MADHYA PRADESH ELECTRICITY REGULATORY COMMISSION BHOPAL

Sub: In the matter of Petition under Section 62 and 86 (1) (a), (b) of the Electricity Act, 2003 read with Regulations 45(1) of the Madhya Pradesh Electricity Regulatory Commission (Conduct of Business) Regulations, 2016 and Regulation 3.6 and 19 of the Madhya Pradesh Electricity Regulatory Commission (Cogeneration and Generation of Electricity from Renewable Energy Sources of Energy) (Revision-II) Regulations, 2021 seeking increase in the feed in tariff determined by the Commission for sale of power by solar power projects set up under Component A of the Pradhan Mantri Kisan Urja Suraksha Evam Utthan Mahabhiyan (PM KUSUM) Scheme, issued by the Ministry of New and Renewable Energy, Government of India.

ORDER

(Hearing through video conferencing)
(Date of Order: 9th Oct 2023)

Madhya Pradesh Urja Vikas Nigam Ltd.,
Urja Bhawan, Link Road No. 2 Shivaji Nagar,
Bhopal, Madhya Pradesh, 462016 - **Petitioner**

Vs.

1. Power Management Company Ltd.,
Shakti Bhawan, PO Vidyut Nagar,Rampur,
Jabalpur, 482008

2. MP Madhya Kshetra Vidyut Vitaran Company Ltd.,
Nishtha Parisar, Bijlee Nagar, Govindpura,
Bhopal -462023

3. MP Paschim Kshetra Vidyut Vitaran Company Ltd.,
GPH Compound, Polo Ground,
Indore- 452001

4. MP Poorv Kshetra Vidyut Vitaran Company Ltd.,
Shakti Bhawan, PO Vidyut Nagar, Rampur,
Jabalpur, 482008

- **Respondents**

Shri Yash Vidyarthi, Advocateappeared on behalf of the petitioner.
Shri Manoj Dubey, Advocateappeared on behalf of the Respondent

The subject petition is filed under section, 62 and 86 (1) (a), (b) of the Electricity Act, 2003 read with Regulations 45(1) of the Madhya Pradesh Electricity Regulatory Commission (Conduct of Business) Regulations, 2016 and Regulation 3.6 and 19 of the Madhya Pradesh Electricity Regulatory Commission (Cogeneration and Generation of Electricity from Renewable Energy Sources of Energy) (Revision-II) Regulations, 2021.

2. By affidavit dated 30.05.2023, the petitioner broadly submitted the following:

i. *Madhya Pradesh Urja Vikas Nigam Ltd.* ***("MPUVNL"),*** *Petitioner has filed the Petition urging the Commission to increase the feed in tariff to INR 3.85/KWh from INR 3.07/KWh for sale of power from decentralized solar plants to be set up under Component A of the Pradhan Mantri Kisan Urja Suraksha Evam Utthan Mahabhiyan* ***(PM Kusum Scheme").***

ii. *The MNRE issued detailed guidelines for implementation of the Pradhan Mantri Kisan Urja Suraksha Evam Utthan Mahabhiyan Scheme on 22.07.2019. This scheme has provisions for inter alia development of decentralized renewable energy plants, solar agriculture water pumps and solarization of existing Grid connected Agriculture pumps. Under the Component A of the said scheme, it has been planned to simultaneously develop decentralized Solar energy and other renewable energy generation Plants of capacity up to 2 MW which could be connected directly to existing 33/11 kV, 66/11 kV or 110/11 kV sub-stations of distribution licensees. Such plants near these sub-stations may be developed, preferably by farmers, giving them an opportunity to increase their income by utilising their barren and uncultivable land for solar or other renewable energy-based power plants.*

iii. *Under the Scheme, the distribution licensees are required to notify sub-station wise capacity which can be fed from such renewable energy plants to the grid and invite applications from interested beneficiaries for setting up the renewable power generated from these projects to be purchased by the distribution licensees at a pre-fixed levelized tariff to be determined by the appropriate Commission i.e., this Hon'ble Commission in the present case. In the event applications received by a SNA/ licensee are for a capacity more than the available capacity at a substation, then the aforesaid feed in tariff determined by this Hon'ble Commission is to be the ceiling tariff based on which bidding process is contemplated for selection of successful bidders.*

iv. *The Scheme also requires the MNRE to designate the implementing agencies in each State for the effective implementation of the said Scheme. In furtherance thereof, the MNRE designated the Petitioner as the State Implementing Agency ("SIA") vide letter No: F.No. 32/54/2018 — SPV Division, dated 26.11.2019 for implementation of Component A of the PM KUSUM Scheme in the state of Madhya Pradesh.*

v. *It is submitted that the SIA is responsible inter alia for coordinating with the distribution licensees* ***("Discoms")*** *and fanners for effective implementation of the Scheme on issues such as connectivity of solar power plants with the Discoms' existing evacuation network, execution of Power Purchase Agreements* ***("PPAs") between*** *selected project developers and the Discom i.e., MPPMCL in the present case, and various other arrangements required for sale of power from these projects to MPPMCL.*

vi. *MNRE provided sanctions to MPUVNL vide letters No: F.No. 32/54/2018 — SPV Division, dated 13.01.2021 and 18.05.2022, for development of a cumulative capacity of 500 MW to be implemented in the State under component-A of the PM KUSUM Scheme. The validity of these targets conveyed under the scheme has been extended to 31.03.2026 as per MNRE letter No. 32/645/2017-SPV Division Govt. of India dated 01 August 2022.*

vii. *For successful implementation of the scheme and in furtherance of the procedure stipulated in the PM Kusum Scheme, this Hon'ble Commission the Tariff Order determined a fixed levelized tariff of INR 3.07/ kWh for all projects to be developed under the said Scheme up to 31.03.2024. The relevant extracts of the Tariff Order are set out below:*

"Based on the aforesaid parameters, the Commission has determined the pre fixed levelized tariff of Rs. 3.07 / kWh under Component-A of KUSUM Scheme for entire life of the project commissioned till 31st March' 2024. This will act as a ceiling tariff for the competitive bidding in this matter. The duration of PPA shall be 25 years for all projects covered under this scheme. The computational details are placed at Annexure — A."

viii. *For arriving at the aforesaid feed in tariff, this Hon'ble commission considered the capital cost of the projects to be developed under the Scheme at 1NR 335 lakh/ MW (excluding cost of land/ land lease). The break-up of the capital cost determined by this Hon'ble Commission is set out as below:-*

Cost Breakup	***Unit***	***Rate***	***Amount***	***Reference***
Cost of solar module (at Indian ports)	*INR/watt*		*13.56*	*Back calculation as per INR 335 lakh CapEx*
Cost of solar module	*INR Lakh /MW*		*135.60*	
Over load	*INR Lakh /MW*	*10.00%*	*149.16*	
Safe Guard Duty/ BCD	*INR Lakh /MW*	*0.00%*	*0.00*	
Cost of solar module after SGD/BCD	*INR Lakh /MW*		*149.16*	
Inverter	*INR Lakh /MW*		*44.03*	*Karnataka ERC Order dated August 2019*
BOS	*INR Lakh /MW*		*95.95*	*Karnataka ERC Order dated August 2019*
Capital cost before taxes and other expenses	*INR Lakh /MW*		*289.14*	

Cost Breakup	*Unit*	*Rate*	*Amount*	*Reference*
GST for 70% of capital cost	*INR Lakh /MW*	*5%*	*10.12*	
GST for 30% of capital cost	*INR Lakh /MW*	*18%*	*15.61*	
Total capital cost after SGD/BCD and GST	*INR Lakh /MW*		*314.87*	
Cost of Constructing 11 kV Transmission line (5 KM)	*INR Lakh /KM*	*2.60*	*13*	*MP Discoms' SOR rates FY20*
Cost of Developing 11 kV Bay and related switchgear	*INR Lakh*	*7.13*	*7.13*	*MP Discoms' SOR rates FY21*
Total Capital Cost including transmission line and related switchgear	*INR Lakh /MW*		*335.00*	*As approved by MPERC in Feb-2021 order*

ix. *In accordance with the provisions of the PM Kusum Scheme read with the Tariff Order, the Petitioner proceeded to issue tenders for selection of renewable power generators **("RPGs")** against capacities sanctioned by the MNRE for Madhya Pradesh. In this regard, it is submitted that pursuant to the capacities sanctioned by the MNRE for Madhya Pradesh under component-A of the PM KUSUM Scheme, the Petitioner issued four tenders dated 05.12.2020 (phase-I), 18.05.2021 (phase-II), 30.07.2021 (phase-III) and 28.02.2022 (phase-1V).*

x. *Perturbingly, none of the bids were fully subscribed. Instead, the Petitioner has been able to obtain bids for a cumulative capacity of only 345 MW as against 500 MW invited under each of the four tenders. Of the said 345 MW, developers for 245 MW of capacity have already expressed their inability to commission the projects on account of the unviability of the capital cost and feed in tariff determined in the Tariff Order.*

xi. *It is submitted that progress on the implementation of the PM Kusum Scheme in terms of the sanction capacity of the MNRE has been challenging for the Petitioner on account of a material alteration in the underlying facts, circumstances and parameters based on which the feed in tariff under the Tariff Order was determined. The aforesaid unavoidable, uncontrollable and supervening events viz. imposition of basic customs duty, increase in the rates of Goods and Services Tax and a drastic increase in the foreign exchange rates, domestic interest rates and consequently cost of inputs, have made the capital cost and feed in tariff determined by this Hon'ble Commission unviable, thereby severely stifling the growth and implementation of the Scheme in the State. The various supervening events w hic have necessitated a revision of the capital cost and feed in tariff determined under the*

Tariff Order have been discussed in detail below.

Unavoidable, uncontrollable, and supervening events impacting the feed in tariff under the Tariff Order.

(i) <u>Imposition of Basic Custom Duty</u>

xii. *On 09.03.2021, the MNRE issued Office Memorandum No. 283/3/2018-GRID SOLAR dated 09.03.2021("BCD **OM")** imposing Basic Customs Duty **("BCD")** on the import of solar cells and modules into India with effect from 01.04.2022. Subsequently, the Finance Act, 2022 has notified the imposition of BCD by amending the First Schedule of the Customs Tariff Act, 1975 with effect from 01.04.2022. As per the First Schedule of the Customs Tariff Act, 1975, for photovoltaic cells not assembled in modules or made up into panels — the rate of BCD is 25% whereas a 40% rate is applicable to photovoltaic cells assembled in modules or made into panels. The rates of BCD sought to be imposed by the Government of India by the BCD Notifications (including surcharge on such BCD) are set out below:-*

Items	*Upto 31.03.2022*	*BCD wef 01.04.2022*	*Surcharge on BCD*	*Effective Rate of BCD*
Solar Module	*0%*	*40%*	*10%*	*44%*
Solar Cell	*0%*	*25%*	*10%*	*27.5%*

xiii. *It is submitted that the solar cells and modules forms a major component of the cost of setting up a solar power project. The said imposition has drastically increased the cost of the primary input for setting up of solar power projects viz. solar cells/ modules, thereby adversely impacting the capital cost of such projects to be set up under the PM Kusum Scheme.*

xiv. *Therefore, under the present circumstances, it is imperative that the aforesaid increased cost be considered by this Hon'ble Commission to revise the capital cost component and consequently the feed in tariff fixed under the Tariff Order.*

(ii) <u>Increase in the rates of Goods and Services Tax</u>

xv. *On 09.03.2021, the MNRE issued office memorandum No. 283/2/2018 GRID SOLAR dated 09.03.2021 ("BCD OM") imposing Basic Customs Duty ("BCD") on the import of solar cells and modules into India with effect from 01.04.2022. Subsequently, the Finance Act, 2022 has notified the imposition of BCD by amending the First Schedule of the Customs Tariff Act, 1975 with effect from 01.04.2022. As per the First Schedule of the Customs Tariff Act, 1975, for photovoltaic cells not assembled in modules or made up into panels — the rate of BCD is 25% whereas a 40% rate is applicable to photovoltaic cells assembled in modules or made into* *panels. The rates of BCD sought to be imposed by the Government of India by the BCD Notifications (including surcharge on such BCD) are set out.*

xvi. *It is submitted that the solar cells and modules forms a major component of the cost of setting up a solar power project. The said imposition has drastically increased the cost of the primary input for setting up of solar power projects viz. solar cells/ modules, thereby adversely impacting the capital cost of such projects to be set up under the PM Kusum Scheme.*

xvii. *Therefore, under the present circumstances, it is imperative that the aforesaid increased cost be considered by this Hon'ble Commission to revise the capital cost component and consequently the feed in tariff fixed under the Tariff Order.*

(ii) Increase in the rates of Goods and Services Tax

xviii. *Further, after the issuance of the Tariff Order, the Ministry of Finance, Government of India, issued Notification No. 8/2021 Central Tax (Rate) and Notification No. 8/2021 Integrated Tax (Rate) dated 30.09.2021 amending the Goods and Services Tax **("GST")** rates relating to setting up of SPGS with effect from 01.10.2021 ("GST Amendment Notifications").*

xix. *With the issuance of the GST Amendment Notifications, prospective bidders are required to bear additional non-recurring expenditure with effect from 01.10.2021 in the form of additional tax burden on the setting up of solar power projects. Previously, at the time when the Tariff Order was issued, under the then prevalent notifications issued under the GST Laws, the specified renewable energy devices and parts for their manufacture, including SPGS were taxed at the rate of 5% in terms of Entry 234 provided therein. Thus, any agreement for supply of modules would have carried a GST rate of 5%.*

xx. *Moreover, for composite contracts where modules along with associated services of installation, erection and commissioning were provided, the GST rate applicable worked out to 8.9%. In this regard, the Explanation to Entry 234, Schedule I of the Central GST Act, 2017 provided that where renewable energy goods including SPGS were supplied along with other goods and services, where one service involved construction or engineering or installation or other technical services provided in relation to setting up of renewable energy projects, 70% of the gross consideration of such contract value was taxed at 5% (i.e., GST rate applicable on the supply of specified renewable energy goods) and 30% of the gross consideration of contract value was taxed at 18% (i.e., the GST Rate applicable on the supply of construction, engineering, installation or other technical services in relation to renewable energy generating devices). This cumulatively led to an imposition of 8.9% GST on such composite contracts, which has been considered in the tariff order as well.*

xxi. *By the GST Amendment Notifications, Entry 234 provided in the erstwhile CGST and SGST rate schedules has been deleted. Instead, Entry 201A has now been inserted in Schedule II of the CGST and SGST rate schedules that prescribe a total rate of 12% for specified renewable energy device and their parts for manufacture including SPGS. Further, an Explanation like that contained under the erstwhile*

Entry 234, Schedule I dealing with composite EPC Contracts is also provided under Entry 201A.

xxii. *It is submitted that with the issuance of the GST Amendment Notifications, the applicable rate of GST on the supply of modules under the Module Supply Agreement has increased from 5% to 12% of the value of such supplies. Further, under composite contracts for supply and services relating to setting up of solar modules, 70% of the gross consideration of the contract value under the EPC Contract will be taxed at 12% (i.e., in terms of entry 201A read with the Explanation provided therein being the GST rate applicable on the supply of SPGS) and 30% of the gross consideration of the contract value under the EPC Contract will be taxed at 18% (i.e., the GST rate applicable on the supply of construction, engineering, installation or other technical services in relation to SPGS).*

xxiii. *In view thereof, the GST on agreements for supply of modules has increased from 5% to 12%. Further, the GST Amendment Notifications have resulted in an increase in the effective tax rates from 8.9% earlier to 13.8% (on gross consideration) on composite contracts for supply of modules and associated services with effect from 01.10.2022.*

xxiv. *It is submitted that these increased rates of GST had not been considered by this Hon'ble Commission when the capital cost under the Tariff Order was determined. Accordingly, the capital cost was computed based on then prevailing GST rate on solar modules at 5% and a rate of 8.9% on composite contracts for supply of modules along with associated services of installation and commissioning. It is submitted that the aforesaid rates have significantly altered the cost parameters that were considered by this Hon'ble Commission at the time of issuance of the tariff order, thereby requiring reconsideration and consequent revision of the capital cost and -feed in tariff fixed under the Tariff Order.*

(iii) <u>Drastic increase in foreign exchange rates, domestic interest rates and cost of inputs</u>

xxv. *In addition, since the issuance of the Tariff Order, there has been an appreciation in the value of the US Dollar wherein the value of 1USD has increased from INR 72.74 (as on 16.02.2021 i.e., when the Tariff Order was issued) to INR 82.16(as on 31.03.2023). This amounts to an over 13% appreciation in the value of the US Dollar since the issuance of the Tariff Order.*

xxvi. *It is submitted that for a solar project, a major part of the project cost is incurred in Dollars while the revenue is received in INR. This exposes the bidders to an inflation in the project cost due to any fluctuation in the currency rates. Here, it is pertinent to mention that as per the analysis carried out by independent think tanks such as CRISIL and India Ratings and Research (a Fitch group company) between 2018 to 2021, there is a direct correlation between the cost of solar modules and variation in the foreign exchange rates. As per these reports, an INR 1 increase in the USD/ INR exchange rate results in at least a 2 paise/ unit increase in tariffs.*

xxvii. *The above global factors have unequivocal consequences on the Indian markets as well as is evident from an increase of over 9.3% in the consumer price index **("CPI")** between February 2021 to December 2022. A similar trend is visible in the wholesale price index **("WPI")** as well, which registered an 18.71% rise between February 2021 to December 2022. Considering 70% weightage for CPI and 30% weight for WPI (in line with the weight allocated in the CERC Renewable Energy Tariff Regulations 2020 since the Regulations of this Hon'ble Commission do not expressly specify the ratio), it is observed that the cost escalation for commodities comes to about 12.15%. These inflationary pressures also have obvious implications on the domestically procured commodity items required for development of solar projects as stated above, such as cables, wires, lines, module mounting structures etc.*

xxviii. *The Petitioner submits that solar power plant (SPPs) under the PM Kusum Scheme are envisaged to setup primarily by individual farmers/ group of farmers/ cooperatives/ panchayats/ Farmer Producer Organizations and such other organizations. Hence, the projects sought to be set up under the PM Kusum Scheme are very cost sensitive.*

xxix. *Moreover, banks are not forthcoming to finance projects under the PM Kusum Scheme, as is reflected in the interest rate, portion of debt and other financing terms and conditions being offered for these projects. A summary of financing terms and condition of major banks.*

xxx. *As interest on debt/ financing arrangements constitute a major component of such projects, any drastic alteration in these rates severely prejudices the viability of such projects. The drastic increase in the overall interest rates since the issuance of the Tariff Order are reflected in the significant increase in the Repo rates by the Reserve Bank of India between February 2021 till March 2023, which has increased from 4.0% earlier to 6.5% as on 31.03.2023. Consequently, the terms and conditions for disbursement of funds for these projects have substantially increased the project cost making the extant feed in tariff unviable.*

This Hon'ble Commission has wide regulatory powers to revise the feed in tariff in national interest.

xxxi. *It is submitted this Hon'ble Commission has wide powers to determine the tariff of generating companies in terms of Sections 86(1)(a), (b) read with Sections 61 (h) and 62 of the Electricity Act, 2003. The tariff determined by this Hon'ble Commission may be revisited to promote renewable Energy in the national interest.*

xxxii. *In the present case, the implementation of the PM Kusum Scheme in the State has been adversely impacted on account of the drastic change in the underlying circumstances and parameters based on which the capital cost and feed in tariff under the Tariff Order was fixed.*

xxxiii. *Under the above circumstances, it is submitted that public interest requires this Hon'ble Commission to exercise its regulatory powers to appropriately revise the* *capital cost and feed in tariff determined earlier vide the Tariff Order to reflect the changed facts, circumstances and cost parameters since the issuance of the Tariff Order. This is also imperative to ensure the effective implementation of the PM Kusum Scheme and active participation of prospective developers in future selection process under the Scheme.*

The relief sought is also in consonance with the advice of the MNRE to electricity regulatory commissions.

xxxiv. *It is submitted that the aforesaid issues in the implementation of the PM Kusum Scheme in various States has also been recognized by the MNRE. In furtherance thereof, the MNRE vide emails dated 12.10.2022 and 13.10.2022 addressed to all the electricity regulatory commissions, has highlighted that the progress of implementation of the PM Kusum Scheme in various States has been significantly slow inter alia on account of the feed in tariff fixed by respective commissions not being reflective of events such as imposition of BCD and increase in the rates of GST on setting up solar power projects.*

xxxv. *Pertinently, the MNRE has referred to the practice adopted by the Hon'ble Himachal Pradesh Electricity Regulatory Commission which revises the generic solar tariff applicable for setting up of solar power in the State on a yearly basis. Resultantly, the MNRE has observed that Himachal Pradesh has been performing well in so far as implementation of the PM Kusum Scheme is concerned. In view thereof, the MNRE has advised electricity regulatory commissions to consider an appropriate revision of the feed in tariff fixed under the PM Kusum Scheme taking into account facts and circumstances of each State. The observations of the MNRE in email dated 12.10.2022 are set out below:*

""... It has been observed that the progress of implementation is very slow and the major reasons as received from farmers are (a) challenges in getting finance from banks, and (b) non-viability of solar projects due to increased GST rate and imposition of BCD, thus, tariff not being revised according to increased GST and BCD.

2. The State of Himachal Pradesh is performing well in the implementation of component A of PM KUSUM Scheme mainly because the Regulator has been revising the tariff of Solar Power regularly on yearly basis.

3. Though, there is a provision of "Change in Law" for those who have already signed PPA and under process for installations of Solar Plants, however, ***it would be appropriate that either a petition be filed before the State Regulator for revision of tariff or a request for revision of tariff may be made to the Regulator. This will help in getting the appropriate tariff for solar power plants to be installed under component A of PM KUSUM Scheme and will help in the successful implementation of component A of the scheme in your state"***

xxxvi. *As aforesaid, the various issues highlighted by the MNRE requiring reconsideration of the feed in tariff have also impacted the development of solar power projects under the PM Kusum Scheme in the State of Madhya Pradesh. In fact, of the 345 MW capacity awarded by the Petitioner pursuant to four tenders* *issued under the PM Kusum Scheme, developers corresponding to a capacity of approximately 245 MW have expressed their inability to implement the solar power projects awarded under the aforesaid tenders at the feed in tariff determined vide the Tariff Order. The said developers have conveyed that implementation of solar projects under the PM Kusum Scheme has become unviable at the existing feed in tariff on account of the various supervening events highlighted in the present Petition.*

Computation of revised capital cost and feed in tariff by the Petitioner

xxxvii. *Based on the impact of the abovementioned unavoidable, uncontrollable and supervening events on the capital cost and feed in tariff fixed by this Hon'ble Commission, the Petitioner has tabulated the revised computation of capital cost and feed in tariff for the consideration of this Hon'ble Commission. It is submitted that the capital cost in the table given in petition has been computed taking the module costs considered in the Tariff Order as benchmark.*

Capital Cost

Cost Breakup	Unit	Rate	New Amount	Reference
Cost of solar module (at Indian ports)	*INR/watt*		*13.56*	*Computed based on the INR 335 lakh Capital Expenditure as considered by the Hon'ble Commission inthe Tariff Order.*
Cost of solar module	*INR Lakh /MW*		*135.60*	
Over load	*INR Lakh /MW*	*10.00%*	*149.16*	
Safe Guard Duty/ BCD	*INR Lakh /MW*	*40.00%*	*59.66*	
Cost of solar module after SGD/BCD	*INR Lakh /MW*		*208.82*	
Inverter	*INR Lakh /MW*		*49.39*	*12.15% escalation on the numbers provided in the Karnataka ERC Order dated August 2019, which have been considered in the Tariff Order. The escalation of 12.15% is as per the weighted average calculation of CPI and WPI provided earlier in the Petition.*

Cost Breakup	*Unit*	*Rate*	*New Amount*	*Reference*
BOS	*INR Lakh /MW*		*107.61*	*12.15% escalation on the numbers provided in the Karnataka ERC Order dated August 2019, which have been considered in the Tariff Order. The escalation of 12.15% is as per the weighted average calculation of CPI and WPI provided earlier in the Petition.*
Capital cost before taxes and other expenses	*INR Lakh /MW*		*365.81*	
GST for 70% of capital cost	*INR Lakh /MW*	*12%*	*30.73*	
GST for 30% of capital cost	*INR Lakh /MW*	*18%*	*19.95*	
Total capital cost after SGD/BCD and GST	*INR Lakh /MW*		*416.29*	
Cost of Constructing 11 kV Transmission line (5 KM)	*INR Lakh /KM*	*2.92*	*14.58*	*12.15% escalation on MP Discoms' SOR rates FY20, which has been considered by this Hon'ble Commission in the Tariff Order. The escalation of 12.15% is as per the weighted average calculation of CPI and WPI provided earlier in the Petition.*
Cost of Developing 11 kV Bay and related switchgear	*INR Lakh*	*8.00*	*8.00*	*12.15% escalation on MP Discoms' SOR rates FY20, which has been considered by this Hon'ble Commission in the Tariff Order. The escalation of 12.15% is as per the weighted average calculation of CPI and WPI provided earlier in the Petition.*

Cost Breakup	***Unit***	***Rate***	***New Amount***	***Reference***
Total Capital Cost including transmission line and related switchgear	*INR Lakh /MW*		*438.87*	*New capital expenditure computed after considering the impact of the unavoidable supervening events stated earlier.*

<u>Interest on loan</u>

xxxviii. *As aforesaid, cost of borrowing is one of the most critical parameters affecting the project cost. Due to a continuous and steep rise in the benchmark MCLR of SBI in las one year, the interest rate of borrowing from banks has also increased. It is submitted that the one year MCLR of the State Bank of India (SBI) has continuously increased over the last 12 months to 8.40% in January 2023 and 6 Months' average of 1 year MCLR comes at 8.02%. Hence, in line with Renewable Energy Tariff Regulations issued by the Hon'ble Central Electricity Regulatory Commission, the effective rate of interest on loans would amount to 10.02% (i.e., 6 months' average of one-year MCLR comes at 8.02% plus 200 basis points).*

xxxix. *Considering change in capital cost and interest rate of loans based on premises as delineated above and keeping all other tariff parameters same as considered by this Hon'ble Commission in the Tariff Order, a summary of key considerations is provided in the table given in the petition for this Hon'ble Commission's convenience.*

Life of a plant	*25 years*
CUF	*21%*
Auxiliary Consumption	*0.75%*
Debt Equity Ratio	*70:30*
Capital Cost	***Rs 438.83 Lakh / MW***
Loan Tenure	*15 years*
Interest on Loan	***10.02%***
Pre-tax RoE till 20 Years *Pre-tax RoE for remaining Useful Life of REPP*	*16.90%* *21.52%*
Discount Rate	***8.76%***
Salvage Value of Asset	*10%*
Depreciation up to loan period *(remaining value to be spread equally over the remaining life of the project)*	*4.67%*
Interest on Working Capital	*11.03%*
O&M cost *(3.84% escalation from second year)*	*Rs. 7 Lakh / MW*
First year Lease Rent to be paid to Farmers *Land lease escalation from second year*	*Rs. 1.82 Lakh/MW* *5%*

Based on the aforesaid revised parameters set out in the tables mentioned above, the feed in tariff to be fixed for the projects under the PM Kusum

Scheme amounts to INR 3.85/ kWh for which detailed computation have been made in Annexure-P-10.

xl. *It is submitted that this Hon'ble Commission has the requisite jurisdiction to adjudicate the present Petition in terms of Sections 62, 86(1)(a), (b) of the Electricity Act read with Regulations 45 (1) of the Madhya Pradesh Electricity Regulatory Commission (Conduct of Business) Regulations, 2016 and Regulation 3.6 and 19 of the Cogeneration and RE Regulations. The Petitioner has also paid the requisite court fees in terms of the MPERC (Fees, Fines and Charges) Regulations, 2016.*

3. With the aforesaid submissions the petitioner prayed the following:

i. *Increase the levelized Feed-in-Tariff of INR 3.07/KWh determined by this Hon'ble Commission vide order dated 16.02.2021 in Petition No. 50 of 2020 of INR 3.85/ kWh for sale of power under Component A of the PM KUSUM Scheme.*

ii. *Condone any inadvertent errors and omissions in the present Petition and permit the Petitioner to add/ change/ modify the present Petition and make further submissions as may be required at a later stage; and*

iii. *Pass such other orders as this Hon'ble Commission deems fit and proper in the facts and circumstances of the present case.*

4. At the motion hearing, held on 18.07.2023 the petitioner reiterated the prayer made in the Petition. After hearing prayer, Commission observed that the request of some of the generators under PM KUSUM A Scheme to allow them compensation on account of change of law was accepted vide order dated 30.12.2022 in Petition Nos. 55, 56, 57, 58, 59 & 60 of 2022 and the Petitioner in the instant case was directed to approach Commission for approval of quantum of change in law compensation and mechanism for passing the approved compensation. Petitioner however, approached the MPERC with the prayer of redetermination of ceiling tariff under PM KUSUM A Scheme. The Commission directed to serve a copy of Petition to the Respondents immediately. Respondents were directed to file their response within 15 days of receipt of notice from Petitioner.

5. Respondent No. 1 MP Power Management Company Ltd. by Affidavit dated 18.08.2023 submitted the following in its reply to the petition:

i. *That, the Petitioner being a designated State Implementing Agency (SIA) of Component A of the PM KUSUM Scheme, has filed instant petition seeking that the earlier determined Levelized Feed-in-Tariff of Rs. 3.07 / kWh, vide order dated 16-02-2021 in Petition No. 50/2020, be increased to Rs. 3.85 / kWh. The petition has been founded on vague ground that the earlier tariff determined has become unviable due to imposition of Basic Customs Duty (BCD), increase in rates of GST and drastic increase in Foreign Exchange Rates, Domestic Interest and Input Costs. The answering Respondent strongly denies and disputes the averments made in the Petition.*

ii. *That, a comparison of the underlying assumptions for break-up of the capital cost for tariff earlier determined vide order in Petition no. 50 of 2020 with the present petition is tabulated as under: -*

Cost Breakup	*Unit*	*Breakup of total capital cost indicated at Para No. 12 of instant Petition, construed as considered by Hon'ble MPERC in tariff order dated 16.02.2021 in petition 50/2020*			*As per present petition filed by MPUVN*			*Difference with w.r.t. MPERC order dated 16.02.2021*
		Rate	*Amount*	*Reference*	*New Rate*	*New Amount*	*Reference*	
Cost of solar module (at Indian ports)	*INR/Watt*		*13.56*	*Back calculation as per INR 335 lakh CapEx*		*13.56*	*Computed based on the INR 335 Lakh Expenditure as considered by the Hon'ble commission in the tariff order*	*0.00*
Cost of solar module	*INR Lakh /MW*		*135.60*			*135.60*		*0.00*
Over load	*INR Lakhs/MW*	*10.00%*	*149.16*		*10.00%*	*149.16*		*0.00*
Safe Guard Duty/ BCD	*INR Lakhs/MW*	*10.00%*	*0.00*		*40.00%*	*59.66*		*+59.66*
Cost of solar module after SGD/BCD	*INR Lakhs/MW*		*149.16*			*208.82*		*+59.66*
Inverter	*INR Lakhs/MW*		*44.03*	*Karnataka ERC Order dated August 2019*		*49.39*	*12.15% escalation on the numbers provided in the Karnataka ERC Order dated August 2019, which have been considered in the Tariff Order. The escalation of 12.15% is as per the weighted average calculation of CPI and WPI provided earlier in the Petition.*	*+5.3*
BOS	*INR Lakhs/MW*		*95.95*	*Karnataka ERC Order dated August 2019*		*107.61*	*12.15% escalation on the numbers provided in the Karnataka ERC Order dated August 2019, which have been considered in the Tariff Order. The escalation of 12.15% is as per the weighted average calculation of CPI and WPI provided earlier in the Petition.*	*+11.66*
Capital cost before taxes and other expenses	*INR Lakhs/MW*		*289.14*			*365.81*		*+76.67*

GST for 70% of capital cost	*INR Lakhs/MW*	*5%*	*10.12*		*12%*	*30.73*		*+20.61*
GST for 30% of capital cost	*INR Lakhs/MW*	*18%*	*15.61*		*18%*	*19.95*		*+4.34*
Total capital cost after SGD/BCD and GST	*INR Lakhs/MW*		*314.87*			*416.29*		*+101.42*
Cost of Constructing 11 kV Transmission line (5 KM)	*INR Lakhs/KM*	*2.60*	*13*	*MP Discoms SOR rates FY20*	*2.92*	*14.58*	*12.15% escalation on MP Discoms" SOR rates FY20, which has been considered by this Hon'ble Commission in the Tariff Order, The escalation of 12.15% is as per the weighted average calculation of CPI and WPI provided earlier in the Petition.*	*+1.58*
Cost of Developing 11 kV Bay and related switchgear	*INR Lakhs*	*7.13*	*7.13*	*MP Discoms SOR rates FY21*	*8.00*	*8.00*	*12.15% escalation on MP Discoms" SOR rates FY20, which has been considered by this Hon'ble Commission in the Tariff Order, The escalation of 12.15% is as per the weighted average calculation of CPI and WPI provided earlier in the Petition.*	*+0.87*
Total Capital Cost including transmission line and related Switchgear	*INR Lakhs/MW*		*335.00*	*As approved by MPERC in Feb-2021 order*		*438.87*	*New capital expenditure computed after considering the impact of the unavoidable supervening events stated earlier.*	*+103.87*

iii. *That, a comparison of parameters considered for determination of tariff in earlier Petition no. 50 of 2020 with the present petition, the differential / analysis, as worked out by the Petitioner is tabulated as under:-*

Particulars	***As per MPERC tariff order dated 16.02.2021***	***As per present petition filed by MPUVN***	***Difference with w.r.t. MPERC order dated 16.02.2021***	***As proposed by MPPMCL***	***Analysis carried out by MPPMCL***
Number of days of Operation	*365 Numbers*			*365 Numbers*	*As per order dated 16.02.2021*
Plant Capacity	*1.00 MW*			*1.00 MW*	*As per order dated 16.02.2021*
Life of plant	*25 Years*	*25 Years*	*0.00*	*25 Years*	*As per order dated 16.02.2021*
Capacity Utilization Factor (CUF)	*21%*	*21%*	*0.00*	*21%*	*As per order dated 16.02.2021*
Auxiliary consumpti on	*0.75%*	*0.75%*	*0.00*	*0.75*	*As per order dated 16.02.2021*
Financial para meters					
pital Cost excluding cost of land	*335.00 Lakh/MW*	*438.83 Lakh/MW*	*+103.83 Lakh/MW*	*335 Lakh/MW*	*1. As per PV Magazine India 26 June 2023, there has been historic dip in Chinese solar modules due to sharp fall in the Poly Silicon prices in China and an oversupply situation in European market.* *2. Since 60 % cost of the solar project is from the solar modules and the dip in the module prices in the market has led to reduction of overall cost of the solar power plant.* *3. At present, the solar modules is blow the cost considered during the earlier order passed by MPERC in petition no. 50 of 2020. Therefore, the overall capital of the system should be considered Rs. 335 Lakh/MW*
Debt: Equity ratio	*70:30*	*70:30*	*0.00*	*70:30*	*As per order dated 16.02.2021*
Loan amount	*234.50 Lakh/MW*				
Equity amount	*100.50 Lakh/MW*				
Normative ROE	*14%*				
Minimum Alternate Tax (MAT)	*17.16%*				
Corporate Tax (CT)	*34.94%*				

ROE till 20-years (Grossed up with MAT)	*16.90*	*16.90*	*0.00*	*16.90*	*As per tariff order dated 16.02.2021*
ROE after 20-years (Grossed up with CT)	*21.52*	*21.52*	*0.00*	*21.52*	*As per tariff order dated 16.02.2021*
Loan repayment period	*15 Years*	*15 Years*	*0.00*	*15 Years*	*As per tariff order dated 16.02.2021*
Moratorium period	*0 Years*				
Rate of interest on loan	*9.53%*	*10.02%*	*+0.49*	*Between 9.53% to 10.02%*	*Slight increase of 0.5% would not impact much in the calculation of levelized. Less rate of interest of loan is also available compare to proposed 10.02% in present petition filed by MPUVN. This is considered by the government agencies like PFC, NABARD and REC etc. Solar Developers/Farmers should pursue other options available in the market also.*
Salvage value of Assets	*10%*	*10%*	*0.00*	*10%*	*As per tariff order dated 16.02.2021*
Rate of Depreciation for first 15-years	*4.67%*	*4.67%*	*0.00*	*4.67%*	*As per tariff order dated 16.02.2021*
Depreciation from 16^{th} year	*2%*	*4.67%*	*2.67*	*2%*	*As per tariff order dated 16.02.2021*
O&M expenses	*7.00 Lakh/MW*	*7.00 Lakh/MW*	*0.00*	*7.00 Lakh/MW*	*As per tariff order dated 16.02.2021*
Increment in O&M expenses	*3.84%*	*3.84%*	*0.00*	*3.84%*	*As per tariff order dated 16.02.2021*
Lease rent payable to farmers first year	*1.82Lakh/MW*	*1.82Lakh/MW*	*0.00*	*1.82 Lakh/MW*	*As per tariff order dated 16.02.2021*
Escalation on lease rent	*5%*	*5%*	*0.00*	*3%*	*As per MNRE OM dated 12.07.2023, MNRE has suggested to consider 3% escalation factor in the land leased rent to be paid to the farmers, which will lead to slight reduction in the levelized tariff (Annexure-B) attached.*
Discount Rate	*8.58%*	*8.76*	*+0.18*	*8.58%*	*Slight increase will not impact much in the calculation of levelized tariff.*
Working Capital Components					

O&M expenses	*1 Month*				*As per tariff order dated 16.02.2021*
Receivables	*2 Months*				*As per tariff order dated 16.02.2021*
Maintenance Spares as % of O&M expenses	*15%*				*As per tariff order dated 16.02.2021*
Rate of interest in working capital	*11.03%*	*11.03%*	*0.00*	*11.03%*	*As per tariff order dated 16.02.2021*

iv. *That, the document marked as Annexure P/6 annexed to the petition is of no relevance in present petition as the same is merely a recommendation, dated 17th September 2021, of the GST Council and it does not have any force of law. By way of its foot-note, the said recommendations clarify that the same merely contain major item of decisions in simple language for information of all stakeholders and would be given effect through relevant Circulars / Notifications / Law amendments and which alone shall have the force of law. Such relevant Circulars / Notifications / Law amendments and which shall have the force of law, if any, have not been placed on records of this petition by the Petitioner.*

v. *That, as per recent PV Magazine India 26 June 2023, there has been a historic dip in Chinese Solar Module prices due to a sharp fall in the Poly Silicon prices in China and oversupply situation in European market and which is expected to continue. A consistent decline is being observed in the prices of wafers and cell which has contributed to the decline of Solar Module cost in the market.*

vi. *That, when there was no BCD on the Chinese module imports, the price gap of Indian modules and Chinese modules was in the range of 10-15% and post imposition of BCD the prices for Chinese modules went high by 20-25% as compared to Indian modules. Inspite of imposition of BCD, since now the prices have declined and the gap is reduced to minimal or zero, the lead project developers are more attracted to Chinese modules. The dip is of great relief for the project development as the higher price of panels over the last few years led to rise in the prices discovered in solar tenders dis-incentivizing the Petitioner to sign new PPAs.*

vii. *Since as per MPERC order dated 16-02-2021 in Petition No. 50 of 2020, 50% cost of the solar project is from the solar modules and the dip in price of the same has led to reduction of overall cost of power plants. At present the solar module cost is below the cost which was considered in order passed in earlier Petition no. 50 of 2020. Therefore, the overcall cost of the system should be considered Rs. 335 Lakh/MW as considered in the earlier passed order.*

viii. *That, a slight increase of 0.5% in interest on loans would not have much impact on the levelized tariff considered earlier. Even otherwise, loans on interest at lower rates are also available as against of Rs. 10.02% as relied by the Petitioner.*

ix. *That, furthermore, the MNRE recently, vide its Office Memorandum dated 12th July, 2023 has suggested a 3% escalation factor in the Land Lease Rent to be paid to the farmers, which will also lead to reduction in levelized tariff.*

x. *That, even otherwise, if at all circumstances so require, other available avenues may be explored in favour of the farmers without disturbing the levelized tariff already determined by Hon'ble Commission vide order dated 16-02-2021 passed in earlier Petition No. 50/2020.*

xi. *That, the proposed increase in the Feed-in-Tariff tends to extend unjust enrichment to the generators and unnecessary financial burden on DISCOMs and public-at-large. Hence, the same is strongly opposed. It is prayed that the present petition be dismissed, to meet the ends of justice.*

6. At the hearing held on 22nd August 2023, the Petitioner reiterated their prayer and informed that they have received a copy of response from respondent recently and requested time for filing rejoinder. The Petition was admitted, and 2 weeks' time was allowed for making rejoinder. The case was listed for hearing on 19thSeptember 2023.

7. President, KUSUM Kisan Urja Suraksha Samiti, Deori, Sagar has also made submissions in the petition vide affidavit dated 18.09.2023 declaring himself as intervener and made a submission in support of the prayer made by Petitioner with more or less same grounds. Commission has noted that the self-acclaimed intervener was not a party to the petition. He did not file any interim application before the Commission to join as intervener in this petition as such President, KUSUM Kisan Urja Suraksha Samiti, Deori, Sagar has no locus standi as intervener in this matter. Moreover, he has generally made similar submissions as made by the petitioner, as such, Commission is not considering the submissions made by President, KUSUM Kisan Urja Suraksha Samiti, Deori, Sagar. President, KUSUM Kisan Urja Suraksha Samiti, Deori, Sagar may approach this Commission separately, if so desired by him for any relief in the matter.

8. By Affidavit dt._15.09.2023, Petitioner filed the rejoinder to the reply filed by the respondent and broadly stated as under:

i. *That, the Respondent has rightly submitted that Petitioner is State nodal agency (SNA) for implementation of component-A of PM KUSUM Scheme in Madhya Pradesh and supposed to act as guardian of the scheme implementation in the State. Further, given the market evolution after determination of tariff in the matter of petition no. 50 of 2020, the Petitioner has approached Hon'ble Commission to revise tariff for projects under component-A of PM KUSUM scheme.*

It is submitted that the petition has not been filed on vague grounds. Rather, it relies on structured rationale, unequivocal facts (imposition of BCD and increase in GST)and connected events (changes in interest rate and changes in exchange rate, changes in input cost etc.) relevant for the subject matter. Accordingly, the calculations as well as premises of derived tariff in the petition are explicitly clear and self-explanatory. Hon'ble Commission may like to examine the petition on merit and in the interest of PM KUSUM scheme.

ii. *That, inferences drawn by the Respondent is based on numbers presented in the instant petition. Petitioner has nothing to submit at this point.*

iii. *That, it is summarily denied that module prices shall continue to decline forever as implied in submissions of the Respondent. Like pricing life cycle of any product over different stages of product life cycle, modules prices also have ups and downs attributable to a host of factors. As against perceptible assumption of Respondent that prices will continue to fall, recent media reports by PV Magazine suggests that polysilicon and panel prices have been consistently rising for most of July and August 2023[1]. This vindicates logical sequencing and thought process of Petitioner about market dynamics and macro view on capex.*

It is submitted that module prices are intricately linked with national policy and regulatory regime as well as internal market dynamics, including factors such as war, embargo, trading blocks etc., which lead to fluctuating prices of solar cells, wafers and modules to achieve an apparent transitional equilibrium, only to trigger next wave of pricing dynamics. These aspects are amply highlighted and indicated in sectoral magazines and their news opinions[2]- that current pricing trend is due to oversupply and glut in market, which is uncertain as well transitional in nature and have potential to result in losses to manufacturers, which, in all possibilities, would lead to another price spurt in near to medium term future. Additionally, those who had contracted module purchase contracts on prices effective 6-9 months ago, may not have easy option to exit from such contracts to take benefit of current market prices without huge penalties, which would certainly reflect in overall cost/ capex and might nullify benefits as anticipated based on present day prices. Hon'ble Commission may take note of this aspect in its deliberations.

That, submission of Respondent that module prices amount to 60% of a solar project cost is strongly prejudiced, ill-conceived and patently against the calculations of Hon'ble Commission in petition no. 50 of 2020, wherein the Commission had factored ~45% as share of module prices in total capex.

That, the Respondent has erred with on the face of fact asynchronous with their own submissions about module pricing- considering pricing trend as submitted by Respondent, the module price at over 17 cent USD in Jun 2023 (as submitted by Respondent in Annexure-A) translates to about INR 14 per Wp, which is reasonably higher that module price considered by Hon'ble Commission in order pertaining to petition no. 50 of 2020. Hence, submissions and remarks of Respondent are not only impulsive but also factually incorrect.

That, submission of Respondent about impact of changes in interest rate by 0.5% would be insignificant is impulsive and negligent of the fact that it would result in paise 4-5 per kWh impact for life of these projects, which would be huge amount for a farmer or small developer. Therefore, Respondent is suggested to refrain from *submitting perfecta Scientia while dealing with techno-commercial matters and logical sequencing.*

Having said above and without endorsing the price trend submitted byRespondent as Annexure-A of the response, Petitioner would like to take liberty of Hon'ble Commission to quote another pricing trend for Aug-2022 to Aug-2023 by PV Exchange/ PV Magazine3 as below, which suggests that mainstream module prices (middle graph in below screen shot) in international market are still about INR 19.5 per Wp (Euro cents 22 converted in INR at 1 EURO = INR 88.61 as on 31 Aug-23), about 43% more than what was considered in petition 50 of 2020. This outrightly negates submission of Respondent about current prices of modules.

In view of the above, Hon'ble Commission may desire the Respondent to submit price trends from same source for period Mar-2020 to Aug-2023 for better insights on price dynamics affecting solar projects in general and projects under component-A of PM KUSUM scheme in particular.

Having stated as above and without endorsing pricing trends or pricing dynamics as suggested by Respondent, following is submitted for consideration of Hon'ble Commission:

a. That, considering this module price as submitted by Respondent, applying port clearances charges etc. at Indian side and VAT in China, the capex translates to more than INR 5.59 crore/ MW keeping all other factors same as assumed in the instant petition. The tariff at this capex would come around INR 4.71 per kWh, following other parameters as same considered by Hon'ble Commission in case of petition 50 of 2020. Therefore, implicit acceptance of factual position by Respondent about high module prices during Jan-2023 to Jun-2023 partiallyvindicates concerns of already selected RPGs (after issuance of order in petition no. 50 of 2020) about project unviability at INR 3.07 per kWh or lower tariff.

b. In addition to above, Petitioner would like to presentbefore Hon'ble Commission some more perspectives on pricing and trends as available in public domain through some specialist sectoral info-trainers, like market insight from JMK Research4, which depicts steadily rising trend in mono-perc module prices during Jul-2020 to Mar-2022 from 20 cents USD to 27.5 cents USD and the trend continued till early 2023 due to volatilepolysilicon prices and othermarketfactors.

Further to above, monthly report of JMK Research for Jun-2023 a noted sectoral information provider, provides following insights about pricing of Indian modules, unequivocally suggesting that domestic modules of 500 Wp series (now very much mainstream modules) were well above INR 26 per Wp at site. If it were 45% capex (aligned to order in petition no. 50 of 2020), the capex would be over INR 5.8 crore/

MW (resultant tariff INR 4.86 per kWh). Given these open secret domestic market pricing trends, international stakeholders would also take note of it and, in all likelihood, tend to adjust their prices to offer only marginal (not significant) benefits to Indian procurers without compromising their competitive advantages- anticipating that Chinese would offer modules at dirt cheap rate, say, at INR 15 per Wp (landed at port), when Indians would have to buy at INR 26 per Wp in domestic market, would only be travesty of understanding of how open and competitive market works.

Notwithstanding above submissions relevant for the instant petition, thePetitioner would like to underscore the following:

i. That, above submissions are relevant not only in case of instant petition but would require unwavering attention of Hon'ble Commission while dealing with any matter that may come up before the Commission pertaining to period after order in the petition 50 of 2020 and till date, including matters related to implications of change in law, if any, on projects selected/ awarded during Feb-2020 to this date.

ii. That, collating above market trends submitted by Petitioner and those submitted by Respondent as Annexure-A in their response, it is adequately established that viability of projects under component-A of PM KUSUM scheme have been a grave concern in prevalent market conditions ever since early 2021 till present date. Therefore, it needs kind attention of Hon'ble Commission by considering not only trends in recent past years but also reasonable projections of capex over next one year, considering experience till date as regards capacity addition achieved against targets allocated by Govt. of India under the scheme, volatility in national and international markets and policy uncertainties (e.g. ALMM, BCD, GST etc.) as these are factored by potential bidders while taking a decision to participate or not in the scheme.

Further, as Respondent has implicitly and right earnestly aligned itself with the point that Petitioner brought to attention of Hon'ble Commission as well as the Respondent i.e. prices are linked to market dynamics closely intertwined with national as well as international situations and tariff should be reflective of the same, it also necessitates kind attention of Hon'ble Commission that:

a. There should be ring fencing of major cost components impacting tariffmodule prices, inverter prices, and balance of system (BOS);

b. If cost of thosecomponents vary reasonably, say, 10% or more, over past 6-9 months of a financial year or tariff control year, there should be suo-motu annual review of tariff for projects to be set up under component-A of PM KUSUM scheme.

This wouldhelp balancing risks and rewards of both renewable power generators (RPGs) and the Respondent reasonably. Also, it would provide a realistic lens to all concerned about how to progress in the scheme forward.

That, the above submission notwithstanding, calculation of alternate capex aligned to module prices submitted by Respondent as Annexure-A to their response and resultant tariff is submitted as of this rejoinder.It is submitted that the alternate capex aligned to module prices submitted by Respondent comes INR 491.11 lakh and resultant tariff (keeping all other factors same as submitted in instant petition) comes INR 4.23/ kWh.

Life of a plant	*25 years*
CUF	*21%*
Auxiliary Consumption	*0.75%*
Debt Equity Ratio	*70:30*
Capital Cost	***Rs 491.11 Lakh / MW***
Loan Tenure	*15 years*
Interest on Loan	*10.02%*
Pre-tax RoE till 20 Years *Pre-tax RoE for remaining Useful Life of REPP*	*16.90%* *21.52%*
Discount Rate	*8.76%*
Salvage Value of Asset	*10%*
Depreciation up to loan period(remaining value tobe spread equally over the remaining life of the project)	*4.67%*
Interest on Working Capital	*11.03%*
O&M cost *(3.84% escalation from second year)*	*Rs. 7 Lakh / MW*
First year Lease Rent to be paid to Farmers *Land lease escalation from second year*	*Rs. 1.82 Lakh/MW* *5%*

Based on the aforesaid module pricessubmitted by Respondent, the feed in tariff to be fixed for the projects under component-A of PM KUSUMscheme amounts to INR 4.23 /kWh.In view of the above, Hon'ble Commission may like to determine revised tariff as appropriate.

iv. *That, changes in GST regime effective from 1 October 2021 as applicable to solar projects is a fact and does not require any clarification or acknowledgement. There seems an apparent slip about submission of relevant GST notification of GoI. Therelevant notification is provided at for kind perusal, reference and records of Hon'ble Commission as appropriate.*

v. *That,submissions and inferences of Respondent and market trends have been logically and factually denied and clarified adequately in para-3 of this submission by Petitioner. However, it would be appropriate for Respondent to give a logical projection on market trends for next 1 years for critical examination by Hon'ble Commission as appropriate.*

In addition, based on understanding of sector and procurement practices followed by developers, generally, it is understood that time horizon of 6-9 months around potential work order is considered relevant for projection of major cost components *and capex by stakeholder while taking decision in respect of a particular bid/ selection process. While long term price trends have been declining over a decade but short term (6-9 months)market correctionsand volatility is a highly unpredictable reality that should be factored in while arriving at some decision point. Therefore, Hon'ble Commission may decide in its wisdom about relevant pricing dynamics as appropriate in the matter.*

vi. *That, the Respondent has accepted without presenting any logical working that imposition of BCD has resulted in price differential of 20-25%, which is questionable and not sustainable. Govt. of India had imposed 40% BCD on import of modules. Any impact lesser than that may be justified by Respondent with facts and logic.*

That, despite transitional decline in module prices, it is still significantly above than what was considered and factored as a part of capex in the order of Hon'ble Commission in petition 50 of 2020. Therefore, impulsive averment of Respondent is categorically denied. A detailed submission in this regard has been done in para-3 above for examination by Hon'ble Commission.

In addition, averments made by Respondent have been adequately addressed at points 3, 4 and 5 above. There is apparent disconnect and correlation in claims of Respondent, understanding of larger market dynamics and their own submissions in response to the petition. Hon'ble Commission may examine the wider canvas and decide as appropriate.

vii. *That, submission about share of module cost vis-à-vis total capex in this paragraph is another instance of disconnected and less than thought through logical sequencing of facts and circumstances of Respondent. In the same response paper, Respondent has submitted module cost as 60% of capex (in table below response para-3) and here in para-7, it is submitting 50% share in capex considered by the Commission. This is strong underscore on vague and widely unfounded thought process of Respondent pertaining to the subject matter and the petition.*

Varying averments made by Respondent notwithstanding, the fact is that Hon'ble Commission had factored about 45% as cost of modules in capex for calculation of tariff in petition no. 50 of 2020.

Further, without endorsing the cost of solar module or trend thereof submitted by Respondent itself, which is over 17 cents USD as of Jun-2023, this cost translates to about INR 14 per Wp at 1 USD = INR 82. This is unequivocally more than module price considered by Petitioner in instant petition. Therefore, it is apparent on face of their submission that Respondent has made a factually erroneous statement hereunder that prices of module and resultant capex is lower than those considered for order of the Commission in petition 50 of 2020. The same is also implied by prices of solar modules (domestic as well as international markets) depicted JMK Research's monthly report for Jun-2023. Therefore, averments and derivations of Respondent are ill founded and vague by a large margin.

Further, it is understood, that these prices suggested and submitted by Respondent as Annexure-A in their submission are exclusive of VAT in China (understood to be 13% as suggested by PVinsights) and/ or nominal port clearance charges in India (assumed to be about 5%). If those pricing elements are further factored into, the resultant module prices and capex would be even higher. Therefore, Hon'ble Commission may take note of these submissions and determine factual position in the matter accordingly as appropriate.

viii. *That, again, an uneconomic and imprudent averment of Respondent in respect of impact of interest rate is strongly contested and denied. Hon'ble Commission would note that interest rate is one of prime influencers of tariff in case of solar projects so much so that 1% change in interest rate results inpaise 8-9 per kWh change in tariff. Therefore, 0.5% change in interest rate would have paise 4-5 per kWh impact, aggregating to huge sum of monetary implication on farmers/ developers of these projects. Therefore, the Commission is requested to consider impact of interest rate adequately as appropriate.*

Further, interest rate considered in the instant petition is bare minimum and aligned to approach followed by Hon'ble Commission in petition 50 of 2020. In reality, projects under component-A of PM KUSUM scheme are getting loan disbursal at higher interest rates from PSU banks. Some relevant papers in the matter are placed for ready reference and kind perusal of the Commission as.

ix. *That, the intent of Hon'ble Prime Minister to launch component-A of PM KUSUM scheme was, among other, to increase income of farmers by giving them better value proposition out of their landholdings. In that sense, the land is treated as a valuable commodity for the scheme. Therefore, any yield out of land utilization under the scheme not realistic to prevalent market scenario would add to defeating the very purpose of the scheme.*

Having said that, the escalation rate considered is in line with decision of Hon'ble Commission in matter of petition no. 50 of 2020. Further, 5% escalation is less than prevalent inflation (CPI) in recent past. Therefore, the Commission may like to take appropriate view in the matter accordingly.

x. *That, submissions of Respondent are very generic and devoid of objectivity. Therefore, Hon'ble Commission may like to treat it accordingly as appropriate.*

xi. *That,proposed renewable power would be coming at reasonably better rate than overall cost of power procurement landed at Discom periphery from conventional sources of generation. Further, Hon'ble Commission may like to examine and evaluate undesired burden carried on by Petitioner (Discoms) for years due to conventional power portfolio acquired in last decade and quantify unjust enrichment to those generators since then.*

In above explicit and undeniable facts and circumstances, Petitioner stands firm on its approach and calculation of tariff as well as demand of revision in feed-in *levelized tariff as per petition filed or as per market dynamics best made out by Hon'ble Commission in its wisdom and rationale. Further, in the interest of justice and fulfilment of larger purpose envisioned by Hon'ble Prime Minister for farmers, Hon'ble Commission is requested to examine the instant petition in objectivity and decide accordingly as appropriate.*

9. The last hearing in the subject matter was held on 20th September' 2023. During the hearing Petitioner as well as respondent completed their arguments in the matter. The case was reserved for Orders.

Commission's observations and findings:

10. The Commission has observed the following from the petition and the submissions of the petitioner and Respondent in this matter:

    (i) That the petition has been filed to increase the levelized feed-in -tariff of Rs 3.07/KWh determined by the Commission in Petition No. 50 of 2020 vide order dated 16.02.2021 for sale of power under Component A of the PM KUSUM Scheme to Rs 3.85 /KWh.

    (ii) The main grounds on which such increase in tariff has been sought are as under: -

    (a) Imposition of Basic Customs Duty (BCD) on import of solar cells and modules with effect from 01.04.2022. Effective rate of BCD on solar module @44% and Solar Cell @27.5%.

    (b) Increase in Goods and Service Taxes (GST) with effect from 01.10.2021 post issuance of Tariff order dated 16.02.21.

    (c) Appreciation in the value of US Doller post issuance of tariff order dated 16.02.2021 resulting in to increase in capital cost of Solar Cells and Modules.

    (d) Increase in domestic interest rates and input costs.

    (iii) Petitioner also cited some communications from MNRE wherein MNRE expressed its views that feed in tariff fixed by respective Commissions should be reflective of events such as imposition of BCD and increase in GST.

11. The respondent no. 1, MP Power Management Company Limited who is also beneficiary of power generated from Plants commissioned under PM Kusum A has however vehemently opposed the prayer with following submissions:-

    (a) That the press release on 45th meeting of GST Council dated 17th September 2021 is only recommendation of Council and does have any force of law.

(b) That as per recent PV magazine, India dated 26.06.23, there has been a historic dip in Chinese Solar Module prices due to sharp fall in Poly Silicon Prices in China and over supply situation in European market which is likely to continue. A consistent decline in prices of wafers and cell is being observed which has contributed to the decline of Solar Module Cost.

(c) That post imposition of BCD, prices between Chinese modules and Indian modules have declined and gap is reduced to minimal or zero.

(d) As considered by Commission in Petition No. 50 of 2020, 50% cost of solar project is from solar modules, as such, dip in prices of the same has led to reduction of overall cost of the power plants which was considered in Petition No. 50 of 2020.

(e) That a slight increase of 0.5% interest on loans have no significant impact on the levelized tariff and even otherwise, loans on interest at lower rates are also available as against 10.02% referred by Petitioner.

(f) That MNRE recently vide its memorandum dated 12.07.2023 has suggested a 3% escalation factor in the Land Lease Rent to be paid to Farmers which will also lead to reduction in levelized tariff.

(g) That the proposed increase in feed-in -tariff tends to extend unjust enrichment of the generators and is an unnecessary burden on Discoms and public-at -large. Hence, it is strongly opposed, and it is prayed to be dismissed.

12. Petitioner and Respondent No. 1 are both State owned Companies and it is generally expected that they should resolve their differences at the level of State Government before presenting such counter views in legal matters.

13. The petitioner in its rejoinder dated 15.09.2023 countered the submissions made by respondent mainly on following grounds: -

(a) That it is not correct to say that the module prices shall continue to decline. The recent reports of PV magazine suggests that polysilicon and panel prices have been consistently rising for most of July and Aug 2023. Thus, there is sequencing of events of rise and fall of prices of panel and polysilicon in market.

(b) That Commission has factored about 45% of module prices in calculations of levelized tariff as against 60% claimed by respondent in petition no. 50 of 2020.

(c) That there is error in submission of respondent about module pricing.

(d) That impact of change in interest rate by 0.5% would result in paise 4-5 per KWh for life of project which would be huge.

(e) There is a trend of increase in module prices which has been supported with various data submitted in rejoinder.

14. Without amending the prayer made in the main petition, the Petitioner by way of rejoinder requested to increase the feed in tariff for Kusum-A component to Rs 4.23/ kWh.

15. The Commission has noted that it has determined feed-in -tariff vide order dated 16.02.2021 in petition no. 50 of 2020 filed by M.P. Urja Vikas Nigam Limited, who are petitioner in the present case also, for sale of power from decentralized solar power plants having capacity of 500 kW to 2 MW to be setup under Component -A of Pradhan Mantri Kisan Urja Suraksha Evam Utthan Mahabhiyan (PM KUSUM) Scheme introduced by GOI. Para 71 of the order dated 16.02.21 contains the operating part as under: -

"Based on the aforesaid parameters, the Commission has determined the prefixed levelized tariff of Rs. 3.07 / kWh under Component-A of KUSUM Scheme for entire life of the project commissioned till 31st March' 2024. This will act as a ceiling tariff for the competitive bidding in this matter. The duration of PPA shall be 25 years for all projects covered under this scheme."

16. The Commission has also noted that some of solar generator developers had approached this Commission in petitions No. 55 to 60 of 2022 for awarding suitable compensation to the developers in tariff determined vide order dated 16.02.2021 on account of imposition of BCD, increase in GST rates, increase in cost of solar panels/ modules, cost of evacuation line, rise in steel prices etc. Commission disposed of the aforesaid petitions vide a common order dated 30.12.2022. The operating paras of the said order are reproduced as under: -

"18. We have noted that respondent no. 2 has not raised any objection regardingadmittance of increase in rate of GST and imposition of basic custom duty as change in law event but has submitted that the impact on account of increase in GST rates cannotbe determined based on quotation as claimed by petitioners. Therespondent no. 2 has submitted that impact on account of change in law event should be computed on the basis of invoices. But as analysed in paragraph 16 of this order, only hike in GST rate may be qualified as a change in law event and not basic custom duty imposition.

19. We have noted that petitioners in their affidavit dated 09.09.22 has submitted that many components like cost of evacuation line , rise of price of solar module, Utilityexpenditure for obtaining grid connectivity, price variation due to sudden increase in steel prices has not been included in the capital cost component of the feed-in- tariff bythe Commission. We would like to make it clear that the scope of the instant petitions is only confined to declaration of imposition of basic custom duty and increase in GST ratesas change in law event and to approve the consequential compensation and the manner to recover the same. The Commission is therefore not inclined to admit any submission for revision of tariff on account of cost of evacuation line , rise of price of solar module, Utility expenditure for obtaining grid connectivity, price variation due to sudden increase in steel prices as stated in affidavit dated 09.09.2022 of the petitioners.

20. Hence, we see that the position of law with respect to change in law (CIL) eventhas been made very clear by MNRE and the instant matter is undoubtedly a case of CILparticularly in light of the notification dated 27.09.2022 issued by MNRE. We agree that enhancing the rates of GST on Solar power-based devices including Solar PV Cells from 1.10.2021 vide notification dated 30.09.2021 of Government of India, Ministry ofFinance Department of Revenue is an event of change in law. However, imposition of basic custom duty with effect from 01.04.2022 vide notification dated 27.09.2022 of MNRE, GoI is not an event of change in law with respect to the instant petitions.

21. As regards computation of compensation to be paid due to change in law event and mechanism for recovery of same, we have observed that tariff of the petitioners has been discovered through competitive bidding process conducted by respondent no. 1 i.e. MPUVNL, for which compensation on account of change in law event needs to be properly computed. The Commission further observed that the petitioners have not submitted computation based on actual expenditure made on procurement of solar PV cell / solar PV module on account of increase in GST rates substantiated with invoices and that the documents placed before Commission are not adequate to determine the consequential impact on account of change in GST rates and imposition of Basic custom duty. The Commission therefore directs the petitioners to submit detailed computation of impact on account of GST rate increase along with invoices of procurement of solar PV cells / modules from the date as mentioned in paragraph 20 above to the bidding agency i.e. respondent no. 1 (MPUVNL) who shall verify the same and approach this Commission for approval of quantum of compensation and mechanism for passing on the approved compensation to the petitioners in their monthly power purchase bills to be sent to respondent no. 2 i.e. MPPMCL."

17. The Commission has observed that clear direction was given to MP Urja Vikas Nigam Limited who were respondent in Petition no. 55 to 60 of 2022 to approach the Commission for approval of quantum of compensation on account of change in law and mechanism for passing the approved compensation to the parties in their monthly power purchase bills. The Petitioner has however ignored the above directions and approached the Commission for redetermination of feed-in-tariff on account of various factors including those brought in petition No. 55 to 60 of 2022. The Commission has also observed that the levelized tariff for Component -A under PM KUSUM scheme has been determined by the Commission for a period till 31.03.2024. Therefore, only 6 months remain until the end of control period and revised tariff determination is due with effect from 01.04.2024. In a way, petitioner is seeking review of Commission's order in Petition no. 50 of 2020without establishing grounds for such review, if any.

18. Moreover, Commission has noted that petitioner has failed to submit appropriate documentary evidence in support of escalated cost of solar modules/ panels. Respondent MPPMCL vehemently opposed the submissions of Petitioner claiming that the prices of Solar Modules have been dropped to an unprecedented level and the trend is going on. Even the claim of Respondent is based on a report published in PV Magazine. Petitioner in his rejoinder tried to counter the claim of Respondent based on another report published in the same PV Magazine and submitted data sourced from some websites. Commission observed that the reports published in magazines/ websites cannot be made a basis of determining capital cost of solar modules and Commission does not rely upon the claims and counter claims of petitioner and respondents based on such reports alone.

19. Anyway, since the control period of the feed-in-tariff for PM Kusum-A component is about to expire shortly, Commission directs the Secretary to initiate the process of determining the tariff for next control period based on realistic and current data supported with proper evidence.

20. In view of foregoing observations, Commission is not inclined to review the order issued in petition no. 50 of 2020 and no. 55 to 60 of 2022 and determine the feed-in-tariff only for 6 months. Commission directs the petitioner to submit a comprehensive proposal for determination of feed-in-tariff for the next control period effective from 01.04.2024 as per the provisions of Component -A of PM KUSUM scheme, not later than 45 days from the date of issue of this order so that the tariff may be determined by the Commission up front and beneficiaries under PM KUSUM scheme be aware of the ceiling /feed-in-tariff well in advance of the subsequent control period commencing from 01.04.2024.The petition should be accompanied with proper documentary evidence of each component required for determination of tariff. Meanwhile, petitioner is free to approach Commission for approval of compensation and mechanism for passing the approved compensation on account of change in law as directed in order dated 30.12.2022 of this Commission passed in petition no. 55 to 60 of 2022.

21. With the aforesaid observations and findings, the subject petition stands disposed of.

(Prashant Chaturvedi) **(Gopal Srivastava)** **(S.P.S. Parihar)**