

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

Case No. HERC/PETITION NO. – 48 of 2023

**Date of Hearing : 22.12.2023
Date of Order : 22.12.2023**

IN THE MATTER OF:

Petition for revision of Pre-fixed levelized tariff determined by Hon'ble Commission for purchase of power by Discoms from decentralised Solar Power Plants and other Renewable Energy Generation Plants having capacity up to 2MW to be set up by individual farmers/group of farmers/cooperatives/panchayats/Farmer Producer Organisations (FPO)/Water User Associations (WUA) in the vicinity of rural grid sub-stations under Component-A of the Pradhan Mantri Kisan Urja Suraksha evem Utthan Mahabhiyan (PM KUSUM) Scheme introduced by Government of India (GoI).

Petitioner (s)

Uttar Haryana Bijli Vitran Nigam Limited (UHBVNL)
Dakshin Haryana Bijli Vitran Nigam Limited (DHBVNL)

Present on behalf of the Petitioner

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

Quorum

Shri Naresh Sardana

Member

ORDER

Brief Background of the case

1. The present petition has been filed jointly by UHBVNL and DHBVNL seeking revision of levelized tariff from Rs. 3.11/kWh earlier approved by the Hon'ble Commission vide order dated 20.12.2019 in PRO-57 of 2019 to Rs. 3.38/kWh for purchase of power under Component A of PM Kusum Scheme (Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan) i.e. decentralised Solar Power Plants and other Renewable Energy Generation Plants having capacity of 500 kW to 2MW.
2. **The petitioner has submitted as under:-**
 - 2.1 That component-A of the PM-KUSUM scheme provides for setting up of 10,000 MW of Decentralized Ground/ Stilt Mounted Grid Connected Solar or other Renewable Energy based Power Plants. Power generated from all the Renewable Energy (RE) based power plants to be set up under Component –A of the scheme has to be purchased by the Discoms at a pre-fixed levelized tariff approved by this Hon'ble Commission.

- 2.2 That Uttar Haryana Bijli Vitran Nigam Limited (UHBVNL) and Dakshin Haryana Bijli Vitran Nigam Limited (DHBVNL) on 08.11.2019 filed a similar petition in this Commission, wherein the capital cost was pegged at Rs. 3.40 crore/MW and CUF of 20%.
- 2.3 That the Hon'ble Commission issued an order on above mentioned petition in case no PRO-57 of 2019 dated 20.12.2019, determining levelized tariff of Rs. 3.11/kWh.
- 2.4 That the expression of interest (EoI) was invited by Discoms on 13.01.2020 w.r.t Component-A and the status is as under: -

DHBVN

Target given by MNRE	Target Achieved	Target Shortfall	Reasons for shortfall
35 MW (15 MW for 2019-20 & 20 MW for 2020-21)	<ul style="list-style-type: none"> PPA signed for 8.57 MW 2.25 MW commissioned 	26.43 MW	<ul style="list-style-type: none"> Not enough interest shown by farmers to participate in this scheme due to low tariff. Finance issue faced by the farmers

UHBVN

Target given by MNRE	Target Achieved	Target Shortfall	Reasons for shortfall
30 MW (10 MW for 2019-20 & 20 MW for 2020-21)	<ul style="list-style-type: none"> PPA signed for 2 MW 0 MW commissioned 	28 MW	<ul style="list-style-type: none"> Not enough interest shown by farmers to participate in this scheme due to low tariff. Finance issue faced by the farmers

- 2.5 That a fresh EoI was floated by DHBVN for 26.43 MW on 04.07.2022 for installation of Decentralized Grid connected Ground Stilt Mounted Solar Based Power Plants of capacity upto 2 MW under Component A. In response to the above EoI, Nigam has received bids from 17 bidders to the tune of only 19.4 MW against 26.43 MW. DHBVN issued LoA of 15.9 MW to 15 bidders on 15.02.2023. As on date DHBVN has issued LoA of Total 24.47 MW to 22 bidders.
- 2.6 That even after 2 EoI, there is a shortfall of approx. 10.53 MW in DHBVNL. DHBVN has not received overwhelming response due to low tariff.
- 2.7 That similarly a fresh EoI for 28 MW was floated by UHBVN on 01.04.2022 for installation of Decentralized Grid connected Ground Stilt Mounted Solar Based Power Plants of capacity up to 2 MW under Component A. In response to the above EoI, Nigam has received bids from 2 bidders to the tune of only 1.6 against 28 MW. Those bidders also failed to submit complete documents and expressed their unwillingness to set up solar plant. The reason for being unsuccessful in the issuance of bid is largely on account of low tariff. There is a shortfall of 30 MW, for which UHBVN has to issue another bid with better tariff.

2.8 That UHBVN has also taken an initiative to entertain walk-in applications without floating any EOI under Component A of PM KUSUM scheme from interested applicants for installation of solar power plants. Interested parties can apply to the concerned SE/XEN OPs of the circle in which the substation (to which the proposed plant to be connected) is located. Still Nigam is not able to get response as farmers are not willing to provide their fertile land for the scheme at such low tariff.

2.9 That the bidders have raised the issue of increased Capital Cost in several meetings held with officials of the Nigam. They have stated that even poly crystal modules will not be available at the proposed capital cost of 3.5 Cr/MW. It is further added that for a small capacity of 500kW or 1000kW, no international player will supply the modules on such price and as it is conventionally done, the project is installed through an EPC contractor who will charge for transportation, taxes and his profit, which gets reflected on the final cost of Modules.

2.10 That the Nigam's proposal to revise the Tariff is due to following reasons:-

- a) MNRE vide its office No. 283/3/2018-GRID SOLAR dated 09.03.2021 intimated about Increase in Basic Custom Duty (BCD)

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

- b) The GST rate for the goods component has also been increased from 5% to 12%.
- c) MNRE in its biweekly meetings have also been requesting State Implementing agencies to file a petition to revise the Tariff under Component A due to increase in capital cost. The present benchmark rates have been specified as 3.5 Cr per MW. Many states have also agreed to file petition for review of Tariff.
- d) MNRE in its emails dated 06.01.2023 and 12.01.2023 addressed to DHBVN and UHBVN respectively indicated the capital cost as Rs. 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 in line with Himachal Pradesh to revise the tariff under Component A. The escalated capital cost has however, been reasonably estimated by the petitioners as Rs. 4 Cr/MW considering various factors.
- e) Considering the impact of increase in BCD, change in GST rates and benchmark rates for solar plant as 4 Cr per MW, the Feed-In Tariff has been estimated as @ Rs. 3.38/- per unit against the existing rate @ Rs. 3.11/- per unit approved by the Hon'ble Commission.

2.11 Following assumptions have been considered for the financial projections and estimation of levelized tariff:-

Parameter	Value
Assumed Installed Capacity by SPG	1 MW
Capex per MW as per MNRE (inclusive of GST)	Rs. 4Cr/MW
Capital subsidy from MoP/MNRE	No subsidy
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	8.5%
Working Capital requirement	1 month of O&M cost + 2 months of revenue + 15% of O&M as spares
O&M cost	Rs. 1.05 Million/MW
Debt as 70% of Project Cost per MW (including GST)	Rs. 2.8 Cr/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	9.81%

2.12 The following prayers have been made:-

- a) To revise the levelized tariff for procurement of power under Component-A of PM KUSUM Scheme.
- b) Condone any inadvertent omissions/errors/shortcomings and permit the petitioners to add/change/modify/alter this filing and make further submissions as may be required.
- 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 petitioners.

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. 3.38/kWh as against Rs. 3.11/kWh approved on 20.12.2019. 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. 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. The Commission further observed that HPPC has signed PPA with four developers of 1 MW each, in June, 2023 at Rs. 3.11/kWh and there is no increase in GST and BCD thereafter.

4. In response to the ibid observations of the Commission, UHBVNL filed its reply dated 11.12.2023, submitting as under:-
- 3.1 Impact of increase in GST and BCD was not taken into account while claiming Capital Cost of Rs. 3.40 crore/MW in PRO-57 of 2019:-
- a) Petition no. 57 of 2019 seeking determination of tariff under Component-A of the PM KUSUM Scheme was filed by UHBVN on 08.11.2019, wherein Capital Cost was considered at Rs. 3.40 crore/MW, in line with the then orders by SERC of Rajasthan and Karnataka. However, there has been no satisfactory response to the bids floated by the petitioners. 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) 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, the GST and BCD increase was not taken into account while claiming capital cost of Rs. 3.40 crore/MW. Therefore, 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 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.

3.4 Additional Submissions justifying the claim of levelized tariff as Rs. 3.38/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 case was next heard on 22.12.2023. In the hearing, the counsel for the petitioner additionally submitted an order passed by Hon'ble JERC, in support of her contention for higher capital cost. 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. 57 of 2019 seeking determination of tariff under Component-A of the PM KUSUM Scheme was filed in November, 2019 and approved by the Commission on 20.12.2019. The discoms have averred that effect of basic custom duty (BCD) (on solar modules @ 40% and solar cells @ 25%) was levied w.e.f. April, 2022 and the same was not considered at the time of approval of tariff of Rs. 3.11/kWh. However, the Commission observes that prior to April, 2022, safeguard duty (SGD) was imposed. The rate of the same was 25% from 30.07.2018 to 29.07.2019 and 20% from 30.07.2019 to 29.01.2020. Thus, at the time when the tariff @ 3.11/kWh was approved by this Commission, SGD @ 20% was already applicable. The BCD has been imposed in substitution of SGD. Thus, the premise on which the increase in the capital cost from Rs. 3.40 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. 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 grant of higher tariff of Rs. 3.11/kWh as against the competitive tariff of Rs. 2.55/kWh. 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. It is not out of the place to note the order dated 11.11.2022 (P.No. 23 of 2022) issued by Hon'ble Punjab State Electricity Regulatory Commission (PSERC), vide which, the issue of increase sought in the levelized tariff for solar PV projects to be setup under the ibid Scheme, from Rs. 2.748/kWh to Rs. 3.718/kWh was decided. While declining the tariff hike as sought in the petition, Hon'ble PSERC has observed that PSPCL has successfully signed PPAs with tariff far lower than the tariff approved by the Commission vide its Order dated 09.10.2020 i.e. Rs. 2.748 kWh for solar PV projects.

6. The Commission has also taken note of the clarification dated 31.12.2019 issued by MNRE, wherein it has been clarified that Discoms may pass on the procurement based incentive (PBI) @ Rs. 0.40/kWh given to them by MNRE to the renewable energy power

plant owner to get more competitive tariff of RE power under the scheme. Accordingly, the Discoms, after exercising due-diligence and ascertaining the extent to which support is required in the tariff of Rs. 3.11/kWh in order to promote the scheme, may consider to meet the extra tariff out of the PBI received from the ministry. Hence, the increase in the tariff sought by the Discoms, is not warranted.

7. 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

HEERC