCOMs shall assess the average power requirement by farmers of an area depending upon various factors. The power requirement will be treated as their benchmark consumption. The DISCOMs shall incentivize farmers for consuming power less than benchmark consumption. Such saving of power shall be treated as surplus power injected by farmers, and they will be paid by DISCOMs against this saved power at pre-determined incentive per unit. However, it will be the farmer's choice to opt or not for this facility.
- 2.7 That the DISCOM shall monitor solar power generation and performance of the solar power plant through online system. The online data will be integrated with central monitoring portal which will extract data from the State portals for monitoring of the scheme.
- 2.8 That for selection of RESCO developer and PPA, the guidelines and model PPA issued by MNRE for implementation of Component-A of PM-KUSUM Scheme may be used, with suitable modifications.

- 2.9 That minimum CUF to be maintained would be 15% throughout the tenure of the PPA.
- 2.10 That the power plant is to be setup preferably within the 5 km of the sub-station.
- 2.11 That the RESCO developer would be responsible for erecting the infrastructure for connecting the solar power plant to the Discom's substation.
- 2.12 That the maximum timeline allowed for commissioning of solar power plant by RESCO Developer will be nine months from the date of signing of PPA.

Benefits to State Government, Discom and Farmers in Component C

- 2.13 That the cost of power being supplied to agricultural consumer would reduce, which will lead to the reduction of corresponding subsidy obligation of the state government. The scheme shall also help in reducing the overall power purchase cost, the ARR. Further, the solar power fed in to the grid and solar power utilized by farmer both will be accounted for fulfilment of solar RPO by the DISCOM.
- 2.14 That the solar power plant under feeder level solarization of Component C would be installed near the substations leading to savings in inter & intrastate transmission losses.
- 2.15 That the farmers would benefit by reliable day-time power.
- 2.16 That the annual saving from 1 MW solar power plant to the state government and DHBVNL have been calculated at Rs. 62.93 lacs and Rs. 26.44 lacs, respectively (considering feed-in tariff of Rs. 2.61 unit, CUF of 21%, AP feeder level losses @ 9.49%).
- 2.17 That the following assumptions have been considered for the financial projections and estimation of levelized tariff:-

Parameter	Value
Assumed Installed Capacity by RESCO	1 MW
Capex per MW as per MNRE (inclusive of GST)	Rs. 4 Crs/MW
Capital subsidy from MoP/MNRE	Rs. 1.05 Crs/MW
Actual project cost after deducting MNRE subsidy	Rs. 2.95 Crs/MW
Useful project life	25 years
CUF	21%
Auxiliary Consumption	0.25%
Equity	30% of the Actual Project Cost
Long-term loan tenure	13 years
Interest on Long-term loan	8.02%
Interest on Working Capital loan	8.50%
Working Capital requirement	1 month of O&M cost + 2 months of revenue + 15% of O&M as spares
O&M cost	Rs. 10 lakhs/MW
Debt as 70% of Project Cost per MW (including GST)	Rs. 2.05 Crs/MW
Depreciation rate (up to 90% of the asset value)	5.38% up to 13 years, thereafter remaining value to be divided over remaining project life i.e., 12 years in current context
Discounting factor (Weighted Average Cost of Capital)	9.81%

The petitioner has submitted that based on the above assumptions, detailed calculations have been undertaken and levelized tariff of Rs 2.61/kWh has been estimated.

2.18 That Hon'ble Commission in its Order dated 4.1.2023 (petition 68 of 2022 filed by UHBVNL) had approved Rs 2.33 per kWh as the ceiling tariff for procurement of power from the RESCOs selected through competitive bidding for feeder level solarization under Component-C of PM KUSUM Scheme. Since the approved tariff for UHBVN in the above said order is low as the capital cost of 3.5 Cr/MW assumed by UHBVN is at the lower side, therefore the assumptions considered in the instant petition may be considered.

2.19 That despite of estimation of levelized tariff as Rs. 2.61/kWh, a few external factors may be considered by the Commission, before final ceiling tariff is determined:-

- (i) The CFA is currently limited up to 7.5 BHP pumps whereas many agricultural pumps in UHBVN's area of operation are more than the 7.5 BHP capacity. Discom may have to install solar power plant corresponding to total annual power consumption of all the agricultural pumps on the feeder but CFA would not be available to the developer for any additional capacity.
- (ii) MNRE vide its office No. 283/3/2018-GRID dated 09.03.2021 has intimated about Increase in Basic Custom Duty (BCD), as under: -

Items	Upto 31.03.2022	w.e.f. 01.04.2022
Solar module	0%	40%
Solar cell	0%	25%

- (iii) MNRE in its biweekly meetings have also been requesting State Implementing agencies to file a petition to revise the Tariff under Component A and Component C due to increase in capital cost. The present benchmark rates have been specified as 3.5 Cr per MW.
- (iv) The GST rate for the goods component has also been increased from 5% to 12%.
- (v) MNRE in its email to Petitioner dated 06.01.2023 admitted the increased capital cost of 4.32 Cr/MW due to present supply chain disruptions, increase in GST and BCD. MNRE further suggested to file a petition before Hon'ble Commission to revise the tariff under Component C.
- (vi) Considering the impact of increase in BCD, change in GST rates and benchmark rates for solar plant as 4 Cr per MW, as approved by MNRE, the Ceiling Tariff has been estimated as @ 2.61/- per unit.
- (vii) Haryana is one of the preferred destinations for future investment in developmental and industrial projects and a fertile state. Hence, land lease cost for 25 years would be much higher for the RESCO developer. This would also be true in case of land acquisition.

- 2.20 That in view of the above, in order to garner more interest from the developers, the Commission may take a balanced approach by considering both the interest of the Discom and the factors discussed above while determining the ceiling tariff for purchase of power through competitive bidding.
- 2.21 Accordingly, the following prayers have been made:-
- a) To kindly determine the ceiling tariff for procurement of power from the RESCOs selected through competitive bidding for feeder level solarization under Component-C of PM KUSUM Scheme.
 - b) Condone any inadvertent omissions/errors/shortcomings and permit the Petitioner to add/change/modify/alter this petition and make further submissions as may be required and filing of any additional /supplementary submissions during the course of the proceedings.
 - c) Pass such Order, as the Hon'ble Commission may deem fit and appropriate keeping in view the facts and circumstances of the case submitted by the Petitioner.

Proceedings in the Case

3. The case was initially heard on 15.11.2023, wherein the Commission enquired from Smt. Sonia Madan, the learned counsel for the petitioner regarding the justification of seeking the revised tariff of Rs. 2.61/kWh as against Rs. 2.33/kWh approved on 04.01.2023, particularly in view of the fact that Rs. 2.33/kWh was approved as proposed by the Discoms and there is no increase in GST and BCD subsequent to that date. The Commission had also observed that in the recent bidding of solar power projects conducted by NHPC, the tariff of Rs. 2.53/kWh has been discovered. Whereas, in the present case, the developers would also get central financial assistance (CFA) @ 30% of the capital cost. Further, MNRE has given solar benchmark cost for the FY 2021-22 as Rs. 44,640/kWp for grid connected solar power plants of 3kWp to 10kWp, which has decreased to Rs. 43,975 for the FY 2023-24. The discoms, vide sales circular no. U-05/2022, have empaneled firms for installation of rooftop solar with the price of Rs. 38,090/kWP discovered through bidding. Thus, the rates actually discovered are much lower than MNRE benchmark cost.
4. In response to the ibid observations of the Commission, UHBVNL filed its reply dated 09.12.2023, submitting as under:-
- 3.1 Impact of increase in GST and BCD was not taken into account while claiming Capital Cost of Rs. 3.5 crore/MW in PRO-68 of 2022:-
- a) Petition no. 68 of 2022 seeking determination of tariff under Component-C of the PM KUSUM Scheme was filed by UHBVN in November, 2022 wherein Capital Cost was considered in line with the cost suggested by the Ministry of New and Renewable

Energy (MNRE) in notification dated 04.12.2020. The Petitioners, however, have been writing to the MNRE for confirming the Capital Cost in light of the increased cost of Solar Modules after taking into account increased taxes and duties.

- b) Subsequent to passing of Order dated 04.01.2023, MNRE vide its email dated 06.01.2023 & 12.01.2023 addressed to Petitioners (DHBVN and UHBVN) allowed the Capital Cost as Rs. 4.32 crore/ MW and subsequently requested State Implementing Agencies to file a petition seeking revision of tariff under PM Kusum Scheme. Accordingly, the Petitioners considered the suggested cost of Rs. 4.32 crore/MW rationally vis-à-vis the market trend and consequently, estimated a reasonable capital cost of Rs. 4 per MW for plant to be set up under Component-C of PM KUSUM Scheme.
- c) In light of the foregoing, it is submitted that even though the GST and BCD increase was notified at the time of passing of Order dated 04.01.2023, however such statutory taxes and duties could not be factored into as the MNRE approval for revision of benchmark Capital Cost was not received. Therefore, increase in GST and BCD was not taken into account while claiming Capital Cost of Rs. 3.5 crore/MW in PRO-68 of 2022 and the revision of tariff as sought in the instant petition is necessitated due to factoring in increased GST and BCD in procurement of solar modules.

3.2 Tariff discovered in bidding made by NHPC not comparable to small 1 MW plants under PM Kusum Scheme:-

The total consolidated project bid by NHPC was for setting up a 3,000 MW interstate transmission system (ISTS) connected solar power projects anywhere in India. Such project had to setup on the land to be identified and arranged by the bidder anywhere in India. The choice of land was a substantial factor that impacted the bidding tariff. Moreover, the request for setting up of a high-capacity plant witnessed participation from big renewable players. Hinduja Renewables was awarded the bid to set up 250 MW capacity at the tariff rate of Rs 2.53/unit. It is pertinent to note that these projects are high-capacity projects to be set up by big renewable developers having expertise and financial credibility in the field. Whereas, PM Kusum Scheme is for small farmers who have to set up small solar plants of up to 2 MW capacity on their own agricultural land. Thus, the tariff discovered in NHPC bidding cannot be compared to the present small-scale projects to be set up by the farmers.

3.3 Central Financial Assistance (CFA) @ 30% has been duly taken into account in the present Petition-

The tariff computed in the instant petition duly takes into account the CFA@ 30%. In the computation provided in para 19 of the Petition, the Capital Cost of Rs. 4 Cr/ MW has been further reduced by Rs. 1.05 Cr/ MW towards capital subsidy to be received from

MoP/ MNRE. The levelized ceiling tariff of Rs. 2.61/MW therefore, takes into account Central Financial Assistance @30%.

3.4 Decrease in MNRE Solar Benchmark Cost for FY 2023-24 and tariff discovered through bidding for rooftop solar power plant not comparable to small 1 MW plants under PM Kusum Scheme –

- a) The decrease in MNRE Solar Benchmark Cost does not hit at the reasonability of the capital cost considered for PM Kusum Scheme. Considering the benchmark cost of Rs. 43,975/- kwp fixed by MNRE for Grid Connected Rooftop solar power plants, the cost of 1 MW plant comes out to be Rs. 4.39 Cr/MW. However, considering effect of economies of scale, the petitioners have reasonably considered the cost of installation of 1 MW plant as Rs. 4.0 Cr/MW.
- b) Insofar as tariff discovered through bidding for rooftop solar power plant is concerned, firstly, the said bidding is for roof top solar plant where land cost is virtually nil whereas PM Kusum plants are to be set up on the agricultural land, which is of high potential in the State of Haryana. Secondly, although Discoms have empaneled firms for RTS installation at the price of Rs. 38090/kwp, yet there have been various requests coming in from vendors seeking escalated price. Thus, price discovered through bidding for rooftop solar cannot be an indicator of any reasonability in the proposed tariff under instant petition.

3.5 Additional Submissions justifying the claim of levelized tariff as Rs. 2.61/kWh-

- a) PM-Kusum Tariff in other States: Recently, Rajasthan Electricity Regulatory Commission in order dated 21.09.2023 for Ajmer Vidyut Vitran Nigam Limited has approved Rs. 3.55/kWh as the ceiling tariff for the solar projects to be setup under PM KUSUM scheme, Component-C Feeder level Solarization. While the majority of the land in the State of Rajasthan is barren and has lesser market value as compared to agricultural land of State of Haryana, yet the approval of higher tariff in the State of Rajasthan evinces the peculiarity of PM Kusum Projects and thus, the demand of tariff so as to incentivize the farmers to set up such projects.
- b) Difficulties experienced in setting up of plants under PM-Kusum Scheme - The petitioners have signed PPA with PM Kusum bidders for 8.57 MW (resultant to 1st expression of interest dated 14.01.2020) and 10.4 MW (resultant to 2nd expression of interest dated 04.07.2022) floated by DHBVN at rate of Rs. 3.11/kWh. However, it is submitted that out of 8.57 MW, only 2.25 MW has been commissioned till date and 2 bidders selected for setting up plant for cumulative capacity of 3.32 MW (2MW + 1.32MW) has opted out of the scheme alleging viability due to low tariff. Further, out of total 15.9 MW, PPA for 10.4 MW plant alone has been signed till date. Even after 4 years of launch of scheme, Haryana discoms have not achieved their targets.

- c) Benefit to Farmers: PM KUSUM scheme is specifically meant for farmers and as such it would be unjustified to compare it with the tariff determined for solar plants developed on large scale for commercial use, as such large plants enjoy the economies of scale and these plants are generally established on barren land away from populated areas.
- d) Interest Rates: HERC RE Regulations, 2021 specifies that normative interest rates and Interest on Working Capital shall be computed at the average Marginal Cost of funds-based lending rate (MCLR) (one year tenor) of SBI prevailing during the last available six months plus an appropriate margin not exceeding 200 basis points i.e. 2% for computation of tariff. However, to ensure reasonability of tariff, petitioners have taken into account the normative interest rates and Interest on Working Capital have been taken on lower side as average of Marginal Cost of funds-based lending rate (MCLR) (one year tenor) of SBI prevailing during the last available six months. The Petitioners have therefore, considered reasonable long term interest rate @ 8.02% per annum instead of 10.02% per annum. The levelized ceiling tariff claimed in the instant petition is therefore, just and reasonable.

Commission's Order

5. The Commission heard the arguments of the petitioner at length as well as perused the written submissions placed on record by the petitioner. The Commission observes that Petition no. 68 of 2022 seeking determination of tariff under Component-C of the PM KUSUM Scheme was filed in November, 2022 and approved by the Commission on 04.01.2023. Whereas, basic custom duty (BCD) (on solar modules @ 40% and solar cells @ 25%) was levied w.e.f. April, 2022, in substitution of the safeguard duty (SGD) which was levied @ 15%. Further, the GST rate was increased from 5% to 12%, in view of the notification dated 30.09.2021. Thus, the premise on which the increase in the capital cost from Rs. 3.50 crore/MW to Rs. 4 crore/MW, has been sought viz. increase in taxes/duties, is unfounded. Further, as submitted by the Discoms themselves that they have empaneled firms for RTS installation at the price of Rs. 38090/kwp. The capital cost net of subsidy of 30% comes to Rs. 26663/kwp or 2.66 crore/MW, which even after considering the lease rental value of land, is far more than the capital cost of Rs. 3.50 crore/MW, already approved by the Commission. Additionally, the backward calculation from the subsidy @ 30% of the project cost (subject to maximum of Rs. 1.05 crore), allowed in respect of the project feeder level solarization through RESCO mode under Component-C of the PM KUSUM SCHEME, gives the capital cost as Rs. 3.50 crore/MW (1.05/30%). Due to increased efficiency of the solar modules at cheaper rates, the lowest discovered solar tariff in the biddings in various part of India has not increased. It is at this point

apposite to notice that the lowest discovered tariff in June, 2019 was Rs. 2.50/kWh (SECI's auction for 750 MW solar PV power in Rajasthan). In November 2020, Solar PV power tariff has fallen to Rs. 2.00/kWh (SECI's auction of 1070 MW solar PV projects in Rajasthan). In March 2021, the discovered levelized tariff was Rs. 2.20/kWh (GUVNL's auction to purchase 500 MW solar PV power) after the imposition of basic customs duty (BCD) on imported solar PV panels and cells. In April 2023, the discovered minimum tariff for solar power was Rs. 2.55/kWh (REC power development and Consultancy's auction for purchase of 1250 MW solar PV power). The stagnancy in the tariff rate discovered through competitive bidding, in spite of inflation, from the year 2019 to 2023, indubitably reflects that the hike in the cost of some components out of various constituents of the capital cost of a solar power project, has been absorbed by decline in the cost of some other components. In this regard, it is also significant to note the news item in 'the Energy World' dated 11.07.2023, specifying that the prices of Chinese solar modules have dropped to a historic low of \$0.196 per watt in June, 2023 from the level of \$ 0.24 per watt in June, 2021. The Commission further observes that in the project specific tariff determination proceedings before it, the solar PV tariff determined, vide its order dated 18.01.2021 (petition no. 59 of 2020 for 50 MW, in the matter of M/s. Amplus), 17.09.2021 (petition no. 70 of 2020 for 20 MW in the matter of M/s. LR) and 11.11.2021 (petition no. 16 of 2021 for 50 MW in the matter of M/s. Avaada) was Rs. 2.58/kWh, Rs. 2.48/kWh and Rs. 2.86/kWh, respectively. Further, the averments of the discoms that tariff of MW scale projects can not be compared with the small solar power project of upto 2 MW, does not hold good, in view of the fact that economies of scale associated with MW scale has been discounted by the subsidy of Rs. 1.05 crore/MW offered by MNRE. The lease rental of land used for renewable energy power plant under PM-Kusum scheme should be lowest, as the scheme envisage that such projects shall be implemented primarily on Barren / uncultivable land. The average power purchase cost of the Discoms, as submitted by them in their ARR petition, has increased considerably. Discoms should make all out efforts to bring down the average power purchase cost to the maximum extent possible, so that the consumers are not given tariff shocks. Hence, the increase in the tariff sought by the Discoms, is not warranted.

6. In terms of the above order, the present petition is disposed of.

This order is signed, dated and issued by the Haryana Electricity Regulatory Commission on 22.12.2023.

Date: 22.12.2023
Place: Panchkula

(Naresh Sardana)
Member