Jharkhand State Electricity Regulatory Commission

Order on

Approval of Levelized Tariff for 2 MW Grid Connected Canal Top Solar Project over Sikidri Dam

for

Jharkhand Renewable Energy Development Agency
JREDA

October 28, 2026

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List of Abbreviations

Abbreviation	Description
A&G	Administrative and General
ARR	Aggregate Revenue Requirement
CUF	Capacity Utilisation Factor
D/E	Debt Equity
FY	Financial Year
GFA	Gross Fixed Assets
IoWC	Interest on Working Capital
JBVNL	Jharkhand Bijli Vitran Nigam Limited
JSERC	Jharkhand State Electricity Regulatory Commission
kWh	Kilowatt-hour
MOU	Memorandum of Understanding
MU	Million Units
MW	Megawatt
O&M	Operations and Maintenance
PPA	Power Purchase Agreement
R&M	Repair and Maintenance
RoE	Return on Equity
Rs.	Rupees
SLM	Straight Line Method

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Before

Jharkhand State Electricity Regulatory Commission, Ranchi

Case (Tariff) No.: 19 of 2025

In the matter of:

Petition for

Approval of Levelized Tariff for 2 MW Grid Connected

Canal top Solar Project over Sikidri Canal

In the matter:

Jharkhand Renewable Energy Development Agency (JREDA)…… **Petitioner**

PRESENT

Shri Hon'ble Justice Navneet Kumar — Chairperson

Shri Mahendra Prasad — Member (Law)

Order dated October 28, 2026

Jharkhand Renewable Energy Development Agency (JREDA) (hereinafter referred to as 'JREDA' or the 'Petitioner') filed Petition dated June 10, 2025 for Approval of Capital Expenditure and levelized tariff in respect of 2 MW grid Connected Canal-top Solar Project over Sikidri Canal.

Chapter 1: Introduction

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Jharkhand State Electricity Regulatory Commission

1.1. The Jharkhand State Electricity Regulatory Commission (hereinafter referred to as "JSERC" or "the Commission") was established by the Government of Jharkhand under Section 17 of the Electricity Regulatory Commission Act, 1998 on August 22, 2002. The Commission became operational with effect from April 24, 2003.

1.2. The Government of Jharkhand vide its notification dated August 22, 2002 had defined the functions of JSERC as per Section 22 of the Electricity Regulatory Commission Act, 1998 to be the following, namely: -

a. to determine the tariff for electricity, wholesale, bulk, grid or retail, as the case maybe, in the manner provided in Section 29;

b. to determine the tariff payable for the use of the transmission facilities in the manner provided in Section 29;

c. to regulate power purchase and procurement process of the transmission utilities and distribution utilities including the price at which the power shall be procured from the generating companies, generating stations or from other sources for transmission, sale, distribution and supply in the State;

d. to promote competition, efficiency and economy in the activities of the electricity industry to achieve the objects and purposes of this Act.

1.3. After the Electricity Act, 2003 came into force, the earlier Electricity Regulatory Commission Act of 1998 stands repealed and the JSERC is discharging its functions as prescribed in

Section 86 of the Act.

1.4. In accordance with provisions of the said Act, the JSERC discharges the following functions: -

a. determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State:

Provided that, where open access has been permitted to a category of consumers under Section 42, the State Commission shall determine only the wheeling charges and surcharge thereon, if any, for the said category of consumers;

b. regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the generating companies or licensees or from other sources through agreements for purchase of power for distribution and supply within the State;

c. facilitate intra-state transmission and wheeling of electricity;

d. issue licenses to persons seeking to act as transmission licensees, distribution licensees and electricity traders with respect to their operations within the State;

e. promote cogeneration and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee;

f. adjudicate upon the disputes between the licensees and generating companies; and to refer any dispute for arbitration;

g. levy fee for the purposes of this Act;

h. specify State Grid Code consistent with the Grid Code specified under Clause (h) of sub-section (1) of Section 79;

i. specify or enforce standards with respect to quality, continuity and reliability of service by licensees;

j. fix the trading margin in the intra-state trading of electricity, if considered, necessary;

k. discharge such other functions as may be assigned to it under this Act.

1.5. The Commission advises the State Government on all or any of the following matters, namely: -

a. promotion of competition, efficiency and economy in activities of the electricity industry;

b. promotion of investment in electricity industry;

c. reorganization and restructuring of electricity industry in the State;

d. matters concerning generation, transmission, distribution and trading of electricity or any other matter referred to the State Commission by that Government.

e. The State Commission ensures transparency while exercising its powers and discharging its functions.

1.6. In discharge of its functions, the State Commission is guided by the National Tariff Policy framed and published by Government of India under the provisions of Section 3 of the Act. The objectives of the present National Tariff Policy are to: -

a. ensure availability of electricity to consumers at reasonable and competitive rates;

b. ensure financial viability of the sector and attract investments;

c. promote transparency, consistency and predictability in regulatory approaches across jurisdictions and minimize perceptions of regulatory risks;

d. promote competition, efficiency in operations and improvement in quality of supply.

The Petitioner – Jharkhand Renewable Energy Development Agency (JREDA)

1.7. Jharkhand Renewable Energy Development Agency (JREDA) is a nodal agency for Renewable Energy Development in the state of Jharkhand, having its registered office at 3rd Floor, SLDC Building, Kusai Colony, Doranda, Ranchi.

The Petitioner's Prayers

1.8. The Petitioner has requested the Commission to approve the tariff INR 4.04/ kWh (Levelized Tariff of Plant INR 4.04 + JREDA Facilitation Charge INR 0.02/ kWh) for 2 MW Solar Projects. And admit the petition under Section 62 of the Electricity Act 2003.

Components of Tariff	**Capacity (in MW)**	**Tariff (INR/kWh)**
Canal Top MW Scale Grid-connected Solar PV Project	2	4.04
JREDA Facilitation Charge	-	0.02
Total Tariff		**4.06**

Chapter 2: Procedural History

Chapter 2: Procedural History

Background

2.1. Department of Energy, Government of Jharkhand vide Letter No. 03/ऊ० (यो०) जेडा-01/15/208 dated 05.12.2017 has sanctioned 2 MW Grid-Connected Canal-Top Solar Photovoltaic Power Plant at Sikidiri Canal, Village - Sikidiri, District - Ranchi, Jharkhand.

2.2. JREDA (RPG) vide letter no. 470 dated 04.04.2018, 742 dated 30.05.2018 and 1639 dated 01.11.2018 has informed JBVNL about the upcoming project and offered for the procurement of power from upcoming 2 MW canal top power plant.

2.3. JBVNL vide letter no. 04/ (C&R) dated 02.01.2019 has granted its consent for the procurement of power from 2 MW Grid-Connected Canal-Top Solar Photovoltaic Power Plant at Sikidiri Canal, Sikidiri, Ranchi, Jharkhand on tariff fixed by Jharkhand State Electricity.

2.4. JREDA floated tender for the development of 2 MW Solar Canal-Top power plant at Sikidiri Canal, Village - Sikidiri, District Ranchi vide NIB No. 28/JREDA/CANALTOP/22-23

2.5. M/s Naviya Technologies Renewables Pvt. Limited, 234 Gundecha Industrial Complex, Akruli Road, Kandivali, East Mumbai-400101 has been awarded Work Order for the Work of Design, Engineering, Procurement & Supply, construction, Commissioning, and Comprehensive Operation & Maintenance for ten (10) years of 2 MW grid-connected canal-top solar photovoltaic power plant at Sikidiri Canal, village: Sikidiri, District: Ranchi, Jharkhand vide this office Work Order No.90 dated 06.02.2023.

2.6. JREDA has fulfilled the terms and conditions for signing this Power Purchase Agreement as a definitive agreement for establishing the Power Project of 2 MW at Sikidiri Canal, Village - Sikidiri, District - Ranchi for the generation and sale of electricity by JREDA to

JBVNL at 33/11 kV S/S Sikidri.

2.7. Subsequently, the Commission has directed JREDA to publish notice in newspapers of inviting comments from general public at large and stakeholders.

Information Gaps in the Petition

2.8. The Commission has scrutinized the data/information submitted by the Petitioner and has considered the same while passing this Order.

2.9. In order to provide adequate opportunity to all stakeholders and general public as mandated under Section 64 (3) of the Electricity Act 2003 and in relevant provisions of Regulation(s) framed by the Commission has directed JREDA to publish notice inviting comments from general public and stakeholders.

Inviting Public Comments/ Suggestions

2.10. The Commission has directed the Petitioner to make available copies of the petition to the members of general public on request, and also issued a public notice inviting comments/ suggestions on the above said Petition.

2.11. The aforesaid public notice was issued by the Petitioner in various newspapers and a period of twenty-one (21) days was given to the members of the general public for submitting their comments/suggestions.

Table 1: List of Newspapers and Dates of Publication of Public Notice by The Petitioner

Sl. No.	Newspaper	Date of Publication
1.	Anandbazar Patrika	08.08.2026
2.	Dainik Bhaskar	08.08.2026
3.	Hindustan	08.08.2026
4.	Hindustan Times	08.08.2026
5.	Jadeed Bharat	08.08.2026
6.	Loksatya	08.08.2026

Sl. No.	Newspaper	Date of Publication
7.	Prabhat Mantra	08.08.2026
8.	Rashtriya Sagar	08.08.2026
9.	Sanmarg Kolkata	08.08.2026
10.	Free Press Journal	08.08.2026
11.	Hindu	08.08.2026

Submission of Comments/ Suggestions

2.12. No Comments/Suggestions on the Petition were received from general public. However, JBVNL the sole benefactor has submitted its objections as under:

2.13. The Respondent, Jharkhand Bijli Vitran Nigam Limited (JBVNL), vide its Written Notes of Argument dated 25.09.2026, has opposed the levelised tariff of ₹4.04/kWh proposed by the Petitioner, Jharkhand Renewable Energy Development Agency (JREDA), for grid-connected ground-mounted, canal-top projects having an aggregate capacity of 2 MW. JBVNL has contended that the tariff computation submitted by JREDA in Annexure-8 of the petition is inconsistent with the applicable regulatory provisions and results in an inflated tariff, primarily on account of the inclusion of depreciation on grant-funded assets and Operation and Maintenance (O&M) expenses already covered under the project cost. The issue wise objections of JBVNL and JREDA's reply is as under:

Objection Regarding Depreciation on Grant-Funded Assets.

2.14. JBVNL has submitted that the entire project cost of ₹16.44 crore has been funded through a State Government capital grant and, therefore, depreciation on such grant-funded assets is inadmissible. In support of its contention, JBVNL has referred to the submissions made by JREDA in its petition, wherein JREDA acknowledged that the project was developed entirely through

State Government funding, without any debt or equity contribution. Accordingly, JREDA had requested the Commission not to consider the normative debt-equity ratio of 70:30, debt repayment period or Return on Equity (RoE).

2.15. However, JBVNL has pointed out that, notwithstanding the above submissions, JREDA has considered 100% of the project cost as equity in its tariff computation and claimed depreciation at the rate of 5.83% per annum for the initial 12 years and 1.54% for the remaining period. JBVNL has contended that such treatment is inconsistent with JREDA's own submissions and results in an unjustified increase in the proposed levelised tariff.

2.16. JBVNL has further relied upon the following regulatory provisions in support of its contention:

- CERC (Terms and Conditions of Tariff) Regulations, 2024: Provisions relating to capital cost, debt-equity ratio and depreciation, which exclude grants from the capital structure and prohibit depreciation to the extent of grants or capital subsidies received.
- CERC (Terms and Conditions for Tariff Determination from Renewable Energy Sources) Regulations, 2024: Regulation 15, which provides that depreciation shall not be allowed to the extent of grants or capital subsidies received for the project.
- JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2025: Regulation 15.28, which prohibits depreciation on assets funded through consumer contributions and capital subsidies/grants.
- JSERC (Determination of Tariff for Procurement of Power from Solar PV & Solar Thermal) Regulations, 2025: Clauses A8(iv), A13(iv) and A22, concerning disclosure, deduction and accounting treatment of grants and subsidies for tariff determination.

- JSERC Power Regulatory Accounting Regulations, 2016: Provisions requiring capital grants to be reduced from the value of the corresponding fixed assets and fully grant-funded assets to be reflected at zero value in regulatory accounts.

2.17. JBVNL has argued that allowing depreciation on assets entirely funded through Government grants would result in double recovery of capital expenditure, first through the Government grant and subsequently through electricity tariffs. It has further submitted that depreciation is intended, inter alia, to facilitate recovery of capital investment and repayment of loans over the useful life of assets. Since the project does not involve any debt liability or investment by JREDA, JBVNL has contended that the claim for depreciation is economically unjustified and contrary to the applicable regulatory framework.

Objection Regarding O&M Expenses for the Initial Ten Years

2.18. JBVNL has submitted that, pursuant to Work Order No. 90/2023 dated 06.02.2023 issued by JREDA, the scope of work awarded to the contractor includes design, engineering, procurement, supply, construction and comprehensive O&M of the solar power projects for the initial ten years.

2.19. JBVNL has contended that the expenditure towards comprehensive O&M for the first ten years is already included in the project cost of ₹16.44 crore, which has been funded through the State Government capital grant. Therefore, the inclusion of O&M expenses for the same period in the levelised tariff computation would result in duplication of expenditure and additional recovery from electricity consumers.

2.20. Accordingly, JBVNL has submitted that O&M expenses should be considered for tariff determination only from the 11th year to the 25th year of the project's operational life, and the O&M expenses considered for the initial ten years should be excluded from the tariff calculation.

Legal and Economic Grounds Raised by JBVNL

2.21. JBVNL has further submitted that the applicable CERC and JSERC Regulations expressly prohibit depreciation on grant-funded assets and that such provisions are mandatory in nature. It has argued that permitting recovery of depreciation on assets financed through non-repayable public grants would be inconsistent with regulatory accounting principles and would impose an unwarranted financial burden on consumers.

2.22. JBVNL has also contended that the proposed tariff computation does not adequately account for the financial assistance already received for the project and is contrary to the principle of avoiding double recovery of expenditure. It has referred to the regulatory treatment of grants and subsidies under CERC and State Electricity Regulatory Commission frameworks in support of excluding such amounts from the depreciable asset base.

JREDA's Submission

2.23. The Petitioner, JREDA, in its Written Notes of Argument, has submitted that it is the State Nodal Agency for implementation of renewable energy projects and is authorised under its Memorandum and Articles of Association to develop and finance solar power projects. Accordingly, JREDA has requested the Commission to recognise it as a State Government-controlled generating entity under Section 2(28) of the Electricity Act, 2003.

2.24. JREDA has contended that the funding provided by the Government of Jharkhand for the 2 MW canal-top solar power project should be treated as State Infrastructure Development Financing rather than a Government grant. In support of its contention, JREDA has referred to the Department of Energy's approval letter dated 05.12.2017, which does not expressly categorise the funding as a grant and envisages a project payback period of nine years through revenue generated from the sale of electricity to JBVNL at the tariff determined by the Commission.

2.25. The Petitioner has further relied upon the Minutes of Meeting dated 18.12.2023 of the State Level Screening Committee (SLSC), wherein it was decided that electricity generated from State-funded solar projects below 25 MW would be supplied to JBVNL at the Commission-approved tariff, and the revenue generated would be deposited into the State Treasury, subject to the requisite consent of the Commission and the Finance Department.

2.26. JREDA has also referred to the definition of a grant under Indian Government Accounting Standards (IGAS-2) and submitted that, since the State Government envisages revenue generation and recovery of the economic value of the project, the funding should not be classified as a non-repayable grant. It has further contended that the provisions relating to deduction of Government grants or subsidies from capital cost are distinguishable in the present case, as the project has been developed by the State Government through its nodal agency rather than by a private developer under competitive bidding.

2.27. Accordingly, JREDA has prayed that the Commission may treat the State Government funding as infrastructure development financing and allow consideration of the project capital cost, including depreciation, for determination of the applicable generation tariff.

Chapter 3: Brief Facts of the Petition

Chapter 3: Brief Facts of the Petition

3.1. The following chapter summarizes the Petition for approval of Capital Cost and determination of Levelized Tariff for 2 MW Grid Connected Canal top photovoltaic power plant at Sikidri canal as submitted by the Petitioner.

Installed Capacity

3.2. The petitioner has submitted details of the plant along with Commercial Operation Date as referred in the table below:

Table 2: Particulars of the Canal Top Power project as submitted by the Petitioner

Name of the Power Project	Unit	Installed Capacity (kW)	Year Of CoD
Sikidri Canal Top Power Project	1	2000	2024-25

Life of Plant

3.3. The petitioner has submitted the life of plant as under:

Table 3: Life of plant as submitted by the Petitioner

Name of the Power Project	Unit	Installed Capacity (kW)	Plant life (years)
Sikidri Canal Top Power Project	1	2000	25

Capital Cost

3.4. The petitioner has submitted the details of Capital Cost of the Plant as under:

Table 4: Capital Cost of the project as submitted by the Petitioner

Name of the Power Project	Installed Capacity (kW)	Capital Cost (Rs Lakhs)
Sikidri Canal Top Power Project	2000	1758.54

3.5. The petitioner has submitted that the plant is installed from grants received from Government of Jharkhand and hence it is not claiming the following components of the Solar Project:

- Return on Equity
- Interest on Loan
- Interest on working Capital

Depreciation

3.6. The petitioner accordingly has submitted depreciation rate over the life of the solar plant as given below:

Table 5: Depreciation rate considered by the Petitioner for solar plant

Name of the Power Project	Details
Useful Life in Years	25
Rate of Depreciation for first 12 years	5.83%
Rate of Depreciation after 12 years	1.23%

Operation & Maintenance Cost

3.7. The petitioner accordingly has O&M cost for the first 10 years of the life of the solar plant as given below:

Table 6: Operation & Maintenance rate considered by the Petitioner for solar plant

Year	Operation and Maintenance excluding GST	GST Cost @ 18 %	Total cost incl GST
1	1100000.00	198000.00	1298000.00
2	1210000.00	217800.00	1427800.00
3	1331000.00	239580.00	1570580.00
4	1464100.00	263538.00	1727638.00
5	1610510.00	289891.80	1900401.80
6	1771561.00	318880.98	2090441.98
7	1948717.00	350769.06	2299486.06
8	2143589.00	385846.02	2529435.02
9	2357948.00	424430.64	2782378.64
10	2593742.00	466873.56	3060615.56

3.8. The petitioner has requested the Commission to escalate the O&M cost after 10th year at an escalation rate of 5.72 % in line with

provisions of JSERC (Determination of Tariff for Procurement of Power from Solar PV Power Project and Solar Thermal Power Project) Regulations, 2015:

Levelized Tariff

3.9. The petitioner has submitted the levelized tariff taking into consideration of above factors as under:

Table 7: Levelized Tariff of 2 MW Solar Plant as submitted by the Petitioner

Levelized Tariff for 2 MW Canal top Solar Project on Siidri Canal		
Project Category	**Capacity (in MW)**	**Levelized Tariff (INR/kWh)**
Canal Top MW Scale Grid Connected Solar PV Project	2	4.04

JREDA Facilitation Charge

3.10. The petitioner has requested the Commission to allow facilitation charge INR 0.02/ kWh for the solar project.

Chapter 4: Public Consultation Process

Chapter 4: Public Consultation Process

4.1. The Petition filed by the Petitioner got no response from stakeholders (other than JBVNL) and public at large even after publishing notice inviting comments on the same.

Chapter 5: Determination of Levelized Tariff

Chapter 5: Determination of Levelized Tariff

5.1. The Commission has analyzed the submission of the Petitioner with respect to the approval of capital cost and determination of levelized tariff for the useful life of the 2 MW Grid connected canal top solar power project. The component wise description of the Commission's analysis thereof is provided hereunder.

5.2. The Commission while determining the levelized tariff of the plant has taken into consideration the following: -

- JSERC (Determination of tariff for procurement of power from solar PV power project and solar thermal power project) Regulations, 2015;
- Documents/ Information / data placed before the Commission.

5.3. The factors considered by the Commission in accordance with JSERC (Determination of tariff for procurement of power from solar PV power project and solar thermal power project) Regulations, 2015 for determination of levelized tariff the 2 MW Grid connected canal top solar power project is given below:

Table 8: Levelized Tariff of 2 MW Solar Plant as submitted by the Petitioner.

Sl No	Particulars	Details	Reference
1	**Name of Plant**	**2 MW Grid Connected Canal Top Solar Project**	
2	**Installed Capacity (MW)**	**2 MW**	
3	**Capacity Utilization factor**	**19 %**	
4	**Auxiliary Consumption**	**0.75%**	
5	**Degradation Factor**	**1% for first 10 years** **0.75 % from 11th Year**	
6	**Net generation**	**3.30 MU for first year**	
7	**Useful Life**	**25 Years**	
8	**Commercial operations date**	**14.10.2024**	
9	**Debt component**	**NA**	Not Claimed as the plant is commissioned through Government funding
10	**Equity Component**	**NA**	Not Claimed as the plant is commissioned through Government funding
11	**Interest on loan rate**	**NA**	Not Claimed as the plant is commissioned through Government funding
12	**Rate of Interest for Working Capital**	**NA**	Not Claimed as the plant is commissioned through Government funding
13	**Operation & Maintenance**	**12.98 lakhs for first year up to 10 years.**	Clause 4.31 of JSERC (Determination of tariff for procurement of power from solar PV power project and solar thermal power project) Regulations, 2015
14	**Operation & Maintenance escalation**	**5.72 % after 10 years**	Clause 4.31 of JSERC (Determination of tariff for procurement of power from solar PV power project and solar thermal power project) Regulations, 2015
15	**Discounting factor**	**NA**	Not Claimed as the plant is commissioned through Government funding

The Components wise details filed by the petitioner and the Commission's analysis and approval is made in the upcoming paragraph.

Plant Life

Petitioner's Submission

5.4. The petitioner has submitted that the life of the plant for solar projects generally considered as 25 years is generally based on the warranty of 25 years given by the manufacturers of the Photovoltaic modules. Since, the solar modules are the core component of solar power generation, the life of the plant shall have to be based on the life of the core component. Further as per the Central Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2024., the life of the plant is specified as 25 years.

Commission's Analysis

5.5. The Commission has considered the submission of the petitioner and has allowed the life of canal top solar project as 25 years as per JSERC (Determination of tariff for procurement of power from solar PV power project and solar thermal power project) Regulations, 2015.

Capital Cost

Petitioner's Submission

5.6. The petitioner has submitted that it has carried out a tender for the selection of EPC service provider vide NIB No. 28/JREDA/CANALTOP/22-23 and M/s Naviya Technologies Renewables Pvt. Limited (L1 Bidder), 234 Gundecha Industrial Complex, Akruli Road, Kandivali, East Mumbai-400101 has quoted the lowest bid. Accordingly, it has issued the work order to M/s Naviya Technologies Renewables Pvt. Limited (Work Order No. 90 dated 06.02.2023), for the Work of Design,

Engineering, Procurement & Supply, construction, Commissioning, and Comprehensive Operation & Maintenance for ten (10) years of 2 MW grid-connected canal-top solar photovoltaic power plant at Sikidiri Canal.

5.7. As per the price discovered under the tender, the capital cost of the project has been considered as under:

Table 9: Assumptions considered by the Commission for determination of Levelized tariff for 2 MW grid connected canal top Project

Sl No	Particular	Cost excluding GST (Rs lakhs)	GST Rs lakhs	Total Cost (incl. GST) Rs lakhs
1.	PV Modules	834.90	100.19	935.09
2.	Invertor	101.20	18.22	119.42
3.	Supply of balance of System including equipment, material, spares, accessories excluding 1 &2	393.07	70.75	463.83
4	Civil works	175.71	31.63	207.34
5	General Works including	27.85	5.01	32.86
6	**Total**	**1532.74**	**225.80**	**1758.54**

Capacity Utilization factor (CUF)

Petitioner's Submission

5.8. The Petitioner has submitted that a tender has been floated by it

for the selection of an EPC service provider for the 2 MW canal-top solar project wherein the minimum CUF of the solar plant has been defined as per Clause 5.2.1(iv) of the tender document has stated that "Minimum certified module efficiency shall be 16% with minimum fill factor of 0.75 for crystalline modules. The temperature co-efficient of the module shall be -0.43% /"C or better". Accordingly, it has requested the commission to accept the same 16% CUF of the plant for tariff determination.

Commission's Analysis

5.9. The Commission has considered the submission of the petitioner and has considered the CUF of the Solar plant at 19 % as per JSERC (Determination of tariff for procurement of power from solar PV power project and solar thermal power project) Regulations, 2015 The following table shows the CUF approved by the Commission:

Table 10: Capacity Utilization factor as approved by the Commission

Particulars	Petition	Approved
Capacity Utilization Factor	16%	19%

Debt to Equity Ratio

Petitioner's Submission

5.10. The Petitioner has submitted the Commission has defined the debt-to-equity ratio as 70:30 in JSERC (Determination of tariff for procurement of power from solar PV power project and solar thermal power project) Regulations, 2015. However, the petitioner has requested the Commission not to consider the normative debt equity ratio as the project is developed through 100% state funding.

Commission's Analysis

5.11. The normative debt-equity ratio has not been applied here, as the project is funded entirely by the State Government. Accordingly,

the Commission allows the same.

Depreciation

Petitioner's Submission

5.12. The petitioner submitted that in terms of the JSERC (Determination of Tariff for Procurement of Power from Solar PV Power Project and Solar Thermal Power Project) Regulations, 2015, as amended on 31st December 2020, which remained in force up to 31st March 2025, Regulation 45 of the Principal Regulations provides for depreciation on 90% of the capital cost at the rate of 5.83% per annum for the first 12 years, with the balance depreciation being spread equally over the remaining useful life of the project. The Petitioner has accordingly adopted the aforesaid methodology for computation of depreciation in its tariff petition. The depreciation table submitted by the petitioner is as follows:

Table 11: Depreciation calculation as submitted by the petitioner

Year	Depreciation on Project (Rs lakhs)
1	102.52
2	102.52
3	102.52
4	102.52
5	102.52
6	102.52
7	102.52
8	102.52
9	102.52
10	102.52
11	102.52
12	102.52
13	27.11
14	27.11
15	27.11
16	27.11

Year	Depreciation on Project (Rs lakhs)
17	27.11
18	27.11
19	27.11
20	27.11
21	27.11
22	27.11
23	27.11
24	27.11
25	27.11

Commission's Analysis

5.13. The Commission has considered the submission of the Petitioner regarding the depreciation methodology adopted for the project. The Petitioner has submitted that, in terms of Regulation 45 of the JSERC (Determination of Tariff for Procurement of Power from Solar PV Power Project and Solar Thermal Power Project) Regulations, 2015, depreciation is to be calculated on 90% of the capital cost at the rate of 5.83% per annum for the first 12 years, with the balance depreciation being spread equally over the remaining useful life of the project.

Table 12: Depreciation calculation as approved by the Commission

Year	Depreciation on Project (Rs lakhs)
1	102.52
2	102.52
3	102.52
4	102.52
5	102.52
6	102.52
7	102.52
8	102.52
9	102.52
10	102.52
11	102.52
12	102.52
13	27.11
14	27.11

Year	Depreciation on Project (Rs lakhs)
15	27.11
16	27.11
17	27.11
18	27.11
19	27.11
20	27.11
21	27.11
22	27.11
23	27.11
24	27.11
25	27.11

Interest on Loan

Petitioner's Submission

5.14. The Petitioner, has submitted that the Canal top solar project does not have a debt component therefore it is not claiming interest on loan in its tariff petition.

Commission's Analysis

5.15. The Commission has considered the submission of the petitioner and approved that there is no Interest on loan in the Canal top solar project.

Interest on Working Capital

Petitioner's Submission

5.16. The Petitioner has submitted that as the project is developed through hundred percent State Government funding, and the petitioner is planning to meet the working capital requirement of the plant through the state government funds. Hence, the petitioner has not considered any working capital requirement for the project. Hence no interest on working capital considered by petitioner for tariff determination.

Commission's Analysis

5.17. The Commission has considered the submission of the petitioner and accepted its submission that no working capital is required for the Canal top Solar Project.

Return on Equity

Petitioner's Submission

5.18. The Petitioner has submitted that the project is developed by using 100% of state government fund, and the petitioner the developing authority is an Association under Companies Act, 1956. Hence, it can't claim any return on investment. Hence same hasn't been considered for tariff determination.

5.19. Further, the petitioner by not considering the return on equity the petitioner is make an honest effort to lower the tariff of canal top solar project. And this will help in reduce the cost of tariff for solar project. Accordingly, it requests the honorable Commission to accept the same.

Commission's Analysis

5.20. The Commission has considered the submission of the petitioner and approved that since the project is developed by using 100% of state fund the return on equity is not claimed.

Operation & Maintenance (O&M)

Petitioner's Submission

5.21. The Petitioner has submitted that the successful bidder of the Solar Canal top solar plant has quoted O&M for 10 years. For the initial year, the developer has quoted INR. 11,00,000.00 (without GST) of O&M cost for the 2 MW of solar project. And the successful bidder has quoted 10% of escalation in O&M cost for the subsequent 9 years. The petitioner has requested the commission to consider the same for the tariff determination for the total life of

the plant (25 Years). The O&M submission made by the petitioner is summarized below:

Table 13: O&M expense of the Canal top Solar Plant as submitted by the petitioner

Year	Operation and Maintenance excluding GST	GST Cost @ 18 %	Total cost incl GST
1	1100000.00	198000.00	1298000.00
2	1210000.00	217800.00	1427800.00
3	1331000.00	239580.00	1570580.00
4	1464100.00	263538.00	1727638.00
5	1610510.00	289891.80	1900401.80
6	1771561.00	318880.98	2090441.98
7	1948717.00	350769.06	2299486.06
8	2143589.00	385846.02	2529435.02
9	2357948.00	424430.64	2782378.64
10	2593742.00	466873.56	3060615.56
11	2742104.04	493578.73	3235682.77
12	2898,952.39	521811.43	3420763.82
13	3064772.47	551659.04	3616431.52
14	3240077.46	583213.94	3823291.40
15	3425409.89	616573.78	4041983.67
16	3621343.33	651841.80	4273185.13
17	3983477.67	717025.98	4700503.64
18	4211332.59	758039.87	4969372.45
19	4452220.81	801399.75	5253620.56
20	4706887.84	847239.81	5554127.65
21	4976121.83	895701.93	5871823.76
22	5260755.99	946936.08	6207692.07
23	5561671.24	1001100.82	6562772.06
24	5879798.83	1058363.79	6938162.62
25	6216123.33	1118902.20	7335025.52

Commission's Analysis

5.22. The Commission has referred to Clause 4.31 of JSERC (Determination of tariff for procurement of power from solar PV power project and solar thermal power project) Regulations, 2015

and observed that the O&M cost submitted by the petitioner is less than the benchmark cost prescribed by the Commission in the above-mentioned regulation. Accordingly, it allows the O&M expense for first 10 years of the project as mentioned below:

Table 14: O&M expense (Rs) approved by the Commission for first 10 years

Year	O&M excluding GST	GST Cost @ 18 %	Total O&M cost incl GST
1	1100000.00	198000.00	1298000.00
2	1210000.00	217800.00	1427800.00
3	1331000.00	239580.00	1570580.00
4	1464100.00	263538.00	1727638.00
5	1610510.00	289891.80	1900401.80
6	1771561.00	318880.98	2090441.98
7	1948717.00	350769.06	2299486.06
8	2143589.00	385846.02	2529435.02
9	2357948.00	424430.64	2782378.64
10	2593742.00	466873.56	3060615.56

5.23. Further, from the 11th year onwards the O&M Expense shall be escalated by an escalation factor of 5.72 %. The O&M Expense from the 11th year till the end of project is as under:

Table 15: O&M expense approved by the Commission from 11th year onwards

Year	Operation and Maintenance excluding GST	GST Cost @ 18 %	Total cost incl GST
11	2742104.04	493578.73	3235682.77
12	2898952.39	521811.43	3420763.82
13	3064772.47	551659.04	3616431.52
14	3240077.46	583213.94	3823291.40
15	3425409.89	616573.78	4041983.67
16	3621343.33	651841.80	4273185.13
17	3828484.17	689127.15	4517611.32
18	4047473.46	728545.22	4776018.69
19	4278988.95	770218.01	5049206.96
20	4523747.11	814274.48	5338021.60
21	4782505.45	860850.98	5643356.43

Year	Operation and Maintenance excluding GST	GST Cost @ 18 %	Total cost incl GST
22	5056064.76	910091.66	5966156.42
23	5345271.67	962148.90	6307420.57
24	5651021.21	1017183.82	6668205.02
25	5974259.62	1075366.73	7049626.35

Discount Factor

Petitioner's Submission

5.24. The petitioner has submitted that Tariff Regulation 10(2) of CERC 2024 specify methodologies to calculate discount factor for the determination of levelized tariff.

5.25. Accordingly, the discount factor considered for this exercise is equal to the post-tax weighted average cost of capital based on the normative debt-equity ratio (70:30). Considering the normative debt-equity ratio and weighted average of the post-tax rates for debt and equity component, the discount factor is calculated.

5.26. As there is no debt component and the petitioner is not claiming any return on equity, it is not possible to calculate the weighted average cost of capital. Hence the discount factor not considered for tariff determination by the petitioner.

Commission's Analysis

5.27. The commission observed that the petitioner has relied on CERC regulations for discount factor. Clause 4.11 of JSERC (Determination of tariff for procurement of power from solar PV power project and solar thermal power project) Regulations, 2015 enumerates the discounting factor of solar projects.

5.28. The Commission observes that, in the present case, the tariff has been determined on the basis of the admissible capital cost and the applicable annual cost components, without any separate component towards Return on Equity or other financing-related returns. In view of the absence of such components, the

Commission considers that the application of a separate discounting factor would not be warranted for the present tariff computation, as the same would not materially contribute to the determination of the levelized tariff based on the approved cost components and energy generation.

Tariff of 2 MW Canal top Solar Projects

Petitioner's Submission

5.29. The petitioner has submitted the levelized tariff of 2 MW canal-top solar project as per the parameters considered in the tariff-design section.

Table 16: Levelized tariff submitted by the Petitioner (Rs. Cr.)

Levelized Tariff for 2 MW Canal top Solar Project on Sikidri Canal		
Project Category	**Capacity (in MW)**	**Levelized Tariff (INR/kWh)**
Canal Top MW Scale Grid Connected Solar PV Project	2	4.04

Commission's Analysis

5.30. The Commission has determined the levelized tariff of 2 MW canal-top solar project based on the parameters considered in the tariff-design section and is shown in the table below:

Table 17: Levelized tariff approved by the Commission

Levelized Tariff for 2 MW Canal top Solar Project on Sikidri Canal (Rs/kWh)			
Project Category	**Capacity (in MW)**	**Levelized Tariff Petitioner**	**Levelized tariff Approved**
Canal Top MW Scale Grid Connected Solar PV Project	2	4.04	3.37

JREDA Facilitation Charges

Petitioner's Submission

5.31. The Petitioner has submitted that it being the implementing agency for the solar project incurs various expenditure related to development of project, plant O&M, consulting and transaction advisory related work. Further, it will also be responsible for providing administrative service for maintaining the PPA agreement with JBVNL for the period of 25 years. Hence, it requests the honorable commission to allow INR. 0.02 /kWh as facilitation charge per unit energy supplied from the plant to the state utility.

Commission's Analysis

5.32. The Commission has examined the submissions of the Petitioner regarding approval of facilitation charges at the rate of 2 paise/kWh in respect of the 2 MW canal-top solar power project.

5.33. The Commission observes that JREDA, being the State Nodal Agency for the development and promotion of renewable energy projects in Jharkhand, plays a significant role in facilitating the implementation, coordination and monitoring of renewable energy projects in the State. Such activities involve administrative, technical and institutional responsibilities, including coordination with various Government departments, implementing agencies and distribution licensees, which entail associated expenditure.

5.34. The Commission further observes that Section 61(h) of the Electricity Act, 2003 provides that the Appropriate Commission, while specifying the terms and conditions for determination of tariff, shall be guided by:

> *"the promotion of co-generation and generation of electricity from renewable sources of energy."*

5.35. Further, Section 86(1)(e) of the Electricity Act, 2003 mandates the

State Commission to promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and by specifying renewable purchase obligations for distribution licensees.

5.36. In view of the aforesaid statutory provisions, the Commission is of the considered view that facilitating the development and implementation of renewable energy projects is consistent with the objectives of the Electricity Act, 2003. The Commission recognizes that JREDA performs an important institutional role in promoting renewable energy generation in the State and that reasonable facilitation charges would support the effective discharge of such responsibilities.

5.37. The Commission is further of the view that the proposed facilitation charges of 2 paise/kWh (₹0.02/kWh) are modest and would have a limited impact on the overall cost of power procurement. However, such charges should not result in double recovery of expenditure already covered through Government assistance or other approved tariff components.

5.38. Accordingly, considering the responsibilities discharged by JREDA, the statutory mandate for promotion of renewable energy under Sections 61(h) and 86(1)(e) of the Electricity Act, 2003, and the need to balance renewable energy development with consumer interest, the Commission hereby approves facilitation charges at the rate of 2 paise/kWh (₹0.02/kWh) in favour of JREDA, recoverable on the actual energy supplied from the 2 MW canal-top solar power project to JBVNL, subject to the condition that no expenditure shall be recovered twice through different tariff components or Government funding.

5.39. The Commission further directs JREDA to maintain appropriate records of expenditure incurred towards facilitation activities and furnish the same to the Commission as and when required.

Chapter 6: Directives

Chapter 6: Directives

High Capital Cost of Canal Top Solar Plant

6.1. The Commission observes that the capital cost considered for 2 MW Canal top solar power projects in the current petition is on the higher side in comparison with the prevailing market prices of solar modules, balance of system components, and EPC costs. Considering the continuous technological advancements, increased manufacturing capacity, improved supply chain efficiencies, and the declining trend in solar project costs, the Commission is of the view that the capital cost warrants periodic review. Accordingly, the Commission directs that, while determining the capital cost for future projects, due consideration shall be given to the prevailing market rates, competitive bidding outcomes, and actual project costs, so as to ensure that the capital cost reflects the current market realities and that the resultant tariffs remain reasonable and in the larger interest of consumers while providing adequate returns to project developers.

This order is signed and issued by the Jharkhand State Electricity Regulatory Commission on **October 28, 2026.**

Date: 28.10.2026

Place: Ranchi

Sd/-	**Sd/-**
Mahendra Prasad	**Justice Navneet Kumar**
Member (Law)	**Chairperson**