नई दिल्ली
NEW DELHI

Petition No. 128/GT/2024

Coram:

Shri Jishnu Barua, Chairperson
Shri Ramesh Babu. V, Member
Shri Harish Dudani, Member
Shri Ravinder Singh Dhillon, Member

Date of Order: 26th December, 2025

<u>IN THE MATTER OF</u>:
Petition under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 along with Central Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2020 for determination of project specific levelized tariff for 40 MW solar photo voltaic plants at Ayodhya, Uttar Pradesh.

<u>AND IN THE MATTER OF</u>:
NTPC Green Energy Ltd. (NGEL)
NTPC Bhawan
Core-7, Scope Complex
7, Institutional Area, Lodhi Road
New Delhi-110 003

……Petitioner

Versus

1. Uttar Pradesh Power Corporation Ltd. (UPPCL)
   14th Floor, Shakti Bhawan Extension,
   14 – Ashok Marg,
   Lucknow-226001

2. Uttar Pradesh New and Renewable Energy Development Agency (UPNEDA)
   Vibhuti Khand, Gomti Nagar,
   Lucknow – 226010 **……Respondent**

Parties Present: Ms. Aishwarya Subramani, Advocate, NGEL
Ms. Swapna Seshadri, Advocate, Advocate, NGEL
Ms. Harsha V. Rao, Advocate, NGEL
Shri Divyanshu Bhatt, Advocate, UPPCL
Shri Shaswat Singh, Advocate, UPPCL
Shri Savyasachi Saumitra, Advocate, UPPCL

ORDER

1. The Petitioner, NTPC Green Energy Limited (NGEL), is a wholly owned subsidiary of NTPC Limited, a Government Company within the meaning of the Companies Act, 2013. Further, it is a 'Generating Company' as defined under Section 2(28) of the Electricity Act, 2003. It has set up a 40 MW Solar Photovoltaic (PV) power plant at Ayodhya, Uttar Pradesh.

2. The Respondent No.1, Uttar Pradesh Power Corporation Limited (UPPCL) ("Respondent") is a deemed Licensee under Section 14 of the Act and undertakes the bulk purchase and sale of electricity primarily on behalf of the Distribution Licensees in the state of Uttar Pradesh.

3. The Respondent No.2, Uttar Pradesh New and Renewable Energy Development Agency (UPNEDA), is the nodal agency for renewable energy development in Uttar Pradesh, India.

4. The Petitioner filed the present petition under Sections 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 along with Central Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2020 (RE Tariff Regulations, 2020) for determination of project specific tariff for 40MW Solar PV power plant for a period of 25 years from the Commercial Operation Date (COD) of the project.

5. The first phase of the project, with a capacity of 14 MW, was declared under commercial operation with effect from 27.01.2024. The 26 MW balance-of-plant project was initially proposed to achieve COD on 10.05.2024, but was subsequently commissioned on 31.07.2024. However, prior to the full commissioning of the project, the CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2024 were notified on 12.06.2024. Consequently, the project now falls under the purview of the CERC RE Tariff Regulations, 2024.

6. The Petitioner has made the following prayers:

   (a) Approve/ Determine the levelized tariff of the 40 MW Solar PV project at Ayodhya;

   (b) Approve the deviations in Degradation Factor, Additional Transmission System Availability and Tax Regime applicable to NGEL;

(c) *Allow the recovery of the differential between the tariff charged to NGEL on auxiliary consumption and the PPA tariff from UPPCL in accordance with Clause 6.4 of the PPA;*

(d) *Allow the recovery of filing fees as and when paid to the Hon'ble Commission from UPPCL;*

(e) *Allow billing and recovery of levies, taxes, duties, SLDC/ RLDC charges, service tax etc. levied by the various authorities on NGEL in accordance with law additionally from UPPCL;*

(f) *Pass such other further orders which this Hon'ble Commission may deem just in the facts and circumstances of the present case.*

<u>Factual Matrix</u>

Date	**Event Description**
17.01.2023	MoU signed between GoUP and NGEL to setup solar projects of 300 MW for solarization of Ayodhya City
01.08.2023	GoUP Cabinet decision to allot land for the development of the 40 MW out of the 300 MW project
29.09.2023	Notification of Award (NOA) awarded to Jakson Ltd. (EPC Contractor) and duly accepted following NGEL's bidding process for the selection of an EPC contractor for setting up the 40 MW Solar PV plant at Ayodhya
12.01.2024	UPERC issued an Order (Petition No. 2023/ 2023) filed by UPNEDA, approving procurement from the Ayodhya 40 MW Solar PV Project, as it is a fit case for relaxing the requirement of procurement through competitive bidding.
18.01.2024	A PPA was signed between NGEL and UPPCL based on the approval given by the UPERC.
27.01.2024	Commercial Operation Date (COD) of 14 MW
10.05.2024	Proposed COD of the remaining 26 MW
31.07.2024	Final COD for the remaining 26 MW

<u>Submission by the Petitioner, NGEL</u>

7. The Petitioner, NGEL, submitted the following:

(a) A Memorandum of Understanding (MoU) was signed between the Government of Uttar Pradesh (GoUP) and NGEL on 17.01.2023 to set up solar projects of 300 MW for solarisation of Ayodhya city.

(b) Pursuant to the MoU, the GoUP, in its Cabinet meeting dated 01.08.2023, allotted land up to 66.812 hectares on lease at Rs. 1 per acre per year for 30 years to NGEL at Village Rampur Halwara Manjga and Village Sarairasi Majha, Haveli Awadh Pargana, Tehsil Sadar for the development of a solar power plant of 40 MW capacity by NGEL. UPNEDA was designated as the nodal agency. The power from the project is to be purchased by UPPCL for 25 years, with the tariff to be determined on a cost-plus basis.

(c) After the MoU and the GoUP Cabinet Decision, NGEL initiated the bidding process for the selection of an Engineering Procurement and Commissioning (EPC) contractor for setting up the 40 MW solar photovoltaic plant at Ayodhya (herein after "Ayodhya 40 MW solar project").

(d) NGEL issued a Notification of Award dated 29.09.2023 to Jakson Limited (EPC Contractor). The EPC Contractor accepted the Notification of Award (NOA) vide letter dated 29.09.2023.

(e) Subsequently, a Contract dated 06.10.2023 was signed between NGEL and the EPC Contractor. The scheduled commissioning of the first 10 MW of the project was within 11 weeks from the date of issuance of the NOA, and that of the balance capacity was scheduled to be commissioned within 32 weeks of the issuance of the NOA. Completion of facilities was to be achieved within 35 weeks from the date of NOA.

(f) UPNEDA filed a petition (Petition No. 2023 of 2023) before the Uttar Pradesh Electricity Regulatory Commission (UPERC) for approval of procurement from the 40 MW Ayodhya solar PV project in terms of the UPERC (Modalities of Tariff Determination) Regulations, 2023 and the UPERC (Captive and Renewable Energy Generating Plants) Regulations, 2019 (CRE Regulations, 2019). The UPERC approved the procurement vide its Order dated 12.01.2024(UPERC Order) and held that this is a fit case for relaxing the requirement of procurement through competitive bidding.

(g) The Power Purchase Agreement (PPA) dated 18.01.2024 was signed between NGEL and UPPCL based on the approval given by the UPERC.

(h) The first phase of the project, with a capacity of 14 MW, was declared under commercial operation with effect from 27.01.2024. The balance project of 26 MW was also under execution, and the proposed date of achieving COD was 10.05.2024.

(i) NGEL, in accordance with UPERC Order and the CERC RE Tariff Regulations, 2020, filed the present tariff petition for the determination of the project-specific levelised tariff for the 40 MW Ayodhya solar PV project.

(j) For the purpose of tariff determination, NGEL submitted the Filled Form 1.1, i.e., template for the Project of Solar PV, as well as the technical specifications document with operation details and site-specific aspects of the Project.

(k) No subsidy/incentive was received from the Central or State government by NGEL. However, the land lease rate is Rs 1 per year for 30 years. Further, in accordance with Clause 9.1.4 of the Solar Policy, 2022 of the GoUP, the cost of the dedicated transmission line built will be reimbursed to NGEL as an incentive to the project developer.

(l) Accordingly, UPPTCL was awarded the construction of a 132 kV transmission line on a depository work basis. In the capital cost, this amount is deducted, assuming the State Government will reimburse it after COD of the 40 MW Ayodhya Solar PV Project. It was requested that, in the future, if the State Government does not reimburse the same, the Commission may grant permission to include it in the capital cost for tariff calculation.

(m) In accordance with Clause 25 of the UPERC CRE Regulation, 2019, any purchase of electricity by a RE-based generation plant (for auxiliary consumption) will be charged only for the actual demand and energy purchased under the appropriate category of the rate schedule of tariff. In accordance with the PPA dated 18.01.2024 signed between NGEL and UPPCL, the difference between the tariff charged for auxiliary consumption by the solar power plant and the tariff determined pursuant to the PPA will be reimbursed by UPPCL to NGEL on an actual basis.

(n) The estimated Project Cost as approved by the Management Committee of NGEL is Rs. 209.29 Crore (Net Project Cost of Rs. 203.34 Crore after considering reimbursement of transmission line cost of Rs. 5.95 Crore), including Interest During Construction (IDC) of Rs. 5.83 Crore as of 2nd Quarter at 2023 price level.

(o) In the estimates, the transmission line cost is considered as Rs. 5.95 Cr, and the cost for the Transmission Bay is Rs. 3.05 Cr. However, UPPTCL, vide its letter dated 03.10.2023, provided the estimated cost for the Transmission line as Rs 17.83 Cr and for the 132 kV bay as Rs 8.39 Cr. NGEL vide its service purchase order awarded the same to UPPTCL. Accordingly, the total project cost considered for the tariff determination is Rs. 209.79 Cr (considering IDC of Rs. 6.77 Cr).

(p) 0.7% annual degradation has been considered for the performance of the plant on a year-on-year basis. The methodology adopted for the determination of the tariff for the subject solar project is primarily based on the EPC discovered price basis. The Standard clause for Module degradation (0.7% per annum) was part of the tender specification for the Ayodhya 40 MW solar project, based on which the EPC cost was determined.

(q) The CUF of the project is 24.73 %. After considering the annual degradation of 0.7%/ per year, the CUF will be 20.74% after 25 years.

(r) The Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 stipulate a Normative Annual Transmission availability factor of 98% for the recovery of Fixed Cost. Similar to the transmission system, the Availability Factor should be considered for the solar PV system. In view of the above, a realistic margin ought to be provided for a Solar PV System. A system unavailability of 1.25% is requested to be considered for the calculation of Annual Generation over the 25-year Project Life.

(s) NGEL is not under the ambit of MAT provisions; accordingly, Corporate Tax is considered for 25 years for the purpose in the tariff.

(t) For the calculation of the tariff for the project, Regulation 9 (Tariff Structure), Regulation 10 (Tariff Design), Chapter 2 (Financial Principles), and Chapter 7 (Parameters for solar PV projects, solar thermal projects, and floating solar projects) of the RE Tariff Regulation 2020 have been considered. Accordingly, various parameters have been considered for calculating the tariff.

(u) The Degradation Factor, Transmission system availability in the premises of the project, and Tax Structure may be relaxed under Regulation 78 of the RE Tariff Regulations, 2020, which reads as under –

> ***"78. Power to Relax:***
> *The Commission may for general or special order, for reasons to be recorded in writing, and after giving an opportunity of hearing to the parties likely to be affected, may relax any of the provisions of these regulations on its own motion or on an application made before it by an interested person."*

(v) Based on the ceiling parameters and EPC cost discovered through transparent competitive bidding, the levelized cost of electricity (LCOE) is determined to be Rs. 3.88/kWh for 40 MW.

(w) It is further submitted that levies, taxes, duties, SLDC, RLDC charges, service tax, etc., levied by the various authorities on NGEL in accordance with law will be billed to the beneficiaries additionally.

Hearing held on 11.07.2024

8. During the course of the hearing, the counsel for the Petitioner submitted that since the project is to be commissioned during August 2024, the Petitioner may be permitted to revise the tariff filing forms. Accordingly, the Commission directed the Petitioner to amend the petition and to file the revised tariff forms. The Respondents were permitted to file their replies and the Petitioner to file its rejoinder.

Submission by the Petitioner, NTPC Green Energy Limited, on 19.9.2024

9. The Petitioner submitted the following:
   (a) The first phase of the project. with a capacity of 14 MW, was declared under commercial operation with effect from 27.01.2024. The balance 26 MW capacity of the project achieved commercial operation on 31.07.2024.
   (b) The Petition was filed in accordance with the CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2020. However, before the commercial operation of the entire capacity could be achieved, the CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2024 were notified on 12.06.2024.
   (c) In compliance with ROP dated 11.07.2024, the Petitioner submitted Form 1.1 with the project details of Solar PV and Form 2.1 for the determination of tariff components.
   (d) The revised levelized cost of electricity (LCOE) is determined to be Rs. 3.94/kWh for 40 MW.
   (e) Further, the land allotted to the Petitioner by the GoUP was already occupied with some pucca houses, huts, etc. Hence, the Petitioner was required to deposit Rs. 20,71,000 by the District Magistrate of Ayodhya vide its letter dated 10.04.2024 as compensation for the families to relocate from the land required for the Project. The Petitioner submitted the same to the District Magistrate. Accordingly, this expenditure has been included in the cost of land for the Project for the purposes of tariff determination in this tariff petition.
   (f) It also requested the Commission to allow the revision in the land cost for the project as stated above.

Hearing held on 05.11.2024

10. During the course of the hearing, the learned counsel for the Petitioner submitted that the Petition was amended and revised tariff forms, namely Form 1.1 with the project details of Solar PV and Form 2.1 for the determination of tariff components, were filed. The Commission, after hearing the learned counsel for the parties, permitted the Respondent

to file its reply and the Petitioner to file its rejoinder.

Hearing held on 26.12.2024

11. The case was called out for a virtual hearing. The learned counsel for the Respondent, UPPCL, requested an adjournment because the arguing counsel was not available due to some personal difficulty.

12. The Commission, after hearing the matter, permitted the Respondent to file the reply and the Petitioner to file its rejoinder, if any. The Commission, after hearing the matter, directed the Petitioner to file the following additional information, such as: (a) Amended Petition including all relevant details, including the information and rationale for considering the parameters for the determination of tariff. (b) Detailed break-up of the capital cost, soft cost, etc., with audited certificates for 40 MW Solar PV Power Plant; (c) Details of the cost of the land for the Project for tariff determination. (d) Justification for considering a high tariff of Rs. 3.94/kWh; (e) Necessary documents, including, but not limited to, Board Approvals, Loan approval letters, Loan disbursement letters regarding the equity deployed and debt arrangements for the project listing out rate of interest for long term loan as well as working capital, loan tenure, payment terms if any, etc; (f) Details of the subsidy granted, the sanctioned amount to be received, and any applicable terms or conditions. (g) Explanation for the number of incidents of transmission unavailability (h), Detailed note on actual data for Auxiliary power consumption, and (i) Detailed Excel sheet showing the determination of tariff components for the 40 MW project.

Submission by the Petitioner on 04.02.2025 in compliance to the ROP dated 26.12.2024

13. In compliance with the ROP for hearing dated 26.12.2024, the Petitioner submitted the following information:
    (a) As per the direction to submit an Amended Petition, the Petitioner in response submitted that the original Petition, which contains the Prayers and other details, including the rationale for tariff parameters, should be read alongside the Affidavit dated 19.09.2024 and the present Affidavit (dated 04.02.025). The cost details were also provided in accordance with the Audited Balance Sheet as of the COD of the project (i.e., 31.07.2024). Based on these and the applicable parameters, the levelized tariff has been calculated as Rs. 3.98/kWh.
    (b) A breakdown of the capital cost has been provided with audited certificates for the 40 MW Solar PV Power Plant (Net Capital Cost: Rs. 2,12,96,55,346.89, Soft Cost: IEDC Rs. 1,34,03,633.74, IDC Rs. 7,53,45,547.05).
    (c) Regarding the details of the land cost for the Project for tariff determination, Rs. 1 per acre per year plus GST for a 166-acre land parcel has been considered. Additionally, an amount of Rs. 20.71 lakh was paid to the District Magistrate of Ayodhya as compensation for the reallocation of families.
    (d) The tariff of Rs. 3.98/kWh was justified on account of factors such as low solar irradiance in Ayodhya, resulting in a lower CUF of 24% compared to higher GHI

zones like Rajasthan/Gujarat (28-30%). Additionally, the land for the Ayodhya project is classified as submerged land under Section 6(1), which requires additional measures to protect equipment during flooding. These measures, including increased design clearance, higher Metallic Module Support foundations, and the use of a Pre-Engineered Building for the structural steel construction, resulted in higher civil work costs.

(e) A Board Resolution dated 29.09.2023 approving the Project and its cost has been submitted.

(f) Normative return on equity, interest on loans, and interest on working capital are being considered as the project is 100% equity-funded, with no external borrowing.

(g) Regarding the details of the subsidy granted and the sanctioned amount to be received, it is submitted that:

 (i) No direct subsidy or incentive has been given for the Project. However, the Petitioner has secured land at concessional rates and will receive reimbursement for the transmission system cost.

 (ii) Further, the cost of the dedicated transmission line will be reimbursed under Clause 9.1.4 of the Solar Policy, 2022. The construction of the transmission line and bay is being undertaken by UPPTCL on a deposit work basis, with an advance payment of Rs. 26,23,58,021.00 (including GST) already made. The Project is designed to evacuate power from the solar plant to the nearby UPPTCL substation at Darshan Nagar, Ayodhya, through a combination of overhead and underground transmission lines.

 (iii) The overhead transmission line work is completed with revised cost of Rs. 4,39,09,863.43 in comparison to Rs. 9,29,92,344.00 as per the initial PO awarded to UPPTCL. The underground transmission line and GIS bay are expected to be completed by May 2025, with power currently being evacuated through an alternate arrangement provided by UPPTCL. So, the Petitioner will claim the subsidy based on the actual expenditure incurred for the construction of this transmission line.

(h) The Petitioner also provided details regarding the breakup of the capital cost for Transmission Lines and GIS Bay. According to the solar policy, the cost of the transmission line will be reimbursed. However, as per the discussion with UPNEDA, loading charges and supervisory charges, as applicable, will not be reimbursed. Accordingly, the tentative transmission line cost will be reimbursed to the Petitioner. The remaining cost of the transmission line has been included in the Project's Capital Cost. The actual subsidy amount will be determined after the completion of the underground transmission line and actual realisation from UPNEDA.

(i) The Petitioner submitted the details of the number of incidents of transmission unavailability, auxiliary power consumption, and an Excel sheet showing the determination of tariff components for the 40 MW project.

<u>Submission by the Respondent No.1, UPPCL, dated 21.03.2025</u>

14. The Respondent submitted the following:
   (a) UPPCL requested the Commission to exclude the land lease cost of Rs. 0.002 Lakhs per MW per year from the tariff calculation and instead consider it under capital cost. It has also sought disallowance of the compensation amounting to Rs. 20.71 lakhs towards the reallocation of families, as there is no provision for the same in the RE Tariff Regulations, 2024. Therefore, it should not be considered as a part of the project cost.
   (b) The receivables on a 45-day basis instead of 1.5 months would have an impact of approximately Rs. 0.15 Lakh to Rs. 0.20 Lakh per MW per year on working capital. However, the Petitioner has calculated receivables on a 1.5-month basis, which is not in line with the RE Tariff Regulation 2024.
   (c) As the Petitioner has claimed O&M expenses of Rs. 3.63 lakh per MW per year for the first three years and Rs. 4.13 lakh per MW per year from the fourth year onwards. However, the Petitioner has not provided any explanation or justification for the claim of O&M expenses of Rs. 3.63 lakh per MW per year for the first three years and Rs. 4.13 lakh per MW per year from the fourth year onwards in the present petition.
   (d) The Respondent contended that the claim made by the Petitioner for seeking O&M expenses for the transmission line of Rs. 0.22 Lakh per MW per year as part of its overall O&M expenses is not supported under the applicable regulatory framework as RE Tariff Regulation 2024, do not contain any provision allowing transmission line O&M expenses to be included under the generating station's O&M expenses.
   (e) RE Tariff Regulations, 2024 or the PPA, do not provide any degradation loss, and yet, the Petitioner has claimed the degradation factor without any regulatory basis. Applying additional degradation to the committed CUF means that the generator will be delivering power lower than the committed quantum, which will violate the provision of the PPA. Therefore, submitted that no degradation should be considered for the purpose of calculating net generation by the Commission in light of the lack of any provision in the RE Tariff Regulation 2024 or the PPA dated 18.01.2024.
   (f) The additional system loss or transmission loss of 1.25% results in a CUF of 24.42% as against the committed CUF of 24.731%. Applying additional system loss or transmission loss based on the floating solar PV system in accordance with the CERC (Terms and Conditions of Tariff) Regulations, 2019, is not in accordance with the applicable RE Regulation 2024. Pertinently, the RE Tariff Regulations, 2024, do not provide for any additional system loss or transmission loss.
   (g) As per the adjustments above and the information available, the levelized tariff works out to be Rs. 3.67 per kWh against Rs. 3.94 per kWh claimed by Petitioner for the 25-year tariff period.

<u>Hearing held on 25.03.2025</u>

15. The Commission, after hearing the parties, directed the Petitioner to furnish the following additional information such as: (a) Request for Selection (RfS) document, Detailed Project Report (DPR), and the bid submitted by the successful bidder, M/s Jakson Limited; (b) Statutory Auditor Certificate with detailed break up of capital cost; (c)

Investment approval from the competent authority; (d) Detailed calculation of IDC and IEDC as on the date of commissioning, certified by a statutory auditor, along with supporting documents, for the interest rate considered in the calculation of IDC and IEDC; and (e) Payment to the EPC contractor as on date.

16. The Respondents were permitted to file their replies and the Petitioner to file its rejoinder. Subject to the above, the order in the Petition was reserved.

Rejoinder on Behalf of the Petitioner on 24.04.2025 to the Reply filed by Respondent (dated 21.03.2025)

17. The Petitioner, NGEL, in its rejoinder, submitted the following:

(a) In response to the reply filed by the Respondent to disallow compensation for the reallocation, because the land cost has been claimed separately as part of the tariff, the Petitioner clarified that the GoUP in its cabinet meeting dated 01.08.2023 has decided to allot the land to the Petitioner on lease, and the same is considered as part of the tariff. The District Magistrate of Ayodhya vide its letter dated 10.04.2024 has requested to deposit Rs 20,71,000/- as compensation for families reallocated from the land required for the Project. The Petitioner, vide its letter dated 11.04.2024, informed the nodal agency, i.e., UPNEDA, that any such additional expenditure would form part of the project cost for the determination of tariff. The compensation to be paid for land is essentially the cost of acquiring the land, which is indisputably part of the capital cost. The Commission and the Appellate Tribunal of Electricity have passed Orders on an increase in land costs pursuant to the determination and orders passed by the District Collectors/District Magistrate/District Authorities. Hence, the cost of the claimed land is entitled to be included in the calculation of the project-specific tariff.

(b) The amount of receivables, whether calculated on a 45-day basis or on a 1.5-month basis, would be the same. In any case, the difference shown by the Respondent No.1 is too minuscule to have an impact on the ultimate tariff. Further, the Commission, while calculating a generic tariff for projects based on various RE sources, has been following the practice of applying a 1.5-month receivables period.

(c) With respect to the O&M cost of the transmission line, it is stated that the generating station and the dedicated transmission line form part of the project and the cost and O&M cost thereof necessarily must be included in the tariff determination.

(d) With respect to the O&M cost, it is stated that the cost of the first 3 years (Rs. 3.63 lakhs/MW/year) is as quoted by the EPC contractor in the bidding process and is marked aligned. For the 4th year, the cost is considered as 3.5 lakhs/MW/year + 18 % GST (i.e. Rs. 4.13 lakhs/MW/year), which is also as per market trend.

(e) The degradation is for the purposes of tariff calculation and not in relation to the obligation to supply under the PPA. The claimed degradation is in accordance with the EPC Contract signed by the Petitioner and the module guarantee provided by the manufacturers, which are market standards. Module degradation is included in the standard bidding documents for other RE implementing agencies and is accepted market practice.

(f) The design CUF of 24.731 % is higher than the CUF of 21% as considered in the RE Tariff Regulations for the determination of tariff. The CUF of the project, after considering the annual degradation of 0.7%, will be 20.74%, which is above the minimum annual CUF of 19% as agreed in provision 3.7 of the signed PPA. The Commission has also allowed for module degradation in other recent project-specific tariff determinations for solar PV Projects (136/GT/2024).

(g) The Petitioner has prayed for relaxation in the RE Tariff Regulations with respect to system availability and prayed for an unavailability factor of 1.25% in light of the practical realities of the entire system. As stated above, this also applies to tariff calculation and does not impact the performance of the PPA. Since it is a project-specific tariff determination, the tariff parameters must include a realistic margin for the system, in the same way as the normative availability of any generation or transmission system is always less than 100%.

Submission by the Petitioner on 14.05.2025 in compliance to the Record of the Proceedings (dated 24.04.2025)

18. The Petitioner submitted the following:

(a) As per the direction of the Commission to submit the RfS, it is submitted that the RfS document has been annexed to the Petition. Further, as per the standard practice for RE projects, no separate DPR is prepared. The Bid Submitted by the successful bidder is also submitted.

(b) The breakup of the capital cost, as available in the Audited Balance Sheet as on the date of Commercial Operation, was submitted along with the Affidavit dated 04.02.2025 in compliance with the Record of Proceedings (ROP).

(c) The Board Resolution dated 29.09.2023 approving the project and the project cost has been annexed in the Petition.

(d) The detailed calculation of IDC is submitted along with the tariff sheet in the Affidavit dated 04.02.2025. Since 100% equity is infused in the project, IDC is not reflected in the Audited Balance Sheet. However, IDC has been calculated based on the normative interest on loan as per Regulation 14 of the RE Tariff Regulations.

(e) The detailed calculation of IEDC is also submitted. Furthermore, regarding the payment to the EPC contractor, it is submitted that as of the date of 30.04.2025, a total of Rs. 191,99,91,433.68 (including GST) on invoices has been processed.

Analysis and Decision

19. We have heard the learned counsels of parties and have carefully perused the records.

20. The first phase of the project, with a capacity of 14 MW, was declared under commercial operation from 27.01.2024, and the remaining 26 MW was expected to be commissioned on 10.05.2024. At the time of filing the petition, the expected COD was on 10.05.2024. So, the Petitioner filed the present Petition under the RE Tariff Regulations, 2020. But during the first hearing on 11.07.2024, the Petitioner informed the Commission that the

commissioning of the remaining capacity was now expected in August 2024 and requested permission to revise the tariff filing forms. The Commission granted permission, following which the Petitioner submitted the revised tariff forms, as per the ROP, through an affidavit, and informed that the project achieved COD for the remaining capacity on 31.07.2024. Since this COD falls within the control period of the RE Tariff Regulations 2024, the tariff determination shall be in accordance with these Regulations.

21. The determination of project-specific tariff is governed by Regulations 7 & 8 of the RE Tariff Regulations 2024. The relevant extracts of the Regulations are reproduced as under:

"7. Project Specific tariff

a) Project specific tariff, on case to case basis, shall be determined by the Commission for the following types of renewable energy projects:

i. Solar PV power projects, floating solar projects and solar thermal power projects;

ii. Wind power projects (both on-shore and off-shore);

iii. Biomass Projects, Biomass gasifier based power projects, and biogas based power projects – if a project developer opts for project specific tariff;

iv. Municipal solid waste based power projects and refuse derived fuel based municipal solid waste power projects – if a project developer opts for project specific tariff;

v. Renewable hybrid energy projects;

vi. Renewable energy with storage projects; and

vii. Any other project based on new renewable energy sources or technologies approved by the Central Government.

b) Financial and operational norms specified in these regulations, except for capital cost shall be the ceiling norms while determining the project specific tariff.

8. Petition and proceedings for determination of tariff

(1) In case of renewable energy projects for which a generic tariff has to be determined as per these regulations, the Commission shall determine such generic tariff prior to the commencement of the year for each year of the Control Period:

Provided that for the first year of the Control Period, i.e., from 01.07.2024 to 31.03.2025, the generic tariff shall be determined upon issuance of these regulations.

(2) A petition for determination of project specific tariff shall be accompanied by such fee as may be specified in the Central Electricity Regulatory Commission (Payment of Fees) Regulations, 2012, as amended from time to time or any subsequent re-enactment thereof, and shall be accompanied by:

a) Information in forms 1.1, 1.2, 2.1, 2.2 and 2.3, as the case may be, as appended to these regulations;

b) Detailed project report outlining technical and operational details, site specific aspects, basis for capital cost, detailed break-up of capital cost and financing plan;

c) A statement of all applicable terms and conditions and anticipated expenditure for the period for which tariff is to be determined;

d) A statement containing details of the calculation of any grant, subsidy, or incentive received, due or assumed to be due, from the Central Government or State Government or both. This statement shall also include the proposed tariff calculated without such subsidy or incentive;

e) Consent from the beneficiary for procurement of power from renewable energy project, unless such requirement has been exempted by the Central or State Government; and

f) Following documents in case of a petition for determination of project specific tariff by renewable energy projects, where tariff from such renewable energy sources is generally determined through a competitive bidding process in accordance with provisions of Section 63 of the Act:

i. Rationale for opting project specific tariff instead of competitive bidding; and

ii. Competitiveness of the proposed tariff vis-à-vis tariff discovered through competitive bidding/ tariff prevalent in the market.

g) Any other information directed by the Commission.

(3) The proceedings for determination of tariff shall be in accordance with the provisions of the Conduct of Business Regulations.

22. The technical and operational norms for Solar PV Projects are specified in Chapter 7 of the RE Tariff Regulations 2024. The relevant extracts are reproduced as under:

"Chapter 7: Parameters for solar PV power projects, solar thermal power projects and floating solar projects

46. Capital Cost

The Commission shall determine only project specific capital cost considering the prevailing market trends.

47. Capacity Utilisation Factor

The Commission shall only approve capacity utilisation factor for project specific tariff: Provided that the minimum capacity utilization factor for solar PV power projects shall be 21%:

…………..

48. Operation and Maintenance expenses

The Commission shall determine only project specific O&M expenses considering the prevailing market trends.

49. Auxiliary Consumption

The Commission shall only approve auxiliary consumption for project specific tariff:

Provided that the maximum auxiliary consumption for solar PV power projects shall be 0.75%;

………….."

<u>Tariff Design</u>

23. Regulations 9 & 10 of the RE Tariff Regulations, 2024 state as under:

"9. Tariff Structure

The tariff for renewable energy sources shall consist of the following components:

(a) Return on equity;

(b) Interest on loan;

(c) Depreciation;
(d) Interest on working capital; and
(e) Operation and Maintenance expenses;

Provided that for renewable energy projects having fuel cost component, like biomass power projects with Rankine cycle technology, biomass gasifier based power projects, biogas based power projects, non-fossil fuel based co-generation projects and refuse derived fuel based power projects, single part tariff with two components, fixed cost component and fuel cost component, shall be determined.

10. Tariff Design
(1) The generic tariff shall be determined, on levelized basis, considering the year of commissioning of the project, for the tariff period of the project:

Provided that for renewable energy projects having single part tariff with two components, fixed cost component shall be determined on levelized basis considering the year of commissioning of the project while fuel cost component shall be determined on year of operation basis in the Tariff Order to be issued by the Commission.
(2) For the purpose of levelized tariff computation, discount factor equivalent to post-tax weighted average cost of capital shall be considered.
(3) The above principles shall also apply for project specific tariff.”

24. Accordingly, the Commission shall determine the project-specific tariff of the Petitioner’s (NGEL) project as a single-part tariff, considering the year of commissioning of the project.

Debt-Equity Ratio

25. The Petitioner, NGEL, submitted that to complete the project in the minimum possible time and as per the availability of equity funds, 100% equity is infused in the project. As per Regulation 13 of the CERC RE Tariff Regulations, 2024, the maximum equity allowed for the calculation of the project-specific tariff is 30%; therefore, the debt-to-equity ratio considered is 70:30.

26. Regulation 13 of the RE Tariff Regulations, 2024 states as under:
“13. Debt-Equity Ratio
(1) For determination of generic tariff and project specific tariff, the debt-equity ratio shall be considered as 70:30:
Provided that:
i. The project specific tariffs, where the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as a normative loan;
ii. The project specific tariffs where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff;
iii. The equity invested in foreign currency shall be designated in Indian rupees on the date of each investment;

iv. *The debt-equity ratio shall be considered after deducting the amount of grant or capital subsidy received for the project for arriving at the amount of debt and equity; and*

v. *The premium, if any, raised by the generating company while issuing share capital and investment of internal resources created out of its free reserve for the funding of the project shall be reckoned as paid-up capital for the purpose of computing return on equity only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the renewable energy project.*

(2) The project developer shall submit the resolution of the Board of the company or approval of the competent authority in other cases regarding the infusion of funds from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the renewable energy project.

27. The Commission notes that the Petitioner has considered the debt-equity ratio as 70:30. As per Regulation 13 of the RE Tariff Regulations, the project-specific tariffs, where the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% will be treated as a normative loan. Accordingly, in accordance with Regulation 13 of the RE Tariff Regulations, the Commission has decided to consider a debt-equity ratio of 70:30 for tariff determination of the said project.

<u>Return on Equity</u>

28. The Petitioner, NGEL, claimed a normative return on equity of 14% with the applicable corporate tax rate. NGEL is a wholly owned subsidiary of NTPC Limited and has been designated as an umbrella company for consolidating NTPC Ltd.'s renewable energy business. NGEL has submitted that it is not within the ambit of the MAT provisions. Accordingly, a Corporate Tax Rate of 25.17% is considered for a period of 25 years for the tariff Petition. Accordingly, the Petitioner has computed the Rate of Return as 18.71 % for the entire tariff period (25 years).

29. Regulation 16 of the RE Tariff Regulations 2024 states as under:
"16. Return on Equity
(1) The value base for equity shall be as determined under Regulation 13.
(2) The normative Return on Equity for renewable energy projects other than small hydro projects shall be 14%, and that for the small hydro projects shall be 15%. The normative Return on Equity shall be grossed up by the latest available notified Minimum Alternate Tax (MAT) rate for the first 20 years of the Tariff Period and by the latest available notified Corporate Tax rate for the remaining Tariff Period.

30. As per Regulation 16 of the RE Tariff Regulations 2024, normative ROE needs to be grossed up by the MAT rate for the first 20 years of the tariff period and by the Corporate Tax Rate for the remaining tariff period. Accordingly, in view of the Petitioner's claim to consider the Corporate Tax Rate, the Commission has decided to determine the tariff in accordance with the Regulations.

31. For FY 2024-25, the MAT rate was 15%, and accordingly, the effective MAT rate (including a 12% surcharge and 4% Health and Education cess) works out to 17.472%. The Commission, in its generic tariff order dated 02.08.2024 in Petition No 5/SM/2024 for the renewable energy project to be commissioned in FY 2024-25, has considered the MAT rate of 17.47% and the Corporate Tax rate of 34.94%. Accordingly, as per the RE Tariff Regulations, the normative ROE of 14% has been grossed up by a MAT rate of 17.472% for the first 20 years which yields the Return on Equity Rate of 16.96% and for the remaining tariff period, it is grossed up by the corporate tax rate of 34.94% (30% Income Tax rate+ 12% surcharge +4% Health and Education cess) which yields the ROE of 21.52%. Accordingly, this has been taken into account in the tariff determination.

<u>Interest on Loan Capital</u>

32. The Petitioner, NGEL, submitted that as 100 % equity is infused in the project, normative interest on loan is considered in line with RE Tariff Regulations, 2024. The loan period is considered as 15 Years. Regulation 14 provides that the normative interest rate of two hundred (200) basis points above the average State Bank of India (SBI) Marginal Cost of Funds based Lending Rate (MCLR) (one-year tenor) prevalent during the last available six months shall be considered. Accordingly, the SBI MCLR for 6 months prior to the COD period is considered. The interest rate on the loan is considered as 10.70%. (8.7% + 200 basis points).
33. The monthly data of the SBI MCLR for the last available six months (prior to the COD (i.e. 31.07.2024,) of the project submitted by the Petitioner is shown in the following table:

Effective Date	One (1) Year Tenor MCLR Rate
15.07.2024	8.85%
15.06.2024	8.75%
15.05.2024	8.65%
15.04.2024	8.65%
15.03.2024	8.65%
15.02.2024	8.65%
Average	**8.70%**

34. Regulation 14 (2) of the RE Tariff Regulations 2024 states as under:

"(2) Interest on Loan

(a) The loans arrived at in the manner indicated in Regulation 13 shall be considered as gross normative loans for the calculation of interest on loans. For project specific tariff, the normative loan outstanding as on the 1st of April of every year shall be worked out by deducting the cumulative repayment up to the 31st of March of the previous year from the gross normative loan.

(b) For the purpose of computation of tariff, the normative interest rate of two hundred (200) basis points above the average State Bank of India Marginal Cost of

Funds based Lending Rate (MCLR) (one-year tenor) prevalent during the last available six months shall be considered.

(c)Notwithstanding any moratorium period availed by the project developer, the repayment of the loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.

35. Regulation 7 of the RE Tariff Regulations 2024 states as under:

"7. Project Specific tariff

……………..

b) Financial and operational norms specified in these regulations, except for capital cost shall be the ceiling norms while determining the project specific tariff."

36. The Commission notes that, according to Clause (b) of Regulation 7 of the RE Tariff Regulations 2024, the financial norms, except for capital cost, shall be the ceiling norms for determining the project-specific tariff. It would be pertinent to mention that in its generic tariff order dated 02.08.2024 in Petition No 5/SM/2024 for the renewable energy projects to be commissioned in FY 2024-25, the Commission has considered the interest on loan component as 10.65% (average of SBI MCLR Rate for six months from 15th December 2023 till 14th June 2024 plus 200 basis points). The monthly data of MCLR for the last available six months (from 15th Dec, 2023 till 14th June, 2024) from State Bank of India and the average MCLR is shown in the following table:

Effective Date	**One (1) Year Tenor MCLR rates[1]**
15.05.2024 to 14.06.2024	8.65%
15.04.2024 to 14.05.2024	8.65%
15.03.2024 to 14.04.2024	8.65%
15.02.2024 to 14.03.2024	8.65%
15.01.2024 to 14.02.2024	8.65%
15.12.2023 to 14.01.2024	8.65%
Avg. for last available 6 months	**8.65%**

37. Accordingly, the interest rate for the loan component is determined as 10.65% (8.65+200 basis Points).
38. The interest on the loan has been calculated by considering the loan repayment equal to the annual depreciation allowed for the project while determining the tariff calculation as proposed by the Petitioner.

<u>Depreciation</u>

39. The Petitioner, NGEL, has claimed depreciation as 4.67% for the first 15 years of the project life and the remaining depreciation of 2% spread over the useful life of the project. The asset's salvage value has been considered as 10%.

[1] Source: https://www.sbi.co.in/web/interest-rates/interest-rates/mclr-historical-data

40. Regulation 15 of the RE Tariff Regulations 2024 states as under:

"15. Depreciation

(1) The value base for the purpose of depreciation shall be the capital cost of the project admitted by the Commission. The salvage value of the project shall be considered as 10%, and depreciation shall be allowed up to a maximum of 90% of the capital cost of the project:

Provided that no depreciation shall be allowed to the extent of grant or capital subsidy received for the project.

(2)Depreciation rate of 4.67% per annum shall be considered for the first 15 years and the remaining depreciation shall be evenly spread during the remaining Useful Life of the project.

(3)Depreciation shall be computed from the first year of commercial operation:

Provided that, for determination of project specific tariff, in case of commercial operation of the project for part of the year, depreciation shall be computed on a pro rata basis.

41. In terms of the above Regulation, the Commission approves the depreciation at 4.67% for the first 15 years, and the remaining depreciation spreads over the useful life of the project. The asset's salvage value is considered as 10%, and depreciation is allowed up to 90% of the capital cost.

Interest on Working Capital

42. The Petitioner, NGEL has considered the interest on working capital as 11.95% in terms of Regulation 17(1) (4) of the RE Tariff Regulations. The Petitioner has considered the average of the State Bank of India (SBI) MCLR (1 Year Tenor) for six months (from 15.02.2024 till 15.07.2024) as 8.70% and has taken an additional 325 basis points as per the RE Tariff Regulations, 2024 to arrive at the interest on working capital as 11.95% for tariff determination purposes.

43. The Respondent, UPPCL, submitted that per Regulation 17 (1) (b) of the RE Tariff Regulation 2024, receivables are to be considered equivalent to 45 days and not 1.5 months. The Petitioner has calculated receivables on 1.5 months, which is not in line with the RE Tariff Regulation 2024. The receivables on a 45-day basis instead of 1.5 months would have an impact of approximately Rs. 0.15 Lakh to Rs. 0.20 Lakh per MW per year on working capital.

44. Regulation 17 of the RE Tariff Regulations 2024 states as under:

"17. Interest on Working Capital

(1) The Working Capital requirement in respect of wind power projects, small hydro projects, solar PV power projects, floating solar projects, solar thermal power projects, municipal solid waste based power projects and refuse derived fuel based power projects and renewable energy with storage projects shall be computed in accordance with the following:

a) Operation and Maintenance expenses for one month;

b) Receivables equivalent to 45 days of tariff for the sale of electricity calculated on the normative Capacity Utilisation Factor or Plant Load Factor, as the case may be; and

c) Maintenance spares equivalent to 15% of Operation and Maintenance expenses

…………………………..

(4) Interest on Working Capital shall be at an interest rate equivalent to the normative interest rate of three hundred and twenty-five (325) basis points above the average State Bank of India Marginal Cost of Funds based Lending Rate (MCLR) (one-year tenor) prevalent during the last available six months.

45. The Commission notes that according to Clause (b) of Regulation 7 of the RE Tariff Regulations 2024, the financial norms, except for capital cost, shall be the ceiling norms for determining the project-specific tariff. As per the RE Tariff Regulations, 2024, interest on working capital is to be computed as the average of the State Bank of India MCLR (One Year Tenor) prevailing over the last available 6 months, plus 325 basis points. According to the RE Tariff Regulations, 2024, the interest on working capital works out to be 11.90% (i.e., 8.65% plus 325 basis points).

46. The Commission noted the observation by the Respondent and have computed the tariff with receivables on a 45-day basis instead of 1.5 months as per the RE Tariff Regulations, 2024.

<u>Discount Factor</u>

47. NGEL has considered the discount factor as 9.80%, equivalent to the post-tax weighted average cost of capital [{(10.70% x 0.70) x (1 – 25.17%)} + (14.0% x0.30)] for the computation of the tariff.

48. Regulation 10 (2) of the RE Tariff Regulations 2024 provides as under:

"10 Tariff Design

………………………………………….

(2) For the purpose of levelized tariff computation, discount factor equivalent to post-tax weighted average cost of capital shall be considered.

…………………..."

49. The Commission observes that for computing the discount factor, NGEL has considered an effective corporate tax rate of 25.168%. As explained in the Return on Equity, the Commission uses the normative corporate tax rate instead of the individual effective tax for the determination of the tariff. The Commission notes that the discount factor as per the RE Tariff Regulations should be equal to the post-tax weighted average cost of capital based on the debt: equity ratio specified in the Regulations. Given the debt-equity ratio (70:30) and the weighted average of the post-tax rates for the debt and equity components, the discount factor is calculated. The actual Interest Rate considered for the loan component (i.e.70 %) of capital cost is 10.65%. For the equity component (i.e., 30

%), the rate of Return on Equity (ROE) is considered at a post-tax rate of 14 %. The Commission has considered the normative corporate tax rate as 34.94% (30% Income Tax rate+ 12% surcharge +4% Health and Education cess). The discount factor derived as per the Regulation 10(2) works out to 9.05% [(10.65% x 0.70 x (1 – 34.94%)) + (14.0% x 0.30)]. Accordingly, the Commission allows the discount rate of 9.05 % in the instant case.

Capital Cost of the Project

50. The Petitioner, NGEL in its main Petition (before the total commissioning of the project) submitted that the estimated Project Cost as approved by the Management Committee of NGEL is Rs. 209.29 Crore (Net Project Cost of Rs. 203.34 Crore after considering reimbursement of transmission line cost of Rs. 5.95 Crore) including Interest During Construction (IDC) of Rs. 5.83 Crore as of 2nd Quarter at 2023 price level. In the estimates, the transmission line cost is considered as 5.95 Cr, and the cost for the Transmission Bay is Rs. 3.05 Cr. However, UPPTCL vide its letter dated 03.10.2023 provided the estimated cost for the Transmission line as Rs 17.83 Cr, and the cost for the 132 kV bay is Rs 8.39 Cr. NGEL vide its service purchase order awarded the same to UPPTCL. Accordingly, the total project cost considered for the tariff determination is Rs. 209.79 Cr (considering IDC of Rs. 6.77 Cr) as on the date of the Petition.

51. NGEL further submitted that no subsidy/incentive was received from the Central or State government by NGEL. However, the land lease rate is Rs 1 per year/acre/for 30 years.

52. Upon full commissioning of the project on 31.07.2024, the Petitioner, in its submission dated 04.02.2025 (in compliance with the Record of Proceedings (ROP) dated 26.12.2025), provided the details of the capital cost. The Petitioner provided the audited balance sheet as on the COD of the Project, i.e. 31.07.2024.

53. The breakdown of the Capital Cost with audited certificates as submitted by the Petitioner is as under:

Component	Amount (Rs.)
Non-Current Assets (A)	1,90,01,09,345.92
Other non-current assets (B)	17,73,78,479.00
Balance work against Property, Plant & equipment (C)	5,46,33,217.00
Balance mandatory spare(D)	2,45,12,577.00
Total (E=A+B+C+D)	2,15,66,33,618.92
IDC (F)	7,53,45,547.05
Total (G=E+F)	2,23,19,79,165.97
Subsidy(H)	10,23,23,819.08
Net Capital Cost (I=G-H)	**2,12,96,55,346.89**

54. The Petitioner also submitted that the IDC of Rs. 18.84 lakh/MW is considered but not reflected in the balance sheet, as the Project is 100% equity funded.

55. The Petitioner also submitted that the land allotted to the Petitioner by the GoUP was already occupied with some pucca houses, huts, etc. As a result, the Petitioner was required to deposit Rs. 20,71,000 by the District Magistrate of Ayodhya vide its letter dated 10.04.2024, as compensation to the families for relocating from the land required for the Project. The Petitioner submitted the same to the District Magistrate. Subsequently, this expenditure has been included in the cost of land for the Project for the purposes of tariff determination in this tariff petition. Accordingly, the total land cost comprises Re 1 per acre per year and GST (166 acres) as land lease for 25 years, and an additional Rs 20.71 lacs paid to the District Magistrate of Ayodhya as compensation for the reallocation of families.

56. The Petitioner submitted that in accordance with Clause 9.1.4 of the Solar Policy, 2022 of the GoUP, the cost of the dedicated transmission line built would be reimbursed to NGEL as an incentive to the project developer. Accordingly, UPPTCL was awarded for the construction of a 132 kV transmission line on a depository work basis. In the capital cost, this amount is deducted, assuming that the amount would be reimbursed by the State Government after COD of the 40 MW Ayodhya Solar PV Project. In future, if the same is not reimbursed by the State Government, the Petitioner requested that the Commission may grant liberty to include the same in the capital cost for the calculation of the tariff. Later in the submission dated 04.02.2025, NGEL submitted that the cost of the transmission line will be reimbursed, and, as per the discussion with UPNEDA, loading and supervisory charges, as applicable, will not be reimbursed. Accordingly, the tentative transmission line cost to be reimbursed to the Petitioner is as given in the table below. The remaining cost of the transmission line has been included in the Project's Capital Cost. The actual subsidy amount will be established after completion of the underground transmission line and actual realisation from UPNEDA.

57. Details of the Transmission Charges as submitted by the Petitioner are as follows:

S. No.	Item Description	Basic Amount (Rs) (A)	GST (Rs.) (B)	Loading (Rs.) (C)	Supervisory Charge (Rs.) (D)	Initial Cost as PO (Rs) (=A+B+C+D)	Estimated Final Cost (Rs.)
1	Overhead Transmission Line	5,89,21,009.35	1,06,05,781.68	1,13,36,116.79	1,21,29,436.17	9,29,92,344.00	4,39,09,863.43
2	Underground Transmission Line	5,49,13,642.00	98,84,456.00	94,97,743.00	1,11,44,376.00	8,54,40,217.00	8,54,40,217.00 (Work yet to be

	(Cable)						completed by UPPTCL)
3	132KV GIS Bay	5,83,74,024.83	1,05,07,324.47	40,97,311.96	1,09,46,799.19	8,39,25,460.00	8,39,25,460.00 (Work yet to be completed by UPPTCL)
			Total	**2,49,31,171.75**	**3,42,20,611.36**	**26,23,58,021.00**	**21,32,75,540.43**

58. The tentative transmission line cost that will be reimbursed to the Petitioner is as given in the table below:

Item Description	**Amount (Rs.)**
Overhead Transmission Line	3,75,25,721.08
Underground Transmission Line (Cable)	6,47,98,098.00
Total	**10,23,23,819.08**

59. The Respondent, UPPCL, submitted that the Petitioner directly included the land lease cost as part of the tariff. The land lease cost should be treated as a part of the capital cost. So, the Commission ought to exclude the land lease cost of Rs. 0.002 Lakhs per MW per year from the tariff calculation and instead treat it as a capital cost. It has also sought disallowance of the compensation amounting to Rs. 20.71 lakhs towards the reallocation of families, as there is no provision for the same in the RE Tariff Regulations, 2024 and has requested that it should not be considered part of the project cost.

60. Further, UPPCL submitted that the RE Tariff Regulation 2024 do not provide for any compensation for the reallocation to be included in the Capital Cost of the project. So, it should not be considered as a part of the project cost.

61. Regulation 12 and Regulation 46 of the Renewable Tariff Regulations, 2024 provide as under:

"Chapter 2: Financial Principles

……

12. Capital Cost

Norms for capital cost, as specified in relevant chapters of these regulations, shall be inclusive of land cost, pre-development expenses, all capital work including plant & machinery, civil work, erection, commissioning, financing cost, interest during construction and evacuation infrastructure up to inter-connection point.

Chapter 7: Parameters for solar PV power projects, solar thermal power projects and floating solar projects

46. Capital Cost

The Commission shall determine only project specific capital costs considering the prevailing market trends..

62. The Commission has examined the audited balance sheet submitted by the Petitioner as on the date of the Commissioning of the Project. It is observed that the Capital Cost estimated by the Petitioner includes the cost towards the dedicated transmission lines and the Bay. It is observed that the Project is designed to evacuate power to the nearby UPPTCL substation at Darshan Nagar, Ayodhya, through a combination of overhead and underground transmission lines, which is part of the Evacuation cost. Accordingly, the cost considered for the evacuation of the project has been included in the capital cost. As submitted by the Petitioner, initially the estimated cost of the overhead transmission line was Rs. 9,29,92,344, which was subsequently revised to Rs. 4,39,09,863.43. Considering the substantial reduction in the estimated cost, the Commission is of the view that the approval should be based on actual figures rather than on estimates. As informed by the Petitioner, the underground transmission line and the 132 kV GIS bay are yet to be completed by UPPTCL. According to the Solar Policy of the Government of Uttar Pradesh, the cost of a dedicated transmission line will be reimbursed to the Petitioner. In view of the State policy and the significant variation between the estimated and actual costs of the work, the Commission decides not to consider the claim for supervision and loading costs for the underground transmission line and transmission bay at this stage. The Petitioner may approach the Commission for the same (supervision and loading cost) upon completion of the work on an actual basis at a later stage, if so advised.

63. The Petitioner has claimed Interest During Construction (IDC) of Rs. 18.84 lakh/MW. However, considering the revision in the capital cost on account of transmission costs and the normative parameters for interest on loan, the IDC has been recalculated and works out to Rs. 16.10 lakh/MW. Further, after going through the information provided by the parties, the Commission has allowed a compensation amounting to Rs. 20.71 lakhs towards the reallocation of families as directed by the District Magistrate of Ayodhya.

64. The Commission has examined the audited balance sheet provided by the Petitioner as on the date of commissioning of the Project. Based on the above, the details of the Capital Cost are as follows:

	As claimed by the Petitioner		**As approved by the Commission**	
Component	**Cost (Rs.)**	**Rs. Lakh/MW**	**Cost (Rs.)**	**Rs. Lakh/MW**
Non-Current Assets (A)	1,90,01,09,345.92	475.03	1,90,01,09,345.92	475.03

Other non-current assets (B)	17,73,78,479.00	44.34	80,12,802.00	2.00
Balance work against Property, Plant & equipment (C)	5,46,33,217.00	13.66	5,46,33,217.00	13.66
Balance mandatory spare(D)	2,45,12,577.00	6.13	2,45,12,577.00	6.13
Total (E=A+B+C+D)	2,15,66,33,618.92	539.16	1,98,72,67,941.92	496.82
IDC (F)	7,53,45,547.05	18.84	6,47,52,715.22	16.19
Total (G=E+F)	2,23,19,79,165.97	557.99	2,05,20,20,657.14	513.00
Reimbursement cost (H)	10,23,23,819.08	25.58	3,75,25,721.08	9.38
Net Capital Cost (I=G-H)	**2,12,96,55,346.89**	**532.41**	2,01,44,94,936.06	503.62

65. Accordingly, the following table provides the approved cost by the Commission under different heads as against those claimed by the Petitioner in its financial model:

Parameters	**As claimed by the Petitioner (Rs. Lakh/MW)**	**As approved by the Commission (Rs. Lakh/MW)**
EPC Cost-BoS	168.03	168.03
EPC Cost-Module	312.06	312.06
Transmission Line Cost	32.34	10.98
Infrastructure cost	20.98	0.00
Prelim, pre-operative cost	1.00	1.00
Project Management cost	2.52	2.52
WC Margin	0.00	0.00
Contingency	2.22	2.22
IDC	18.84	16.19
Total	557.99	513.00
Reimbursement Cost(-)	25.58	9.38
Total Capital Cost	**532.41**	**503.62**

66. Based on the above, the Commission approves the Capital Cost of the project as Rs 503.62 lakh.

<u>Capacity Utilisation Factor (CUF)</u>

67. The Petitioner, NGEL, submitted that for the purpose of tariff computation for the 40 MW project, the CUF of the project is 24.73 %, after considering the annual degradation of 0.7%/ per year, the CUF will be 20.74% after 25 years.

68. Regulation 47 of the RE Tariff Regulations 2024 states as under:

"47. Capacity Utilisation Factor
The Commission shall only approve capacity utilisation factor for project specific tariff:
Provided that the minimum capacity utilization factor for solar PV power projects shall be 21%:
……"

69. The Commission has observed that the CUF considered by the Petitioner is higher than

the minimum CUF of 21% as specified in Regulation 47 of the RE Tariff Regulations 2024. The Commission notes that the project CUF is in line with the norms specified in Regulation 47 of the RE Tariff Regulations 2024 for Solar PV Projects and therefore approves the CUF of 24.73%.

Auxiliary Consumption

70. The Petitioner, NGEL, submitted that auxiliary consumption is considered as 0.75% as per the RE Tariff Regulations, 2024.

71. It has also submitted that in accordance with the PPA dated 18.01.2024 signed between NGEL and UPPCL, the difference between the tariff charged for the auxiliary consumption by the solar power plant and the tariff determined pursuant to the PPA will be reimbursed by UPPCL to NGEL on actual basis and requested the Commission to allow the recovery of the differential between the tariff charged to NGEL on auxiliary consumption and the PPA tariff from UPPCL in accordance with Clause 6.4 of the PPA.

"6.4 The difference in PPA tariff and the tariff levied by Discom for the energy imported by solar PV project for its auxiliary power consumption shall be reimbursed by UPPCL to NGEL on actual basis."

72. Regulation 49 of the RE Tariff Regulations 2024 states as under:

"49. Auxiliary Consumption

The Commission shall only approve auxiliary consumption for project specific tariffs:

Provided that the maximum auxiliary consumption for solar PV power projects shall be 0.75%;

Provided further that the maximum auxiliary consumption for solar thermal power projects shall be 10%;

Provided also that the maximum auxiliary consumption for floating solar projects shall be 0.75%.

73. The Commission has considered the auxiliary consumption as 0.75% in accordance with the above Regulation.

74. The Commission observes that the Petitioner has requested to allow recovery of the cost difference between the tariff charged for the auxiliary consumption by the distribution company and the tariff of the projects on an actual basis. The Commission observes that the recovery of the cost difference arising from State Regulations/Policy cannot be addressed in the Regulations. Hence, there is no need to deviate from the norms specified in the Regulations for Auxiliary Consumption, and the parties are at liberty to settle the matter in accordance with the terms of the PPA.

Module Degradation Factor

75. The Petitioner, NGEL, submitted that the Standard clause for Module degradation (@0.7% per annum) had been part of the Tender Specification of the Ayodhya 40 MW solar project, based on which the EPC cost has been discovered. The first-year annual generation, as mentioned above, cannot be guaranteed for the entire 25 years, as

degradation is a characteristic property of the module. The generation guarantee for the succeeding years is calculated based on a linear module degradation of 0.7% per annum throughout the project's lifetime. The bidder has quoted the EPC cost and provided a module guarantee, taking the above factors into account.

76. The Commission notes that the RE Tariff Regulations 2024 do not provide any norms for the module degradation factor. The Petitioner pointed out that the Commission allowed a degradation factor in Petition No. 136/GT/2024. The Commission notes that in the said petition, a deviation was allowed by the Commission with due regard to the special circumstances of the project being located in the Lakshadweep Islands, as a one-time exception. But the same cannot be used as a binding principle in other cases, including the present case. Accordingly, the Commission decides to determine the tariff without factoring in any model degradation factor.

Transmission System Unavailability

77. The Petitioner, NGEL, submitted that the solar PV project, consisting of modules, inverters, inverter transformers, cables, power transformers, switchyard, etc., is a static system, analogous to a transmission system. Any system is prone to failure and has its own Availability factor. The Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 stipulate a Normative Annual Transmission availability factor of 98% for the recovery of Fixed Cost. Similar to the transmission system, the availability factor shall be considered for the solar PV system. A system unavailability of 1.25% is requested to be considered for the calculation of Annual Generation over the 25-year Project Life.

78. The Commission observes that there is no such provision in the RE Tariff Regulations, 2024, in this regard. Accordingly, the Commission has decided not to consider transmission loss for the purpose of tariff determination in the present petition.

Operation and Maintenance Expenses

79. The Petitioner, NGEL, submitted that for the first three years, O&M is included in the EPC cost, and accordingly, for the three years, it comes out to be Rs. 3.63 lakh/MW/year. From the fourth year onwards, Rs. 4.13 lakh/MW/year (3.5 lakh/MW/year + GST @ 18%) is considered the O&M escalation, which is 5.25 % as per RE Tariff Regulations, 2024. Further, the generating station and the dedicated transmission line form part of the project and the costs and O&M costs thereof are to be included in the tariff determination.

80. The Respondent, UPPCL, submitted that the Petitioner has not provided any explanation for the claimed amounts of Rs. 3.63 Lakh per MW per year and Rs. 4.13 Lakh per MW per year, in its current petition. UPPCL also submitted that the Petitioner has included O&M expenses for the transmission line of Rs. 0.22 Lakh per MW per year as part of its overall O&M expenses in the tariff calculation. However, the RE Regulations 2024 do

not contain any provision allowing transmission line O&M expenses to be included under the generating station's O&M expenses.

81. Regulation 48 of the RE Tariff Regulations 2024 states as under:

"Chapter 7: Parameters for solar PV power projects, solar thermal power projects and floating solar projects

…….

48.Operation and Maintenance expenses

The Commission shall determine only project specific O&M expenses considering the prevailing market trends.

82. Regulation 19 of the RE Tariff Regulations 2024 states as under:

"19. Operation and Maintenance Expenses

……………

(2) Normative O&M expenses allowed during the first year of the Control Period, i.e. financial year 2024-25, under these regulations, shall be escalated at the rate of 5.25% per annum for the Tariff Period."

83. The Commission notes that in the contract agreement between NGEL and the EPC Contractor (M/s Jakson Ltd), the contract price is Rs. 3,68,64,498 with an additional GST of Rs 66,35,610, for a total of Rs. 4,35,00,108. Therefore, as part of this contract, an O&M expense of Rs. 3.63 lakh/MW/year has been considered for the first three years for the tariff calculation.

84. However, the Commission observes that even if a 5.25% escalation is applied to Rs. 3.63 lakh/MW/year from the fourth year, the cost would be approximately Rs. 3.82 lakh/MW/year and not Rs. 4.13 lakh/MW/year as claimed. Although the Petitioner submitted that for the 4th year, the cost is considered to be 3.5 lakhs/MW/year + 18 % GST (i.e., Rs. 4.13 lakh/MW/year), which is in line with market trends, no rationale is given for Rs. 3.5 lakh/MW/Year. Accordingly, the Commission considers the O&M expense as per the Contract Agreement, which is Rs 3.63 lakh/MW/year for the first three years. From the fourth year onward, the same shall be escalated at the rate of 5.25% per annum, in accordance with the RE Tariff Regulations, 2024.

Particular	Cost (Rs. Lakh/MW/Year)	Escalation applicable
Operation and Maintenance Charge	Rs. 3.63 lakh/MW/Year	For the first three years
Operation and Maintenance Charge (For 4th Year)	Rs. 3.82 lakh/MW/Year	Escalated @5.25% per annum based on the 3rd year and from the 4th year onwards

85. Further, the RE Tariff Regulations, 2024 do not provide any provision that includes O&M

expenses for dedicated transmission infrastructure within the generating station's normative O&M expenses. The Petitioner has also not provided any documentary evidence or a supporting breakup of costs to justify the Rs. 0.22 lakh/MW/year claimed for transmission line O&M. In the absence of any rationale, the Commission disallows the O&M claim of Rs. 0.22 lakh per MW per year towards the dedicated transmission line from the O&M cost for tariff computation.

86. A summary of the parameters approved by the Commission is as under:

Description	Units	As claimed by the Petitioner	As approved by the Commission
Project Capacity	**MW**	40.00	40.00
Capacity Utilisation Factor	%	24.732	24.732
Capital Cost	Rs Lakh/MW	539.16	496.82
Interest During Construction (IDC) Period	Rs. Lakh/MW	18.84	16.19
Capital Subsidy	Rs. Lakh/MW	25.58	9.38
Final Project Cost (Including IDC)	Rs. Lakh/MW	532.41	503.62
Total Project Cost for 40 MW	Rs. Lakh	21296.55	20144.88
Capacity for Calculation	MW	1.00	1.00
Capital Cost per MW	Rs. Lakh/MW	532.41	503.62
O&M Expenses for 1st three years	Rs. Lakh/MW	3.63	3.63
O&M Expenses after 3rd year (5.25% escalation thereafter)	Rs. Lakh/MW	4.13	3.82
O&M for Transmission Line per year	Rs. Lakh/MW	0.22	0.00
Debt	%	70	70
Equity	%	30	30
ROE (Post-Tax)	%	14	14
ROE for 1st 20 years	%	18.71	16.96
ROE after 20 years	%	18.71	21.52
Tax Rate (For 1-20 Years)	%	25.17	17.47
Tax Rate (Remaining 5 Years)	%	25.17	34.94
Life of Plant	Years	25.00	25.00
Depreciation Rate for 1st 15 years	%	4.67	4.67
Depreciation Rate 16th year onward	%	2.00	2.00
Interest on Loan	%	10.70	10.65
Interest on Working Capital	%	11.95	11.90
O&M Escalation Rate (after 3 years)	%	5.25	5.25
Land Lease	Rs. Lakh/MW	0.002	0.002
Degradation Factor per year	%	1	0
System availability, additional Transmission Loss, etc.	%	1	0

Auxiliary consumption factor	%	0.75	0.75
O&M Expenses	Months	1	1
Receivables (45 Days)	Month/ Days	1.5 Month	45 days
Maintenance Spares	%	15	15
Rate of Discounting: Discount Factor for each year	%	9.80	9.05

87. Based on the parameters, assumptions, and methodology outlined in the earlier paragraphs for the 40 MW Solar PV Project, the levelized tariff works out to be Rs. 3.36 per kWh.

88. Accordingly, as against the Petitioner's claim of Rs. 3.98 per kWh, the Commission approves the levelized tariff of Rs. 3.36 per kWh.

89. Accordingly, Petition No. 128/GT/2024 is disposed of in terms of the above.

Sd/-	Sd/-	Sd/-	Sd/-
Shri R.S. Dhillon	**Shri Harish Dudani**	**Shri Ramesh Babu. V**	**Jishnu Barua**
Member	**Member**	**Member**	**Chairperson**

CERC Website S. No. 700/2025

Annexure-1

Parameters for Tariff Calculation (Ayodhya Solar PV Project)		
Description	**UOM**	**Amount**
Parameter as per Reverse Auction		
Project Capacity	**MW**	40
Gross generation	MU	86.72
Capacity Utilisation Factor	%	24.73
Capital Cost per MW of the Project		
Capital Cost as per Balance sheet	₹Lakhs/MW	496.82
Capital Subsidy (Reimbursement)	₹Lakhs/MW	9.38
Final Project Cost (Including IDC)	₹Lakhs/MW	503.62
Total Project Cost for 40 MW	**₹Lakhs**	20144.88
Capacity for Calculation	MW	1
Capital Cost per MW	₹Lakhs/MW	503.62
O&M Expenses for 1st three years	₹Lakhs/MW	3.63
O&M Expenses after 3rd year (5.25% escalation there after)	₹Lakhs/MW	3.82
Norms considered as per RE Regulation 2024		
Debt	%	70
Equity	%	30
ROE (Post-Tax)	%	14
Tax Rate (For 1-20 Years)	%	17.47
Tax Rate (Remaining 5 Years)	%	34.94
Life of Plant	Years	25
Depreciation Rate for 1st 15 years	%	4.67
Depreciation Rate 16th years onward	%	2
SBI Avg. MCLR for last 6 Months	%	8.65
Interest on Loan (+200 Basis Point)	%	10.65
Interest on Working Capital (+325 Basis Point)	%	11.9
O&M Escalation Rate (after 3 years)	%	5.25
Degradation Factor per year	%	0
System availabilty, additional Transmission Loss etc.	%	0
Auxiliary consumption factor	%	0.75
Norms for Computation of IWC		
O&M Expenses	Months	1
Receivables (45 Days)	Days	45
Maintenance Spares	%	15
Discount Factor:	%	9.05

Annexure

Form-2.1: Form Template for (Wind Power or Small Hydro Project or Solar PV/Solar thermal) : Determination of Tariff Components for 40 MW Ayodhya Solar PV Project

Units Generation	Unit	Yr-1	Yr-2	Yr-3	Yr-4	Yr-5	Yr-6	Yr-7	Yr-8	Yr-9	Yr-10	Yr-11	Yr-12	Yr-13	Yr-14	Yr-15	Yr-16	Yr-17	Yr-18	Yr-19	Yr-20	Yr-21	Yr-22	Yr-23	Yr-24	Yr-25
Installed Capacity (For Calculation of Tariff)	MW	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gross Generation	MU	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17
Degradation Loss	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generation after Degradation loss	MU	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17
Transmission Loss	MU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aux Consumption	MU	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Net Generation	MU	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15

Tariff Components (Fixed Charge)	Unit	Yr-1	Yr-2	Yr-3	Yr-4	Yr-5	Yr-6	Yr-7	Yr-8	Yr-9	Yr-10	Yr-11	Yr-12	Yr-13	Yr-14	Yr-15	Yr-16	Yr-17	Yr-18	Yr-19	Yr-20	Yr-21	Yr-22	Yr-23	Yr-24	Yr-25
O&M Expenses	₹Lakhs	3.63	3.63	3.63	3.82	4.02	4.23	4.45	4.68	4.93	5.19	5.46	5.75	6.05	6.36	6.70	7.05	7.42	7.81	8.22	8.65	9.11	9.58	10.09	10.62	11.17
O&M Expenses for Transmission Line	₹Lakhs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Depreciation	₹Lakhs	23.52	23.52	23.52	23.52	23.52	23.52	23.52	23.52	23.52	23.52	23.52	23.52	23.52	23.52	23.52	10.05	10.05	10.05	10.05	10.05	10.05	10.05	10.05	10.05	10.05
Interest on term loan	₹Lakhs	36.29	33.79	31.28	28.78	26.27	23.77	21.26	18.76	16.25	13.75	11.24	8.74	6.24	3.73	1.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	₹Lakhs	1.45	1.41	1.37	1.34	1.31	1.28	1.26	1.23	1.20	1.17	1.15	1.12	1.10	1.07	1.05	0.84	0.86	0.88	0.89	0.91	1.04	1.06	1.08	1.10	1.13
Land Lease	₹Lakhs	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Return on Equity	₹Lakhs	21.15	21.15	21.15	21.15	21.15	21.15	21.15	21.15	21.15	21.15	21.15	21.15	21.15	21.15	21.15	21.15	21.15	21.15	21.15	21.15	21.15	21.15	21.15	21.15	21.15
Tax on ROE	₹Lakhs	4.48	4.48	4.48	4.48	4.48	4.48	4.48	4.48	4.48	4.48	4.48	4.48	4.48	4.48	4.48	4.48	4.48	4.48	4.48	4.48	11.36	11.36	11.36	11.36	11.36
Total Fixed Cost	₹Lakhs	**90.52**	**87.97**	**85.43**	**83.09**	**80.75**	**78.43**	**76.12**	**73.82**	**71.53**	**69.26**	**67.00**	**64.76**	**62.53**	**60.32**	**58.14**	**43.57**	**43.96**	**44.37**	**44.79**	**45.24**	**52.70**	**53.20**	**53.73**	**54.28**	**54.86**

Per Unit Tariff Components	Unit	Yr-1	Yr-2	Yr-3	Yr-4	Yr-5	Yr-6	Yr-7	Yr-8	Yr-9	Yr-10	Yr-11	Yr-12	Yr-13	Yr-14	Yr-15	Yr-16	Yr-17	Yr-18	Yr-19	Yr-20	Yr-21	Yr-22	Yr-23	Yr-24	Yr-25
PU O&M Expenses	₹/kWh	0.17	0.17	0.17	0.18	0.19	0.20	0.21	0.22	0.23	0.24	0.25	0.27	0.28	0.30	0.31	0.33	0.34	0.36	0.38	0.40	0.42	0.45	0.47	0.49	0.52
PU Depreciation	₹/kWh	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
PU Interest on term loan	₹/kWh	1.69	1.57	1.45	1.34	1.22	1.10	0.99	0.87	0.76	0.64	0.52	0.41	0.29	0.17	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PU Interest on working Capital	₹/kWh	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.05
PU Return on Equity	₹/kWh	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PU Tax on ROE	₹/kWh	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.53	0.53	0.53	0.53	0.53
PU Tariff Components	₹/kWh	**4.21**	**4.09**	**3.97**	**3.86**	**3.75**	**3.64**	**3.54**	**3.43**	**3.32**	**3.22**	**3.11**	**3.01**	**2.91**	**2.80**	**2.70**	**2.03**	**2.04**	**2.06**	**2.08**	**2.10**	**2.45**	**2.47**	**2.50**	**2.52**	**2.55**

Levelised Tariff	Unit	Yr-1	Yr-2	Yr-3	Yr-4	Yr-5	Yr-6	Yr-7	Yr-8	Yr-9	Yr-10	Yr-11	Yr-12	Yr-13	Yr-14	Yr-15	Yr-16	Yr-17	Yr-18	Yr-19	Yr-20	Yr-21	Yr-22	Yr-23	Yr-24	Yr-25
Discount Factors		1.00	0.92	0.84	0.77	0.71	0.65	0.59	0.55	0.50	0.46	0.42	0.39	0.35	0.32	0.30	0.27	0.25	0.23	0.21	0.19	0.18	0.16	0.15	0.14	0.13
Discounted Tariff Component	₹/kWh	4.21	3.75	3.34	2.98	2.65	2.36	2.10	1.87	1.66	1.48	1.31	1.16	1.03	0.91	0.80	0.55	0.51	0.47	0.44	0.41	0.43	0.40	0.37	0.34	0.32
Levelised Tariff	₹/kWh	**3.36**																								

Computation of Int on Loan	Unit	Yr- 1	Yr- 2	Yr- 3	Yr- 4	Yr- 5	Yr- 6	Yr- 7	Yr- 8	Yr- 9	Yr- 10	Yr- 11	Yr- 12	Yr- 13	Yr- 14	Yr- 15	Yr- 16	Yr- 17	Yr- 18	Yr- 19	Yr- 20	Yr- 21	Yr- 22	Yr- 23	Yr- 24	Yr- 25
Opening Loan	₹Lakhs	352.54	329.02	305.50	281.98	258.46	234.94	211.42	187.90	164.38	140.86	117.34	93.82	70.31	46.79	23.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Repayment *(@depreciation)*	₹Lakhs	23.52	23.52	23.52	23.52	23.52	23.52	23.52	23.52	23.52	23.52	23.52	23.52	23.52	23.52	23.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Closing Loan	₹Lakhs	329.02	305.50	281.98	258.46	234.94	211.42	187.90	164.38	140.86	117.34	93.82	70.31	46.79	23.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Loan	₹Lakhs	340.78	317.26	293.74	270.22	246.70	223.18	199.66	176.14	152.62	129.10	105.58	82.07	58.55	35.03	11.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest	₹Lakhs	36.29	33.79	31.28	28.78	26.27	23.77	21.26	18.76	16.25	13.75	11.24	8.74	6.24	3.73	1.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Computation of Int on Working Capital	Unit	Yr- 1	Yr- 2	Yr- 3	Yr- 4	Yr- 5	Yr- 6	Yr- 7	Yr- 8	Yr- 9	Yr- 10	Yr- 11	Yr- 12	Yr- 13	Yr- 14	Yr- 15	Yr- 16	Yr- 17	Yr- 18	Yr- 19	Yr- 20	Yr- 21	Yr- 22	Yr- 23	Yr- 24	Yr- 25
O&M Expenses	₹Lakhs	0.30	0.30	0.30	0.32	0.33	0.35	0.37	0.39	0.41	0.43	0.46	0.48	0.50	0.53	0.56	0.59	0.62	0.65	0.69	0.72	0.76	0.80	0.84	0.88	0.93
Receivables	₹Lakhs	11.31	11.00	10.68	10.39	10.09	9.80	9.51	9.23	8.94	8.66	8.38	8.09	7.82	7.54	7.27	5.45	5.49	5.55	5.60	5.66	6.59	6.65	6.72	6.78	6.86
Maintenance Spares	₹Lakhs	0.54	0.54	0.54	0.57	0.60	0.63	0.67	0.70	0.74	0.78	0.82	0.86	0.91	0.95	1.01	1.06	1.11	1.17	1.23	1.30	1.37	1.44	1.51	1.59	1.68
Total Working Capital	₹Lakhs	12.16	11.84	11.53	11.28	11.03	10.79	10.55	10.32	10.09	9.87	9.65	9.44	9.23	9.03	8.83	7.09	7.23	7.37	7.52	7.67	8.71	8.89	9.07	9.26	9.47