JOINT ELECTRICITY REGULATORY COMMISSION FOR THE STATE OF GOA AND UNION TERRITORIES GURUGRAM

CORAM

Shri M.K. Goel, Chairperson

Petition No. 42 / 2021
Date of Hearing: 26.03.2021
Date of Order: 28.04.2021

In the matter of:

The Petition for Determination of Tariff for Power from Ground Mounted Solar PV Plants and Rooftop Solar PV Plants in the UT of Daman & Diu.

And in the matter of:

Electricity Department, Daman & Diu

...... Petitioner

Present:

For the Petitioner

- 1. Shri M.R. Ingle, Executive Engineer, Electricity Department, Daman & Diu
- 2. Shri Gaurav Lohani, Consultant for Electricity Department, Daman & Diu

ORDER

Shri M.R. Ingle, Executive Engineer, Electricity Department, Daman & Diu, (EDDD) advanced his arguments at length. The said submissions in brief are as under: -

The total installed solar capacity in the UT of Daman and Diu is 14.416 MW out of which 10 MW is ground mounted and the remaining 4.416 MW is solar rooftop plants. Further, as per the renewable energy Policy, 2017 all the HT/EHT consumers were directed to install solar rooftop plants at 5% of the contract demand. Hence, as of now a total of 20.591 MW of solar rooftop plants have been installed by HT/EHT consumers.

- 2. The present transmission and distribution system of EDDD consists of 32.60 circuit kms of 220 kV Double Circuit (D/C) lines, 88.70 kms of 66 kV lines ,447.62 Circuit kms of I1 kV lines O/H as well as U/G lines, 791.71 circuit kms of LT OH & U/G lines along with 926 transformers. Presently, there are 124 no. 11 kV feeders and 6 no. 66 kV feeders in the network of Daman & Diu.
- For meeting the RPO compliance notified under the JERC Regulations, the EDDD has installed and commissioned Ground Mounted and Rooftop Mounted Solar PV Plants.
- 4. The Commission notified the JERC (Procurement of Renewable Energy), (Third Amendment) Regulations, 2016 on 22nd August, 2016 and approved the revised RPO targets, which are as follows:

RPO Obligation

Description	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Total RPO Obligation (%)	3.55%	4.85%	6.70%	9.00%	11.50%	14.10%
Solar	0.85%	1.65%	2.50%	3. 60%	4.70%	6.10%
Non-Solar	2.75%	3.20%	4.20 %	5.40%	6.80%	8.00%

5. In order to meet the RPO targets, the EDDD has installed Ground Mounted Solar PV Plants and Rooftop Solar PV Plants in Daman and Diu. The Ground Mounted Solar PV Plants and Rooftop Solar PV Plants installed and commissioned in Daman and Diu is as tabled below.

Solar Plants installed in Daman and Diu

Description	Rating of the Plant (kWp)	COD	Amount (Crores)
Roof top solar PV system	4416	Feb 2013 to November 2020	28.15
1 MWp Solar Plant Magarwada	1000	08-01-15	8.50
3 MWp SOLAR PLANT FUDAM DIU	3000	10-0415	25.50
6 MWp SOLAR PLANT FUDAM DIU	6000	07-06-16	36.98

Description	Rating of the Plant (kWp)	COD	Amount (Crores)
Total	14416		99.13

- The cost of power on account of power generated from these UT owned solar plants is required to be allowed as per the applicable Regulation of JERC.
- 7. The following Regulations of JERC would be applicable in the said matter.
 - a) Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Grid Connected Solar Power Regulations)- 2015 for the Solar plants commissioned till 24.0-7.2019 (hereinafter referred as JERC Regulation – 2015) and
 - b) Joint Electricity Regulatory Commission (Terms and Conditions for Tariff Determination from Renewable Energy Sources) Regulations, 2019 for the solar plants commission after 24.07.2019 (hereinafter referred as JERC Regulation – 2019).
- 8. In view of the above, the following may be seen;
 - a) The tariff for the power generated from 10000 kWp Ground Mounted Solar PV Plants and 4137 kWp Rooftop Solar PV Plants which was commissioned prior to 31st March, 2019 was required to be determined JERC Regulation, 2015 as stated above.
 - b) The tariff for the power generated from 279 kWp Rooftop Solar PV Plants, which was commissioned after 31st March, 2019 was required to be determined JERC Regulation 2019 as stated above.
- Further, the Chapter II (General Principles of Solar Power Projects) of JERC
 Regulation 2015 in Clause 7 (e) provides the following;

"The solar tariff determined under these Regulations, for projects commissioned during the control period, shall continue to be applicable for the entire duration of the Power Purchase Agreement Period as specified in

these Regulations."

 Moreover, the Chapter 1 (General Principles) of JERC Regulation 2019 in Clause 5 (Control Period) provides the following;

"The Control Period under these Regulations shall be of three (3) years starting from the date of the notification of these Regulations, or as extended by the commission upon expiry of the control period. The first year of the control period shall be the financial year 2019-20: Provided that the tariff determined as per these Regulations for the RE projects commissioned during the Control Period, shall continue to be applicable for the entire duration of the Tariff Period as specified in Regulation 6 below: -

Regulation - 6 (3) Tariff determined as per these Regulations shall be applicable for Renewable Energy power projects for the entire duration of the Tariff Period as stipulated under Clause (6.1) and (6.2).

- 11. In view of above, it may also be noticed that the tariff determined for the respective solar plants in the JERC Regulation, 2015 or JERC Regulation, 2019 would be applicable for the entire life of the project and accordingly, there would not be any change in the tariff approved by the Hon'ble Commission.
- 12. Further, as per the approved Business Plan Order for the MYT Control Period FY 2016-17 to FY 2018-19, it has been provided that

"The Commission is not approving any generation related capex as part of the Business Plan. The Commission notes that the tariff for solar generation plants is to be determined as per the JERC Solar Regulations and amendments thereof. The Petitioner will recover tariff as per the JERC Solar Regulations for the capex incurred for such scheme."

13. This Petition covers the basis, assumptions and projections of individual elements constituting the determination of Levelized Tariff for Power from Ground Mounted Solar PV Plants and Rooftop Solar PV Plants.

14. Financial Principles for Computing Tariff for Solar PV Plants commissioned before 31st March, 2019

- 14.1. The levelized tariff for the Ground Mounted Solar PV plants and the Rooftop Solar PV plants commissioned prior to 31st March, 2019 has been determined based on the following factors as outlined in Para 38 (Tariff Structure) of the Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Grid Connected Solar Power Regulations) 2015 (herein after referred as JERC Solar Regulations, 2015:
 - a) Capital cost of the Project
 - b) Interest on long term loan,
 - c) Interest on Working Capital
 - d) Return on Equity,
 - e) Depreciation,
 - f) Operations and Maintenance Expenses

15. Capital Cost and Capacity of the Solar PV Plants

- 15.1 As per the JERC Solar Regulations, 2015, the capital cost of the Ground Mounted Solar PV plants and Rooftop Solar PV plants shall comprise of the following:
 - "a. The capital cost for Solar Power Projects for working out the Tariff shall be inclusive of all capital works including plant and machinery, civil works, erection and commissioning, financing and interest during construction, other misc. expenses such as overheads, administrative cost etc. during construction, and evacuation infrastructure up to the interconnection point, if any.
 - b. The normative capital cost ceiling limit for setting up of rooftop solar photovoltaic power projects shall be determined based on the capital cost of various items specified hereunder:

- i. Cost of Modules at Site
- ii. Land Cost for Ground Mounted/ Capitalized Rooftop Rental or lease for Rooftop
- iii. Civil & General works
- iv. Mounting Structures
- v. Power Conditioning Unit (PCU / Inverter) vi. Cables & Transformers (if applicable)
- vi. Preliminary and Operative expenses, Interest during Construction etc."
- 16. The total capacity of the Ground Mounted Solar PV Plants and the Rooftop Solar PV Plants in Daman and Diu installed prior to 31st March, 2019 is 14.137 MW. The details of the same are given in the table below:

Details of Solar PV Plants Commissioned before 31st March, 2019

Description	Rating of the Plant (kWp)	COD	Amount (Crore)
Roof top solar PV system*	4137	Feb 2013 to March2019	26.62
1 MWp Solar Plant Magarwada	1000	08-01-2015	8.50
3 MWp SOLAR PLANT FUDAM DIU	3000	10-04-2015	25.50
6 MWp SOLAR PLANT FUDAM DIU	6000	07-06-2016	36.98
Total	14137	_	97.60

^{*}Details of Rooftop Solar PV system have been enclosed as Annexure B/4

17. The total cost incurred by the EDDD in construction of the Ground Mounted Solar PV plants and the Rooftop Solar PV plants is Rs. 97.60 Crores out of which Rs. 70.98 Crores was incurred towards the construction of 10 MW of the Ground Mounted Solar PV plants and Rs. 26.62 Crores was incurred towards the construction of 4.137 MW of Rooftop Solar PV plants. The EDDD also submitted that no cost was incurred by the Department towards purchase of land for construction of the Solar PV plants and the construction of these solar plants was carried out by fund from UT Administration.

18. **Debt Equity Ratio**

- 18.1 The JERC Solar Regulations, 2015 states the following for determination of the debt equity ratio:
 - "a.Debt Equity ratio of 70:30 shall be considered. However, if the equity actually deployed is less than 30% (Thirty percent), the actual equity shall be considered and if the equity actually deployed is more than 30% (Thirty percent) of the capital cost, equity in excess of 30% (Thirty percent) shall be treated as normative loan."
- Accordingly, the EDDD has considered 70% of the capital cost incurred towards construction of the Solar PV plants as normative debt and 30% as normative equity.

20. Interest and Finance Charges for Long Term Debt

- 20.1 The JERC Solar Regulations, 2015 allows interest on long term normative loans as per the following clause:
 - ".....The normative loan outstanding as on April 1" of every financial year shall be worked out by deducting the cumulative repayment up to March31" of the previous financial year from the normative gross loan".
- 21. Accordingly, the EDDD has considered interest on normative loan for 70% of the capital cost incurred towards construction of the Solar PV plants.
- 22. Further, the Regulations state that, "....For the purpose of computation of tariff, the normative interest rate shall be considered as an average State Bank of India (SBI) Base rate prevalent during the first six months of the previous year plus 300 basis points."
- 23. The Rooftop Solar PV plants of the capacity of 4137 kWp were commercialized from February, 2013 to March, 2019 and accordingly, the EDDD has considered interest rate of 12.10% for computation for

the interest on normative loan.

24. Further, Ground Mounted Solar PV plants of the capacity of 10000 kWp were commercialized in FY 2014-15, FY 2015-16 and FY 2016-17 and accordingly, the EDDD has considered interest rate of 12.76% for computation for the interest on normative loan.

25. Interest on Working Capital

- 25.1 The JERC Solar Regulations, 2015 allows interest on working capital as per the following clause:
 - "a. The working, capital requirement with respect to Solar Power Projects shall be computed in accordance with the following:
 - i. Operation & Maintenance expenses for one month;
 - ii. Receivables equivalent to 2 (Two) months of energy charges for sale of electricity calculated on the normative Capacity Utilization Factor.
 - iii. Maintenance spares at the rate of 15% (fifteen percent) of operation and maintenance expenses;"

Further, the rate of interest has been considered as per the following clause:

- "b. Interest on Working Capital shall be at an interest rate equivalent to an average State Bank of India Base Rate equivalent during the first six months of the previous year plus 350 basis points."
- 26. The Rooftop Solar PV plants of the capacity of 4137 kWp were commercialized from February, 2013 to March, 2019 and accordingly, the EDDD has considered interest rate of 12.60% for computation for the interest on normative loan.
- 27. Further, Ground Mounted Solar PV plants of the capacity of 10000 kWp were commercialized in FY 2014-15, FY 2015-16 and FY 2016-17 and

accordingly, the EDDD has considered interest rate of 13.26% for computation for the interest on normative loan.

28. Return on Equity

The JERC Solar Regulations, 2015 allows return on equity as per the following clause:

- "a. The base value for the equity shall be 30% (Thirty percent) of the capital cost or actual equity (whichever is less) as determined under these Regulations.
 - b. The normative return on equity shall be:
 - i. Pre-tax return of 20% (Twenty percent) per annum for the first 10 (Ten) years;
 - ii. Pre-tax return of 24% (Twenty Four percent) perannum from 11th year onwards."
- 29. Accordingly, the return on equity has been determined for the Solar PV plants for 25 years.

30. Operation and Maintenance Expenses

- 30.1 The JERC Solar Regulations, 2015 allows operations and maintenance expenses as per the following clause:
 - "a. Operation and Maintenance or O & M expenses shall comprise of repair and maintenance (R&M), establishment including employee expenses and the lease rental, if any, and administrative and general expenses including insurance.
 - b. The normative O&M expenses for Solar Power projects shall be decided by the Commission while deciding the Tariff for a specific Financial Year.

- c. Normative O & M expenses allowed during the first year of control period (i.e., FY 2015-16) under these Regulations shall be escalated at the rate of 5.72% (Five-point Seven Two percent)) per annum over the tariff period (i.e., from the 2nd year onwards)."
- 31. JERC Solar Regulations considered the O&M Expenses of 13 Lakh per MW for the calculation of Generic Tariff valid upto 31.03.2013. Accordingly, EDDD has considered the first year for the determination of the O&M expenses as FY 2016-17, the same level of expenses being the first year of the 1st Control Period. The O&M expenses have been further escalated at the rate of 5.72% per annum over the tariff period to arrive at the O&M expenses of the Solar PV plants.

32. Depreciation

- 32.1 The JERC Solar Regulations, 2015 allows depreciation as per the following clause:
 - "a. The value base for the purpose of depreciation shall be the capital cost of the asset determined by the Commission. The salvage value of the asset shall be considered as 10% (Ten percent) and depreciation shall be allowed up to maximum of 90% (Ninety percent) of the capital cost of the asset.
 - b. Depreciation per annum shall be based on 'Differential Depreciation Approach' over the loan period and beyond the loan tenure shall be computed based on 'Straight Line Method' over the useful life. The depreciation rate for the first 12 years of the tariff period shall be 5.83% (Five point Eight Three per cent) of the capital cost per annum and the remaining depreciation shall be spread over the remaining useful life of the project from the 13th year onwards."

Accordingly, EDDD has claimed depreciation for 90% of the capital cost of the Solar PV plants.

33. Financial and Fiscal Calculations

- The discount factor for the computation of the levelized tariff has been computed as per the following clause given in the JERC Solar Regulations, 2015, which states the following;
- 34. For the purpose of levelized tariff computation, the discount factor equivalent to Post Tax weighted average cost of capital shall be considered. The generic tariff shall be determined on levelized basis for the Tariff Period.

"b. Discount factor for calculating Levelized Tariff ((Cost of Capital in % *0.70 Long term loan Component x (1 - Corporate Income Tax%)]+ (Weighted average Post Tax Return on Equity% *Equity%)]."

Accordingly, the discount factor has been considered as 12.09%.

35. Life of the Solar PV plants and CUF

- 35.1 The life of the Solar PV plants would be 25 years in consonance with the JERC Solr Regulations, 2015.
- **35.2** A normative CUF of 18 % has been considered to estimate the generation forms the Solar PV plants.

36. Levelized Tariff

- 36.1 Based on the financial principles and assumptions detailed in the preceding sections the EDDD has computed the levelized tariff for the Solar Plants as explained hereunder;
 - The Rooftop Solar PV plants of the capacity of 4137 kWp which were commercialized between February, 2013 and March, 2019, the levelized tariff has been computed as Rs.
 7.86 per unit as detailed in Annexure B/ 1 hereinafter.
 - The Ground Mounted Solar PV plants of the capacity of

10000 kWp, which were commercialized in FY 2014-15, FY 2015-16 and FY 2016-17, the levelized tariff has been computed as Rs. 8.65 per unit as detailed in Annexure B/2 hereinafter.

37. Financial Principles for Computing Tariff for Plants Commissioned after 31st March, 2019

- 37.1 The levelized tariff for the Ground Mounted Solar PV plants commissioned in FY 2019-20 has been determined based on the following factors as outlined in Para 11 (Tariff Structure) of Joint Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2019 (herein after referred as JERC Solar Regulations, 2019):
 - i. Operations and Maintenance Expenses
 - ii. Interest on Loan
 - iii. Depreciation
 - iv. Interest on Working Capital
 - v. Return on Equity
- 38. As per the JERC Renewable Energy Tariff Regulations, 2019, the capital cost of the Ground Mounted Solar PV plants shall comprise of the following:

"The norms for Capital Cost as specified in the subsequent technology specific Chapters shall be inclusive of all capital works including plant and machinery, transportation cost, civil work, erection and commissioning, financing and interest during construction, and evacuation infrastructure up to interconnection point:

Provided that for project specific tariff determination, the generating company shall submit the break-up of Capital Cost items along with its Petition in the manner specified under Regulation 9."

39. The total installed capacity of the Rooftop Solar PV Plants commissioned in FY 2019-20 is 279 kWp. The details of the same are given in the table

below:

Details of solar PV Plants commissioned after 31st March, 2019

Description	Rating of the Plant (kWp)	COD	Amount (cr)
Roof Top Solar PV System*	279	April, 2019 to November, 2020	1.53
Total	279		1.53

40. The total cost incurred by the EDDD in construction of the Rooftop Solar PV plant is Rs. 1.53 Crores. The capacity of the Rooftop Solar PV plant is 279 kWp. The EDDD would also like to submit that no cost was incurred by the Corporation towards purchase of land for construction of the Solar PV plants and the construction of these solar plants was carried out by fund from the UT Administration.

41. **Debt Equity Ratio**

- 41.1 The JERC Renewable Energy Tariff Regulations, 2019 states the following for determination of the debt equity ratio:
- 42. For the purpose of determination of tariff, the following provisions shall apply:
 - a) Debt Equity ratio of 70:30 shall be considered: Provided that if the equity actually deployed is less than 30% (thirty percent) the actual equity shall be considered, and if the equity actually deployed is more than 30% (thirty percent) of the capital cost, equity in excess of 30% (thirty percent) shall be treated as normative loan: Provided further that the equity invested and loan drawn in foreign currency shall be designated in Indian Rupees on the date of each investment, using the selling rates notified by the Reserve Bank of India on the date of such investment.
 - b) The Commission shall take into consideration any capital grant or subsidy offered by the Central or State Government or any other agency, while determining the tariff under these Regulations."

towards construction of the Solar PV plants as normative debt and 30% as normative equity

43. Interest and Finance Charges for Long Term Debt

43.1 The JERC Renewable Energy Tariff Regulations, 2019 allows interest on long term normative loans as per the following clause: "For the purpose of determination of tariff, a loan tenure of 12 years shall be considered."

Further, the Regulations state that

- a) The loans arrived at in the manner indicated in Regulation 14 shall be considered as gross normative loan for calculation for interest on loan.
- b) The normative loan outstanding as on April 1st of every year shall be worked out by deducting the cumulative repayment up to March 31st of previous year from the gross normative loan.
- c) For the purpose of computation of tariff for Renewable Energy Projects in Mainland Areas, normative interest rate as mentioned in the Table below shall be considered.

Normative Interest Rate

Particulars	Interest Rates
Mainland	SBI MCLR (One-year tenor) prevalent during the last available six months+ 200 basis points
Island	SBI MCLR (One-year tenor) prevalent during the last available six months + 300 basis points

44. The Rooftop Solar PV Plants were commissioned during FY 2019-20 and accordingly, the prevalent SBI MCLR during the six month from 01/04/2019 to 31/09/2019 was 8.40% and considering the 200 basis points, the EDDD has considered interest rate of 11.40% for computation for the interest on normative loan.

45. Interest on Working Capital

45.1 The JERC Renewable Energy Tariff Regulations, 2019 allows

interest on working capital as per the following clause:

- a) Operation & Maintenance expenses for one month;
- b) Receivables equivalent to 2 (Two) months of energy charges for sale of electricity calculated on the normative Capacity Utilization Factor (CUF/ PLF) as applicable;
- c) Maintenance spares @ 15% of Operation and Maintenance expenses".
- 46. Further, the rate of interest has been considered as per the following clause:

"Normative Rate of Interest on Working Capital shall be considered as follows:

Normative Working Capital Interest Rate

Particulars	Interest Rates
Mainland	State Bank of India MCLR (One-Year Tenor) prevalent during the last available six months + 300 basis points
Island	State Bank of India MCLR (One-Year Tenor) prevalent during the last available six months+ 400 basis points

[&]quot;Accordingly, the rate of interest has been considered as 12.40% for computing the interest on working capital for the entire life of the Solar PV plants.

47. Return on Equity

- 47.1 The JERC Renewable Energy Tariff Regulations, 2019 allows return on equity as per the following clause:
 - "17.1 The value base for the equity shall be 30% of the capital cost or actual equity (in case of project specific tariff determination) as determined under Regulation 14.
 - 17.2 The normative Return on Equity shall be:
 - a) 14% for Renewable Energy Projects in Mainland areas;
 - *b)* 16% for Renewable Energy Projects in Island areas;

to be grossed up by prevailing Minimum Alternate Tax (MAT) rate as on 1st April of available year at the time of determination of tariff for the entire useful life of the project."

Accordingly, the return on equity has been determined for the Solar PV plants for 25 years.

48. Operation and Maintenance Expenses

- 48.1 The JERC Renewable Energy Tariff Regulations, 2019 allows operations and maintenance expenses as per the following clause:
 - "20.1 'Operation and Maintenance' or O&M expenses shall comprise of repair and maintenance (R&M), establishment including employee expenses, and administrative and general (A&G) expenses.
 - 20.2 O&M expenses shall be determined for the Tariff Period based on normative O&M expenses as specified by the Commission subsequently in these Regulations for the first Year of Control Period.
 - 203 Normative O&M expenses allowed during first year of the Control Period (i.e. FY 2019-20) under these Regulations shall be escalated at average inflation factor of previous three years considering 60% weightage for the actual point to point inflation over Wholesale Price Index numbers as per Office of Economic Advisor, Ministry of Commerce and Industry, Government of India and 40% weightage for the actual Consumer Price Index for Industrial Workers (all India) as per Labour Bureau, Government of India in the previous three years."
- 49. The EDDD has considered the first year for the determination of the O&M expenses as FY 2019-20, the same being the first year of the 2nd Control Period. The O&M expenses for the FY 2019-20 have been determined based on the clause no. 37.1 given below:
 - "1.5% of Capital Cost for first year, for Solar PV Projects in Mainland Areas;"
- 50. Accordingly, the O&M expenses for the FY 2019-20 are computed as Rs.

10.97 Lacs/MW. The O&M expenses have been further escalated at the rate of 3.32% per annum over the tariff period to arrive at the O&M expenses of the Solar PV plants.

51. **Depreciation**

- 51.1 The JERC Renewable Energy Tariff Regulations, 2019 allows depreciation as per the following clause:
 - "16.1 The value base for the purpose of depreciation shall be the Capital Cost of the asset admitted by the Commission.
 - 16.2 The Salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the Capital Cost of the asset.
 - 16.3 Depreciation rate of 5.83% per annum shall be considered for first 12 years and remaining depreciation shall be spread during remaining useful life of the RE projects considering the salvage value of the project as 10% of project cost.
 - 16.4 Depreciation shall be chargeable from the first year of commercial operation: Provided that in case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis."

Accordingly, EDDD has claimed depreciation for 90% of the capital cost of the Solar PV plants.

52. Financial and Fiscal calculations

The discount factor for the computation of the levelized tariff has been computed as 10.46%, which is equal to the normative post-tax weighted average cost of capital on the basis of the normative debt-equity ratio of 70:30 specified in the Regulations.

53. Life of the Solar PV Plants and CUF

53.1 The life of the Solar PV plants would be 25 years in consonance with

the JERC Renewable Energy Tariff Regulations, 2019.

A normative CUF of 18% has been considered to estimate the generation forms the Solar PV plants.

54. Levelized Tariff

- 54.1 Based on the financial principles and assumptions detailed in the preceding sections the EDDD has computed the levelized tariff for the Rooftop Solar Plants of 279 kWp capacity as commissioned in FY 2019-20 as Rs. 5.93 per unit. The detailed calculations have been provided in the next section of this petition.
- 55. The Clause 7 (Generic Tariff) on the matter of determination of Generic Tariff states the following;

The Generic Tariff shall be determined by the Commission in accordance with these Regulations for the following types of projects:

Solar PV (for Gross Metering);

Provided that, in case of special circumstances, the Project Developer may approach the Commission for determination of Project Specific Tariff for the above types of projects:

- 56. The construction activity of the said solar plants was started with an objective of fixation of levelized tariff in place of generic tariff, hence, it is being submitted to Hon'ble Commission to adopt and approve the levelized tariff for the said plant.
- 57. Accordingly, the Hon'ble Commission is requested to approve the levelized tariff for Ground Mounted Solar PV Plants for EDDD.
- 58. A Hearing was conducted on 26.03.2021 in this Petition wherein the Commission raised for specific queries. The Point wise reply to the said queries are as under.

59. **Depreciation**

59.1 As per the submission made by the EDDD in the earlier submission, the Department has already claimed depreciation of the solar plants post their commissioning till FY 2019-20. The details of the depreciation claimed by the Department for the period FY 2012-13 to FY 2019-20 is being enclosed along with this reply as **Annexure I**. The same may be deducted from the capital cost of the solar plants while determining the levelized tariff. The depreciation has been taken from the audited balance sheet of the EDDD.

60. Operation and Maintenance Expenses

60.1 As per the submission by the EDDD in the earlier submission, The Department has already claimed the Operation and Maintenance expenses incurred towards the solar plants post their commissioning till FY 2019-20. The details of the O&M expenses claimed by the Department for the period FY 2012-13 to FY 2019-20 is being enclosed along with this reply as Annexure II. The same may be deducted from the O&M cost determined for the period of 25 years while computing the levelized tariff. The O&M expenses have been taken from the audited balance sheet of the EDDD.

61. Return on Equity

61.1 The EDDD would like to submit that the Department has already claimed the Return on Equity on the solar assets post their commissioning till FY 2019-20. The Department has worked out the Return in Equity already claimed for the period FY 2012-13 to FY 2019-20 and the detailed working of the computation is being enclosed along with this reply as Annexure III. The same may be deducted from the ROE determined for the period of 25 years while computing the levelized tariff.

62. Interest on Long Term Loan

62.1 The EDDD would like to submit that the Department has already claimed the Interest on Long Term Loan on the solar assets post their commissioning till FY 2019-20. The Department has worked out the Interest on Long Term Loan already claimed for the period FY 2012-13 to FY 2019-20 and the detailed working of the computation is being enclosed along with this reply as Annexure IV. The same may be deducted from the Interest on Long Term Loan determined for the period of 25 years while computing the levelized tariff.

63. Capital Cost of Solar Plants

- 63.1 The EDDD would like to further submit that by mistake the Department had considered the O&M cost of the ground mounted plants in the capital cost while computing the levelized tariff as submitted in the Tariff Petition. Also, while computing the levelized tariff for the rooftop solar plants the Department had considered the estimated cost for two rooftop plants instead of considering the actual cost incurred in the construction of the plants. The mistake has now been rectified for all the plants and the revised levelized tariff has been computed and submitted to the Hon'ble Commission. It is also requested that the Hon'ble Commission may kindly condone the mistake and accept the revised submission.
- 64. The EDDD would like to submit that the Department has been functioning as an integrated entity till date and carries out the function of generation, transmission and distribution of electricity in Daman and Diu. The solar plants commissioned in Daman and Diu have been funded by the UT Administration and the electricity generated from the plants was consumed within the UT and was not sold to any third party. The cost incurred in commissioning of the plants was claimed in the ARR for the respective years. However, the Government of India has announced an initiative, as a part of Atmanirbhar Bharat Abhiyan to privatize Power Department/utilities in Union Territories on 16th May, 2020. Accordingly, the PFC has engaged a transaction advisor on behalf of Ministry of Power for the privatization of the distribution business of EDDD and DNHPDCL. Accordingly, the Tender Notice for sale of 51% of shares has been issued by Page 20 of 67

the UT Administration. Hence, after the privatization of the distribution business in the UT, the solar power being generated by the solar plants will have to be sold to the Distribution Licensee and therefore the EDDD has filed the petition for determination of levelized tariff.

- 65. The Commission has received the additional submissions / clarifications on the specific issues raised by the Commission during the hearing on 26.03.2021. The said submissions / clarifications taken on record.
- 66. The Commission has examined the entire record placed before it by the Petitioner and also examined the relevant specific provisions of the Electricity Act, 2003 and Rules & Regulations applicable in this matter. The Commission has also considered the arguments advanced before it. The Commission has also examined some relevant Orders of the Hon'ble Supreme Court.
- 67. It is noticed by the Commission that it had issued Regulations for JERC Procurement of Renewable Energy Regulations, 2010. Thereafter JERC (Solar Power Grid Connected Ground Mounted & Solar Roof top & Metering) Regulations, 2015 had been issued. The 2010 Regulation expired after issuance of 2015 Regulations.
- 68. It is pertinent to mention here that Commission has notified new regulations for Renewable Energy Plants including Solar Ground Mounted and Rooftop Plants in 2019. These Regulations has also repealed the Regulations of 2015.
- 69. The Petitioner through this Petition has prayed that the Solar Ground Mounted Projects and Solar Rooftop Projects which were commissioned during the FY 2012-13 to FY 2018-19 their levelized tariff may be determined in accordance with Regulations, 2015.
- 70. The delay in filing of these Petitions by the Petitioner has created a unique situation wherein the Commission has to examine the following orders of Supreme Court and specific provisions of the Electricity Act, 2003 to determine the tariff in these petitions.
- 71. The Commission has noted that it has been empowered by the Electricity Act, 2003 to determine the tariff in accordance with Section 61, 62 and 63. At the

same time under Section 86 of the Electricity Act, Commission is empowered not only to approve the Power Purchase Agreement but also the price/rate of the power to be purchased.

72. In order to determine tariff in this Petition, the Commission has examined the Supreme Court Order in the matter Sushila N. Rungta (D) thr. L.Rs Vs. The Tax Recovery Officer-16(2) and Ors. In Civil Appeal No. 10824 of 2018 (Arising out of SLP © No. 26686/2016) etc. wherein Hon'ble Supreme Court had observed once the Act/ regulation has been repealed the said regulation cannot be brought into effect in future. The excerpts of this judgement are mentioned as under-

Decided On: 30.10.2018

Appellants: Sushila N. Rungta (D) thr. L.Rs.

Vs.

Respondent: The Tax Recovery Officer-16(2) and Ors.

Hon'ble Judges/Coram:

Rohinton Fali Nariman and Navin Sinha, JJ.

JUDGMENT

Rohinton Fali Nariman, J.

Civil Appeal No. 723/1973:

- 1. In this appeal, an order dated 03.01.1970 was passed by the Collector of Central Excise in which, it was ordered as follows:
 - 17. In view of the above-mentioned facts, the party charged is entitled to the benefit of the amnesty granted by the Government. Even though he had initially failed to declare the gold, time was available to him up to 31.5.66 to invest the gold into gold bonds and his intentions would have materialized but for the fact that seizure of gold prevented him from tendering the Gold to the Bank, as it was not in his possession at that time.
 - 18. While intention to invest the gold in gold bonds is conceded failure to declare was, no doubt, there. He was required by law to declare his gold to the Government. Since he did not declare this gold, even though he is given the

- benefit of the gold bond scheme, he has rendered himself liable to punishment for not declaring his gold, at the appropriate time, as required by law.
- 19. Considering all the facts and circumstances of the case and weighing the merits of the evidence available on record, I order that the gold shall be released to the party charged for invest in gold bond in pursuance of the application tendered by him to the State Bank of Indore in 1965.
- 20. I also order that for failure to declare the gold in his possession, which involves contravention of gold control rules, I impose upon him a penalty of Rs. 25,000/-(Rupees twenty-five thousands only) Under Rule 126-I(16) of The Gold Control Rules, 1962 (Corresponding to Section 74 of the Gold Control Act, 1968)
- 2. Against the aforesaid order, an appeal was dismissed on 08.02.1971. Exercising Suo-Motu powers under the Defence of India Rules, a show cause notice dated 01.06.1971 was issued in which it was sought to confiscate the items of gold and enhance penalty that had been imposed. This show cause notice was challenged by the grand-father of the present Petitioner in a writ petition that was ultimately dismissed by the Delhi High Court on 29.09.1972. This appeal is an appeal from the aforesaid judgment. This Court, on 09.08.1973, passed the following order: Upon hearing the counsel for the parties, while counsel for Respondent No. 3 waiving notice of motion, the Court directed stay of all further proceedings in pursuance of the impugned proceedings dated 01.06.1971 pending final disposal of this appeal. The Court allowed C.M. Ps. 3056 and 3058 of 1973.
- 3. While the stay order of this Court continued, the Gold Control Act itself was repealed.

This was effected by two sections, namely,:

- 1. Short title.- This Act may be called the Gold (Control) Repeal Act, 1990.
- 2 . Repeal of Act 45 of 1968.- The Gold (Control) Act, 1968 is hereby repealed.

The statement of objects and reasons for this Act is as follows:

1. Gold control which regulated the domestic trade and movement of gold within the country was introduced on 9th January, 1963 as part of the Defence of India Rules. Later on, the Gold Control Act, 1968 was enacted with the broad

- objectives of controlling the production, manufacture, supply, distribution, use and possession of and business in gold, ornaments and articles of gold. The said enactment was meant to supplement other preventive measures to make circulation of smuggled gold difficult and its detection easier by extending the control over gold beyond the stage of import.
- 2. Over the past 22 years, the results achieved under the Act have not been encouraging and the desired objectives for which the Act was introduced have not been achieved due to various socio- economic and cultural factors in the vast multitude of the country's population and the lack of administrative machinery. On the other hand, this regressive and purely regulatory Act has given rise to considerable dissatisfaction in the minds of the public as it has caused hardship and harassment to the artisans and small self- employed goldsmiths who have not been able to develop their skills and earn proper living on account of the rigours which this Act imposed upon them.
- 3. Taking these factors into consideration and the advice of experts who have examined issues related to this Act, it is proposed to repeal the Gold (Control) Act, 1968.
- *4.*
- 5.
- 6. Having heard learned Counsel for both sides, we are of the view that the statement of objects and reasons makes it clear that over 22 years, the results achieved under the Act have not been encouraging and the desired objectives for which the Act has been introduced have failed. Following the advice of experts, who have examined issues related to the Act, the objects and reasons goes on further to state that this Act has proved to be a regressive measure which has caused considerable dissatisfaction in the minds of the public and hardship and harassment to artisans and small self-employed goldsmiths.
- 7. This being the case, we are of the opinion that the repeal simpliciter, in the present case, does not attract the provisions of Section 6 of the General Clauses Act as a contrary intention is very clearly expressed in the statement of objects and reasons to the 1990 repeal Act. In this behalf, it would be apposite to refer to New India Assurance Co. Ltd. v. C. Padma and Anr. MANU/SC/0704/2003: (2003) 7 SCC 713 (para 10).
- 8. This Court noticed that, in a parallel instance of simpliciter repeal, Parliament realized the grave injustice and injury that had been caused to heirs of LRs of

- victims of accidents if their petitions were rejected only on the ground of limitation. This being the case, this Court found that a different intention had been expressed and, therefore, Section 6-A of the General Clauses Act would not in that situation apply.
- 9. We find a similar situation in the present case. In point of fact, ongoing through the impugned judgment, it is clear that every time an amendment was made to the Defence of India Rules and/or repeal of the said Rules had taken place, there was always an inbuilt savings clause. In fact, Section 116 of the Gold (Control) Ordinance No. 6 of 1968 also made it clear that it went to the extent, in Sub Section 2 thereof, by saving show cause notices which, ordinarily, are not saved even if Section 6 were to apply See M.S. Shivananda v. Karnataka State Road Transport Corporation and Ors. MANU/SC/0371/1979: [1980] 1 SCR 684 following Director of Public Works and Anr. v. Ho Po Sang and Ors., [1961] 2 All. ER 721.
- 10. This being the case, we are of the view that the show cause notice dated 01.06.1971, which is the subject matter of this appeal, no longer survives. In this view of the matter, the appeal is disposed of.
- 11. Leave granted.
- 73. From the above judgment it is clear that the repealed ct/Regulations cannot be revived in future. In view of the above Commission has examined another Supreme Court order in Civil Appeal No. 3902/2006 in the matter PTC India Ltd. Versus Central Electricity Regulatory Commission, thr. Secy. Wherein the Constitution Bench of five Judges of the Hon'ble Supreme Court in para 43 observed that the above 2 citations namely in the case of National Hydroelectric Power Corporation Ltd. Vs. CIT reported in 2010 (1) SCALE 5 and in the case of M/s Southern Technologies Ltd. V. Joint Commissioner of Income Tax, Coimbatore have been given by us only to demonstrate that under the 2003 act applying the test of "general application" a Regulation stands on a higher pedestal visa-vis an Order of CERC in the sense that an order has to be in conformity with the regulations. However, that would not mean that a regulation is a precondition to the order. Therefore, we are not in agreement with the contention of the appellant(s) that under the 2003 Act, power to make regulations under Section 178 has to be correlated to the functions ascribed to each authority under the 2003 Act and that CERC can enact regulations only on topics enumerated in Section 178(2). In our view, apart

from Section 178(1) which deals with "generality" even under Section 178(2) (ze) CERC could enact a regulation on any topic which may not fall in the enumerated list provided such power falls within the scope of 2003 Act.

- 74. The constitution bench further observed that the Commission can discharge its functions in the Electricity Act, 2003 even without regulation but once the Commission has made a regulation on any specific provision then there must be strict adherence to that Regulation by the Commission also.
- 75. From the above, it is clear that even in the absence of a specific regulation for determination of levelized tariff in this petition the Commission can determine the tariff by adopting the basic principles on its own. In this Petition the situation is very unique as regulations of 2015 has been repealed therefore the Commission has determined the tariff as under: -
- 76. The following projects have been commissioned in the UT of Daman and Diu:

SI. No.	Name of Project	Capacity of Project (KWp)	Date of Commissioning
1	Solar Rooftop Plant	4416	10/02/2013 To 09/11/2020
2	1 MWp Solar Plant Magarwada	1000	01/08/2015
3	3 MWp SOLAR PLANT FUDAM DIU	3000	04/10/2015
4	6 MWp SOLAR PLANT FUDAM DIU	6000	06/07/2016

77. The Commission has considered following parameters for calculation of levelized tariff for power from Solar Roof Top & Solar plants for the projects commissioned prior to gazette notification dated 25th July, 2019 of Joint Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2019.

a) Capital Cost of the Project

For calculation of Capital Cost of Solar Rooftop Plants and ground mounted solar power plants of capacity - 1 MWp, 3 MWp and 6 MWp, the following norms has been considered as provided in the table:

Capital Cost Allowed					
Particulars	KW	Allowed Cost 000 per KW			
	1-10	70.00			
Till FY 2016-17	11-100	69.00			
1 1 2010 17	101-500	67.00			
	>501	65.70			
	1-10	64.40			
From FY 2017-18 Till FY 2019-20 before New	11-100	63.48			
Regulation	101-500	61.64			
	>501	60.44			
After implementation of Joint Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy					
Sources) Regulations, 2019		50.00			

The information submitted by the Petitioner has been examined and accordingly the Capital cost is approved as under:

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
1	Primary Health Center, Dunetha	3	10-02-2013	2.66	2.10	2.10
2	Primary Health Center, Zari	3	10-02-2013	2.66	2.10	2.10
3	Primary Health Center, Kachigam	15	10-02-2013	13.29	10.35	10.35
4	Panchayat, Kachigam	10	10-02-2013	8.86	7.00	7.00
5	Primary Health Center, Patalara	3	18-02-2013	2.79	2.10	2.10

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
6	Electricity Department	15	18-02-2013	13.29	10.35	10.35
7	Diu Hospital	10	19-02-2013	8.86	7.00	7.00
8	Ghoghla Hospital	20	19-02-2013	17.99	13.80	13.80
9	Collecterate Buildings	20	19-02-2013	17.72	13.80	13.80
10	PWD Office Building	10	19-02-2013	8.86	7.00	7.00
11	Police Station	5	19-02-2013	4.65	3.50	3.50
12	S.P, Office	5	19-02-2013	4.65	3.50	3.50
13	Court Building	10	19-02-2013	9.22	7.00	7.00
14	Circuit House, Diu	10	19-02-2013	9.22	7.00	7.00
15	Primary Health Care Centre Vanakbara	15	29-10-2013	13.20	10.35	10.35
16	High Secondary School Vanakbara	30	29-10-2013	26.40	20.70	20.70
17	Govt. Middle School Vanakbara,	15	29-10-2013	13.20	10.35	10.35
18	Prathana Hall Vanakbara	30	29-10-2013	26.40	20.70	20.70
19	Vanakbara Panchayat	5	29-10-2013	4.75	3.50	3.50
20	High Secondary School Bucharwada	30	29-10-2013	26.40	20.70	20.70
21	Govt. High School Vanakbara	10	29-10-2013	8.80	7.00	7.00

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
22	Jawahar Navodaya Vidhyalaya Bucharwada	30	29-10-2013	26.40	20.70	20.70
23	Govt. High School Soudwadi	10	29-10-2013	8.80	7.00	7.00
24	Govt. Middle School Saudwadi	25	29-10-2013	22.00	17.25	17.25
25	Saudwadi Panchayat	20	29-10-2013	17.60	13.80	13.80
26	Primary Health Care Centre Dagachi	3	29-10-2013	2.79	2.10	2.10
27	Indian Reserve Battalion Campus Bucherwada	10	29-10-2013	8.90	7.00	7.00
28	Govt. Middle School Dagachi	30	29-10-2013	26.40	20.70	20.70
29	Govt. Sarvotam High School at Saudwadi-Diu	15	29-10-2013	9.60	10.35	9.60
30	Agriculture Office Diu	5	03-01-2015	4.95	3.50	3.50
31	Cove Sarvotamn High Secondary School	50	08-01-2015	34.00	34.50	34.00
32	Govt, Sarvotam School, Diu.	40	08-01-2015	30.76	27.60	27.60
33	Govt, Sarvotam Higher Secondary	40	08-01-2015	30.76	27.60	27.60

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
	School (Girls) Ghoghia					
34	Police Out Post - Ghoghla, DIU	10	08-02-2015	8.00	7.00	7.00
35	Govt. Sarvottam High School (boys)- Ghoghla	25	04-03-2015	17.50	17.25	17.25
36	Disty. Panchayat Building. No 1	20	05-03-2015	14.60	13.80	13.80
37	Gram Panchayat Bucharwada, Diu.	10	01-04-2015	8.00	7.00	7.00
38	Primary School, Near Girls School,Diu 20	20	01-04-2015	15.78	13.80	13.80
39	Disty Panchayat Building No 2	20	05-04-2015	14.95	13.80	13.80
40	Govt. Hospital Ghoghla	20	07-04-2015	15.78	13.80	13.80
41	Community Hall - Ghoghla	10	14-04-2015	8.00	7.00	7.00
42	Vat Office-DIU	10	20-04-2015	8.00	7.00	7.00
43	Prathana Hall, Ghoghla, Diu	20	20-04-2015	15.78	13.80	13.80
44	jCircuit House- 2 , Diu	20	21-04-2015	15.78	13.80	13.80
45	Ayurvedic Health Centre- Ghoghla	10	22-04-2015	8.00	7.00	7.00
46	Govt ITI R.wada	30	25-04-2015	21.85	20.70	20.70
47	Police Head Qr	30	05-05-2015	21.90	20.70	20.70

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
48	Block Resource Centre, Diu.	10	05-05-2015	8.00	7.00	7.00
49	Child Development Office-DIU	10	20-05-2015	8.00	7.00	7.00
50	Maimlatdar Office- Diu	25	20-05-2015	17.50	17.25	17.25
51	Govt. Sarvottam Middle School (boys)- Diu.	50	27-05-2015	34.00	34.50	34.00
52	City Survey Office Diu	20	28-05-2015	15.78	13.80	13.80
53	Govt, Polytechnic, Diu	40	13-06-2015	30.76	27.60	27.60
54	Vidyut Bhavan New Office building	30	11-07-2015	17.40	20.70	17.40
55	Old Collectorate Bunglow, Diu.	40	31-07-2015	30.76	27.60	27.60
56	1 MWp Solar Plant Magarwada	1000	01-08-2015	797.80	657.00	657.00
57	Community Hall at pavati-Diu	10	23-08-2015	6.90	7.00	6.90
58	Zolawadi Panchayat office Building, Diu	5	24-08-2015	3.42	3.50	3.42
59	Anganwadi No- 15 Near Katarpar Zolawadi,	3	24-08-2015	2.37	2.10	2.10
60	3 MWp SOLAR PLANT FUDAM DIU	3000	04-10-2015	2,393.40	1,971.0 0	1,971.00

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
	Govt Primary School at Bucharwada-					
61	Diu	12	23-10-2015	8.09	8.28	8.09
62	Collectorate Doller	30	05-11-2015	23.20	20.70	20.70
63	PHC Moti Daman	30	05-11-2015	21.85	20.70	20.70
64	Govt. Hospital Marwad N Daman	30	05-11-2015	21.85	20.70	20.70
65	Govt. Hospital Be Otly B Wing	30	26-11-2015	20.40	20.70	20.40
66	Govt, Hospital Be Otly C Wing	30	26-11-2015	20.40	20.70	20.40
67	Central Store Bldg.Kachigam1	30	06-12-2015	21.85	20.70	20.70
68	Govt. Hospital Be Otly A Wing	30	17-12-2015	20.40	20.70	20.40
69	Election Cell Building at Collectorate,Diu	7	04-01-2016	4.54	4.90	4.54
70	Govt Poly Tech IT 3	30	07-01-2016	18.44	20.70	18.44
71	Govt. Collage Library	30	07-01-2016	20.14	20.70	20.14
72	Govt. Collage Canteen	10	07-01-2016	7.15	7.00	7.00
73	Sarvotam High School Damanwada	15	10-01-2016	7.00	10.35	7.00
74	5 Govt. Sarvatam H. School O. Principal Of F	20	10-01-2016	13.00	13.80	13.00

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
	BLG-2 Damanwada					
75	Jampore Varliwad School 3	3	01-02-2016	3.33	2.10	2.10
76	Jampore Manglwad 2	2	01-02-2016	2.19	1.40	1.40
77	Govt High.S School Part-1 & 2 Bhimpore	40	01-02-2016	23.00	27.60	23.00
78	Govt. Balvikas Pariyogna Fulwadi	3	10-02-2016	2.70	2.10	2.10
79	Bangli School- Ghoghla	20	11-02-2016	15.78	13.80	13.80
80	Community Hall Nr Gomatimata at Vanakbara Diu,	5	17-02-2016	3.60	3.50	3.50
81	Education office building at collectorate .Diu	4	17-02-2016	2.72	2.80	2.72
82	Fisheries office Building ,Diu	4	17-02-2016	2.72	2.80	2.72
83	Bunder Chowk Bangli at Div	4	17-02-2016	2.72	2.80	2.72
84	Panchayat Building at Ghoghla, Diu.	3	17-02-2016	2.07	2.10	2.07
85	Community Hall at Gandhipara, Diu	5	17-02-2016	3.42	3.50	3.42
86	MRT Building at Electricity	3	27-02-2016	2.18	2.10	2.10

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
	Department, Diu					
87	Magarwada Power House New Building	30	08-03-2016	18.80	20.70	18.80
88	Magarwada Power House Control Room	60	08-03-2016	44.98	41.40	41.40
89	Govt. Collage Office	25	09-03-2016	15.76	17.25	15.76
90	Baivikash Pariyogna Anganwadi Bhamti	3	10-03-2016	2.70	2.10	2.10
91	Balvikash Pariyogna Anganwadi Naila Pardi	3	10-03-2016	2.70	2.10	2.10
92	Vidyut Bhavan New Office building	20	14-03-2016	13.60	13.80	13.60
93	Vidyut Bhavan New Office building	10	14-03-2016	6.80	7.00	6.80
94	Vatsalaya office Building ,Be- Otli-Diu	15	19-03-2016	8.99	10.35	8.99
95	Ghoghla Hospital Garage ,Ghoghla	5	26-03-2016	8.00	3.50	3.50
96	Poly Technic 4	25	01-04-2016	15.46	17.25	15.46
97	TTI Building 2	30	01-04-2016	20.04	20.70	20.04
98	Govt, Collage Com Buildiing	30	04-04-2016	12.99	20.70	12.99

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
99	Govt. Collaage Girls Hostel	5	04-04-2016	5.15	3.50	3.50
100	Nani Daman Model School	15	04-04-2016	9.50	10.35	9.50
101	DMC office Buiding ,Diu	15	15-04-2016	8.99	10.35	8.99
102	Control Room of 66/11 KV S/S at Malala, Diu.	15	18-04-2016	9.29	10.35	9.29
103	Govt. Sarvotam H.S School at Vanakbara-3	12	19-04-2016	7.79	8.28	7.79
104	Govt. Sarvotam H.S School at Vanakbara -2	12	19-04-2016	7.79	8.28	7.79
105	Higher Secondary School	25	25-04-2016	15.70	17.25	15.70
106	Higher Secondary School-3 Jalaram Society at V	20	25-04-2016	12.56	13.80	12.56
107	Community Hall Nr. Shidhivinayak Temple, Diu	8	26-04-2016	5.52	5.60	5.52
108	Collector office Building, Diu 8	8	27-04-2016	5.03	5.60	5.03
109	Govt. Hospital Be Otly D Wing	30	29-04-2016	20.40	20.70	20.40
110	Govt. Sarvotam H.S School at Vanakbara-1	15	04-05-2016	9.60	10.35	9.60

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
	Anganwadi Buiding Kholiwada,	_				
111	Ghoghla-Diu	3	17-05-2016	2.07	2.10	2.07
112	Fire Station Moti Daman	10	04-06-2016	7.50	7.00	7.00
113	Community Hall Nr.Ganesh Nagar at Ghoghla	10	04-06-2016	6.90	7.00	6.90
114	Higher Secondary School- Jalaram Society at Vanakbara,Diu	15	07-06-2016	9.60	10.35	9.60
115	Govt. Collage IGNO Building	25	20-06-2016	15.74	17.25	15.74
116	Govt. Primary School Devka Colony	5	27-06-2016	3.90	3.50	3.50
117	6 MWp SOLAR PLANT FUDAM DIU	6000	06-07-2016	3,258.84	3,942.0 0	3,258.84
118	Marwad PHC 2	25	21-07-2016	18.55	17.25	17.25
119	Govt Poly Tech New Building	75	24-07-2016	44.24	51.75	44.24
120	Govt Poly Tech New Boys Hostel 7	50	25-07-2016	32.60	34.50	32.60
121	himpore Sarva Shiksha Abhiyan	3	01-08-2016	1.32	2.10	1.32
122	Bhimpore Aashram Quters	10	04-08-2016	7.10	7.00	7.00

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
	Govt. Bhimpore					
123	High School Part-3	10	04-08-2016	5.75	7.00	5.75
124	Marwad PHC New Wode	30	07-08-2016	21.85	20.70	20.70
125	Kachigam Sub Station	23	08-08-2016	14.00	15.87	14.00
126	Marwad PHC Troma Center	30	13-08-2016	21.85	20.70	20.70
127	Bhimpore MRT	15	17-08-2016	9.50	10.35	9.50
128	Dalwada Sub Station	15	24-08-2016	9.50	10.35	9.50
129	Technical Building 1	20	01-09-2016	13.36	13.80	13.36
130	Magarwada Panchayat Anganwadi	3	01-09-2016	3.20	2.10	2.10
131	Govt Poly Tech Mech	40	04-09-2016	24.59	27.60	24.59
132	Govt. Collage New Building	50	23-09-2016	29.50	34.50	29.50
133	Govt. Collage Boys Hostel	40	23-09-2016	24.72	27.60	24.72
134	Govt. High.S School at Bhimpore	25	23-09-2016	14.38	17.25	14.38
135	Secretariat Terrace-2 Fort area	5	23-09-2016	3.95	3.50	3.50
136	Primary School Thana Pardi	20	23-09-2016	12.25	13.80	12.25
137	Central Store Bldg. Kachigam 2	15	08-10-2016	10.99	10.35	10.35

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
138	Govt. Sarvotam School Marwad	10	09-10-2016	7.00	7.00	7.00
139	Govt. Circuit HouseTerrace-1	3	10-10-2016	2.70	2.10	2.10
140	Govt. District Library -1	2	10-10-2016	1.90	1.40	1.40
141	Govt. District Library-2	3	10-10-2016	2.70	2.10	2.10
142	Govt. District Library-3	3	10-10-2016	2.70	2.10	2.10
143	Moti Daman LT Port Office JT	5	13-10-2016	3.85	3.50	3.50
144	RTO Office	10	14-10-2016	6.87	7.00	6.87
145	Bhimpore Sub Division 4	10	14-10-2016	6.87	7.00	6.87
146	Bhimpore Aarogya Kendra	15	15-10-2016	10.31	10.35	10.31
147	Kalariya Choki	5	17-10-2016	3.44	3.50	3.44
148	Bhimpore Kumbh Faliya Sub Center PHC	5	17-10-2016	3.44	3.50	3.44
149	Nani Daman Circuit House	14	18-10-2016	9.62	9.66	9.62
150	Veterinary office Building,Diu	10	23-10-2016	6.19	7.00	6.19
151	Porve Prathmik School Marwad	7	10-12-2016	4.80	4.90	4.80
152	Govt. Circuit HouseTerrace-2	5	10-12-2016	3.95	3.50	3.50
153	Govt. VIP Circuit House Terrace Dholar	5	10-12-2016	3.95	3.50	3.50

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
154	Marwad Anganwadi	3	10-12-2016	2.60	2.10	2.10
155	Bhimpore primary Middle School	40	18-01-2017	25.18	27.60	25.18
156	Nani Daman Model School Terrace-t	10	30-01-2017	6.30	7.00	6.30
157	Nani Daman Model Schoal	30	03-02-2017	18.80	20.70	18.80
158	Zari Aashram Primary School	10	10-03-2017	13.57	7.00	7.00
159	Govt, Primary School Magarwada	10	30-03-2017	6.95	7.00	6.95
160	Agriculture Farm Kachigam	20	01-04-2017	12.50	12.70	12.50
161	Magarwada Anganwadi	5	01-04-2017	3.20	3.22	3.20
162	Kachigam Aayush PHC	60	01-05-2017	39.70	38.09	38.09
163	Kothapat Sheri Mahajan Nan! Daman	3	04-01-2018	1.35	1.93	1.35
164	Machiwad Hall Qurters Sheri Moti Daman	5	04-01-2018	2.25	3.22	2.25
165	fishtak Sheri Moti Daman	5	04-01-2018	2.25	3.22	2.25
166	Vachli Shei Moti Damam	7	04-01-2018	3.15	4.51	3.15
167	Mangelwad Hall Moti Daman	5	04-01-2018	2.25	3.22	2.25

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
168	Doctor Sheri Moti Daman	5	04-01-2018	2.25	3.22	2.25
169	Dabhel Sub Station	12	01-03-2018	5.40	7.62	5.40
170	Ringanwada Sub Station	7	01-03-2018	3.87	4.51	3.87
171	Ringanwada Sub Station New Wode	3	01-03-2018	1.35	1.93	1.35
172	Varkund Sub Station	30	01-03-2018	21.85	19.04	19.04
173	Comumicable Diseases Office near PHC Moti Daman (Maleria Office) (Shitted Site Mandir Sheri Moti Daman)	5	01-03-2018	2.25	3.22	2.25
174	Hindu Samaj Hall Bhitwadi Moti Daman	2	01-03-2018	0.90	1.29	0.90
175	Mahayavanshi Hall Patlara Magarwada	3	01-03-2018	1.35	1.93	1.35
176	Compretion Hal] PHC Moti Daman	30	01-05-2018	18.55	19.04	18.55
177	School Store Building Zari	5	01-05-2018	2.55	3.22	2.55
178	Secondary School Office Zari	5	01-05-2018	2.24	3.22	2.24
179	Secondary School Zari	20	01-05-2018	8.94	12.70	8.94

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
180	High Secondary School zari	20	01-05-2018	8.94	12.70	8.94
181	Ghoghla Library, Panchayat Chowk	2	01-07-2018	0.90	1.29	0.90
182	Community Sub-Cenre (HIV & AIDS Contral) ref. Satyam Shivam Sundaram (Shifted to Guard Quarter, IRB, Bucharwada)	5	01-07-2018	2.25	3.22	2.25
183	GramPanchayat GYM. Saudwadi	5	01-07-2018	2.25	3.22	2.25
184	Gram Panchayat GYM. Vankabara	10	01-07-2018	4.50	6.44	4.50
185	Javans Barack Terrace-2	10	01-07-2018	4.50	6.44	4.50
186	Gandhipara PWD Godown, Beside PWD Pump House Shifted to Camp Commander Residence	5	01-07-2018	2.25	3.22	2.25
187	Community Hall Gram Panchayat Vankabaa	20	01-07-2018	11.25	12.70	11.25
188	Javans Barack (Terrace-1)	15	01-07-2018	6.75	9.52	6.75

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
189	PWD Godown Opp. Krishna Park	30	01-07-2018	13.50	19.04	13.50
190	Police Station (Terrace-2)	10	01-07-2018	4.50	6.44	4.50
191	Municipal Council Office - Panchayat Chowk	5	01-07-2018	2.25	3.22	2.25
192	Govt. Primary School -2 Koli Gnati Garbi Mandal Terrace - 2	20	01-07-2018	9.00	12.70	9.00
193	High School boys (Shifted to Boys School Vadimata)	30	01-07-2018	13.60	19.04	13.60
194	Community Hall at Patelwadi	8	01-08-2018	5.88	5.15	5.15
195	Community Hall at Saudwadi, Diu	10	01-08-2018	7.13	6.44	6.44
196	Anganwadi School at Betawadi, Diu	3	01-08-2018	2.24	1.93	1.93
197	Primary School at Dagachi	4	01-08-2018	2.98	2.58	2.58
198	Primary School at Gomtimata, Vanakbara,	10	01-08-2018	7.13	6.44	6.44
199	228 Govt. Primary School at Patelwadi, Diu	10	01-08-2018	7.13	6.44	6.44
200	Govt. sarvottam Higher	10	01-08-2018	7.13	6.44	6.44

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
	Secondary School (Girls) at Vanakbara, Diu (Shifted to Govt Scooi at Jalaram Society					
201	Collector Office	90	17-08-2018	40.50	57.13	40.50
202	Kachigam Midal School-1	14	17-08-2018	6.26	8.89	6.26
203	Intergrated Protection Building	5	17-08-2018	2.50	3.22	2.50
204	MRT New Building	10	17-08-2018	6.87	6.44	6.44
205	jKachigam High School-2	7	01-09-2018	3.13	4.51	3.13
206	Kadaiya Primary upper primary	5	23-09-2018	2.55	3.22	2.55
207	Terrace of stadium building	54	01-10-2018	31.89	34.28	31.89
208	Pavillion sport complex	22	01-10-2018	12.99	13.97	12.99
209	Govt.Sarvottam Higher School Girls Terrace - 2 Vanakbara (Shifted to Nagoa Primary School)	45	01-10-2018	22.46	28.57	22.46
210	Fire Brigade Office Be-otli) Govt. Sarvottam High School, Bhucharwada	20	01-10-2018	9.98	12.70	9.98
211	Govt. sarvottam Higher Schoo] Girls Terrace-3,	5	01-10-2018	2.50	3.22	2.50

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
	(Sifted toe: Koli gnati school)					
212	Vanakbara (Shifted to Govt. Sarvottam Higher Secondary School nr Fort)	45	01-10-2018	22.41	28.57	22.41
213	Govt. Sarvottam Upper Primary School, Opp. 30 KW Installed (Shifted to : Govt. school at Jalaram Society	25	01-10-2018	12.48	15.87	12.48
214	Govt. Sarvottam Primary School -2 Koli Ganti Garbi Mandal T-2 (Shifted to Saudwadi Primary School	15	01-10-2018	7.49	9.52	7.49
215	Govt. Sarvottam Higher Secondary School, Koli Ganti Garbi Mandal 20	20	01-10-2018	9.99	12.70	9.99
216	Govt. Sarvottam Higher Secondary School, Terrace	35	01-10-2018	17.48	22.22	17.48
217	Mithiwadi Anganwadi No 7, Koli Ganti Garbi Mandal	15	01-11-2018	7.49	9.52	7.49

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
218	241 Angnawadi - 12, Dagachi- 12, Diu	3	01-11-2018	1.59	1.93	1.59
219	Alnganwadi - 8, Wt, Jalaram Soctely (shitted to. Patel Prathmik School -7KW	10	01-11-2018	3.71	6.44	3.71
220	Anganwadi -32, Nr. Siddhivinayak Govt. Prathmik School, Patelwadi (Shifted to :- a Gnadhipara School Nr. Elec Office) 998400	5	01-11-2018	2.65	3.22	2.65
221	Govt. Prathmik School 3, Vanakbara	20	01-11-2018	9.98	12.70	9.98
222	Govt. Prathmik School 3, Vanakbara	7	01-11-2018	4.99	4.51	4.51
223	Education Hub Govt. Collage	230	01-12-2018	112.42	139.01	112.42
224	Education Hub Govt. Collage	230	01-12-2018	111.02	139.01	111.02
225	Magarwada Power House Control Room 4	18	25-02-2019	12.24	11.43	11.43
226	Dabhkel Qurter -1	3	01-04-2019	1.32	1.93	1.32
227	Dabhel Qurter2	3	01-05-2019	1.32	1.93	1.32
228	Jampore Valiwad	5	01-05-2019	2.45	3.22	2.45

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
	Community Hall Building Moti Daman					
229	Pariyari Panchayat Building Moti Daman shifted to TV Center	8	01-05-2019	3.91	5.15	3.91
230	Pariyari Govt. School Building, Moti Daman	5	02-05-2019	2.45	3.22	2.45
231	AadivasiBhavan Moti Daman	45	20-05-2019	23.24	28.57	23.24
232	Udhyog Bhawan Bheslore	39	01-06-2019	24.67	24.76	24.67
233	Govt. Primary School Terrace, Dalwada	6	01-07-2019	2.91	3.86	2.91
234	Nani Daman Electricity Department SD-I(Dismantled Site Shifted from Dabhel School and Kachigam Primary School)	21	01-08-2019	11.48	10.50	10.50
235	Shram Yogi Bhavan (OIDC Somnath)	23	01-09-2019	12.12	11.50	11.50
236	Zari SubStation	21	01-09-2019	17.40	10.50	10.50
237	Varkund ss	4	01-01-2020	2.25	2.00	2.00
238	Ayushman Bharat Red Cross near bus stop nani Daman	3	26-01-2020	1.50	1.50	1.50

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
	Ayushman Bharat Zoomprim Mangolwad Yogeshwar Mande Moti					
239	Daman	3	26-01-2020	1.50	1.50	1.50
240	Shubhash Chandra Bose Stadium HWC Dabhel	3	26-01-2020	1.50	1.50	1.50
241	Dabhel Atiyawad HWC	3	26-01-2020	1.50	1.50	1.50
242	Somnath OIDC HWC	3	26-01-2020	1.50	1.50	1.50
243	Aayushman Bharat Bhimpore Center	2	29-02-2020	1.03	1.00	1.00
244	Aayushman Bharat Dori Center	2	29-02-2020	1.00	1.00	1.00
245	Aayushman Bharat Kadiya Center	3	02-03-2020	1.54	1.50	1.50
246	Aayushman Bharat Devka Center	4	02-03-2020	2.00	2.00	2.00
247	Aayushman Bharat Dholar HWC	3	03-03-2020	1.50	1.50	1.50
248	Varkund HWC	4	04-03-2020	2.05	2.00	2.00
249	Dabhel PHC	4	04-03-2020	2.05	2.00	2.00
250	Pariyari HWC	4	22-07-2020	2.05	2.00	2.00
251	Jalandhar VVIP Circuit House	55	09-11-2020	26.87	27.50	26.87

SL. No.	Project Name	Capacity of the Plants (KWp)	COD	Petitioner Submission	Cost as per allowed Capital Cost	Commission' s Approved cost (W/o adjusting depreciation)
	Total	14,416		9,285.96	9493.33	8,549.87

The Commission has noted that the depreciation cost till FY 2019-20 has already been claimed by the Petitioner in its previous years ARR petitions, therefore the depreciation cost i.e. (1691.83 crore) has been reduced from the Commission's approved capital cost and net cost (8549.87-1691.83) has been considered to work out the tariff for balance life of the plants.

The Commission further noted that the petitioner has not submitted any details of grant/ subsidy in his submission. Accordingly, the Commission has not considered any capital grant or subsidy offered by the Central or State Government or any other agency, while determining the tariff. If in future the petitioner receives any grant for projects approved by this order, the same shall be deducted from the capital cost of the projects for which grant has been received and petitioner have to file petition again for determination of the levelized tariff.

b) Debt Equity Ratio

The Commission has considered the Debt Equity Ratio in the proportion of 70:30 as also proposed by the petitioner.

c) Interest and Financing Charges for Long Term Debt

- I. For the purpose of computation of tariff, the normative interest rate shall be considered as an average State Bank of India (SBI) Base rate prevalent during the first six months of the previous year plus 300 basis points. Accordingly, Commission has approved the Interest and Financing Charges for Long Term Debt for all the plants commissioned before implementation of Joint Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2019.
- II. An average State Bank of India (SBI) Base rate prevalent during the first six months of the previous year plus 200 basis points has been considered for all the plants commissioned after implementation of Joint Electricity

Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2019.

The approved normative interest rate is provided below in the table:

SL.	Financial Year	Petitioner's	Approved by
No.		Submission	Commission
1	FY 2012-13	12.10% for	12.30%
2	FY 2013-14	4137 KWp	12.98%
3	FY 2014-15	Solar Roof Top,	12.71%
4	FY 2015-16	12.76% for	13.00%
5	FY 2016-17	1000, 3000,	12.76%
6	FY 2017-18	and 6000 KWp	12.30%
7	FY 2018-19	Solar Plants	12.05%
8	FY 2019-20 before implementation of Joint Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2019.	and 11.40% for 279 KWp Roof top Solar Plants.	11.83%
9	FY 2019-20 after implementation of Joint Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2019.		10.51%
10	FY 2020-21		9.91%

d) Interest on Working Capital

I. For the purpose of computation of tariff, the normative interest rate shall be considered as an average State Bank of India (SBI) Base rate prevalent during the first six months of the previous year plus 350 basis points. Accordingly, Commission has approved the Interest and Financing Charges for Long Term Debt for all the plants commissioned **before** implementation of *Joint Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations*, 2019.

II. An average State Bank of India (SBI) Base rate prevalent during the first six months of the previous year plus 300 basis points has been considered for all the plants commissioned **after** implementation of *Joint Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations*, 2019.

The approved normative interest rate on working capital is provided below in the table:

SL.	Financial Year	Petitioner's	Approved by
No.		Submission	Commission
1	FY 2012-13	12.60% for	12.80%
2	FY 2013-14	4137 KWp	13.48%
3	FY 2014-15	Solar Roof	13.21%
4	FY 2015-16	Top, 13.26%	13.50%
5	FY 2016-17	for 1000,	13.26%
6	FY 2017-18	3000, and	12.80%
7	FY 2018-19	6000 KWp	12.55%
9	FY 2019-20 before implementation of Joint Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2019. FY 2019-20 after implementation of Joint Electricity Regulatory Commission (Terms and	Solar Plants and 12.40% for 279 KWp Roof top Solar Plants.	12.33% 11.51%
10	Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2019. FY 2020-21		10.91%

e) Return on Equity

I. The Commission has considered the normative return on equity (i) Pre-tax return of 20% (Twenty percent) per annum for the first 10 (ten) years and (ii) Pre-tax return of 24% (Twenty Four percent) per annum from 11th year onwards for all the plants commissioned before implementation of *Joint Electricity Regulatory Commission (Terms and Conditions for Tariff*

determination from Renewable Energy Sources) Regulations, 2019 as also proposed by the petitioner.

Particulars	Petitioner S	ubmission		sidered by mmission
T di tiodidi 5	Up to 10 th year	11 th year onwards	Up to	11 th year onwards
Return on Equity	20%	24%	20%	24%

II. Normative return on equity for all the plants commissioned after implementation of Joint Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2019 has been calculated according to Regulation 17.2 of Joint Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2019.

17 Return on Equity

- 17.2 The normative Return on Equity shall be:
- a) 14% for Renewable Energy Projects in Mainland areas;
- b) 16% for Renewable Energy Projects in Island areas;

to be grossed up by prevailing Minimum Alternate Tax (MAT) rate as on 1st April of available year at the time of determination of tariff for the entire useful life of the project

Particulars	Petitioner	Considered by
	Submission	Commission
FY 2019-20	17.845%	17.85%
FY 2020-21	17.845%	16.96%

f) Operation & Maintenance (O&M) Expense

I. The Commission has considered the Operation and Maintenance or O & M expenses@ ₹ 13.00 lakh per MW as also proposed by the petitioner, which

shall be escalated at the rate of 5.72% per annum over the tariff period for all the plants commissioned before implementation of *Joint Electricity* Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2019

II. Operation and Maintenance or O & M expenses for all the plants commissioned after implementation of Joint Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2019has been calculated according to Regulation 20 of Joint Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2019.

20. Operation and Maintenance Expenses

- 20.1 'Operation and Maintenance' or O&M expenses shall comprise of repair and maintenance (R&M), establishment including employee expenses, and administrative and general (A&G) expenses.
- 20.2 O&M expenses shall be determined for the Tariff Period based on normative O&M expenses as specified by the Commission subsequently in these Regulations for the first Year of Control Period.
- 20.3 Normative O&M expenses allowed during first year of the Control Period (i.e., FY 2019-20) under these Regulations shall be escalated at average inflation factor of previous three years considering 60% weightage for the actual point to point inflation over Wholesale Price Index numbers as per Office of Economic Advisor, Ministry of Commerce and Industry, Government of India and 40% weightage for the actual Consumer Price Index for Industrial Workers (all India) as per Labour Bureau, Government of India in the previous three years.

g) Depreciation

The Commission has considered the depreciation rate for the first 12 years is 5.83% and 1.54% for 13th year onwards, till the useful life of the project. As also proposed by the petitioner.

The depreciation has been calculated with salvage value of 10% on Commission's calculated approved capital cost (i.e. 8549.87 crore). Accordingly, the depreciation has been applied throughout the life of the Solar

Plants and Solar Rooftop Plants.

h) Discount factor for calculating Levelized Tariff:

The following parameter has been considered for determining discount factor: "Discount factor for calculating Levelized Tariff: ((Cost of Capital in % * 0.70 Long term loan Component x (1 - Corporate Income Tax %)] + (Weighted average Post Tax Return on Equity % * Equity %)]

Accordingly, the Discount factor for calculating Levelized Tariff is derived by the Commission.

SL.	Financial Year	Petitioner's	Approved	by
No.		Submission	Commission	
1	FY 2012-13	12.09% for 4137	12.53%	
		KWp Solar Roof		
2	FY 2013-14	Top, 12.09 % for	12.86%	
		1000, 3000, and		
3	FY 2014-15	6000 KWp Solar	12.73%	
		Plants and		
4	FY 2015-16	10.46 % for 279	12.81%	
		KWp Roof top		
		Solar Plants.		

78. Considering the above parameters, the levelized Tariff approved by the Commission for the Solar Plants as under:

A. Roof Top Solar Plant

SL. No.	Particular's	Petitioner's Submission	Approved by Commission
İ	Roof Top Solar Plant installed before implementation of Joint Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2019	7.86	6.15
ii	Roof Top Solar Plant installed after notification of <i>Joint Electricity</i>	5.93	4.73

SL.	Particular's	Petitioner's	Approved by
No.		Submission	Commission
	Regulatory Commission (Terms		
	and Conditions for Tariff		
	determination from Renewable		
	Energy Sources) Regulations,		
	2019 (from Jul 19 to Mar 20)		
iii	Roof Top Solar Plant installed in	5.93	4.72
	FY 2020-21		

The Commission is of the view that had the Petitioner filed this Petition in time then the problem would not have arisen to determine the tariff from the date of the COD. But he failed to do so therefore, the Commission calculated year wise tariff and averaged it (Year wise detail is provided in **Annexure A)**.

B. Solar Plant

SL. No.	Particular's	Petitioner's Submission	Approved by Commission
i	3 MWp Solar Plat	8.65	6.31
ii	6 MWp Solar Plat	8.65	5.97
iii	1 MWp Solar Plat	8.65	6.31

Plant wise detail is provided in **Annexure B**

79. The Commission has observed that petitioner has failed to file the petition for determination of Levelized tariff in time and submitted petition for these plants now. The Commission is of the view that tariff for these plants cannot be determined retrospectively as that would burden the consumer due to utter failure of petitioner to submit the present petition in time without any fault on their part. The tariff of these plants would be applicable from 01/04/2021 onwards.

Thus, the petitioner shall be entitled to power purchase cost for the solar units generated from these solar plants from 01st April 2021 onwards. However, the project life of each solar plant shall be considered for 25 years from the date of commissioning of respective solar plant.

80. The Petitioner is directed to segregate the solar assets considered in this Order from the Fixed Assets Register of Electricity Department Daman & Diu and while filing APR of FY 2021-22 along with ARR petition of FY 2022-23 and not to

consider these assets in Fixed Assets Register.

81. The Commission reiterates that the Petitioner did not file this Petition immediately after commissioning of the said Projects and delayed the filing of the Petition which they failed to explain. The Commission has taken a serious view regarding

the casual approach of the Petitioner and directed them that in future it should

not be repeated at any cost.

Ordered accordingly.

-Sd-(Shri M.K Goel) Chairperson

Place: Gurugram Date: 28th April 2021

Certified Copy

Luman:

(Rakesh Kumar) Secretary

Annexure A

Year wise Levelized Tariff of Rooftop Solar Plant (FY 2012-13)

0.89

5.05

5.79

0.79

4.40

0.70

3.83

0.62

3.34

0.55

2.91

0.49

2.54

0.44

2.21

																									-
																									-
16.18																									-
	34.88	32.01	29.14	26.28	23.41	20.54	17.67	14.81	11.94	9.07	6.21														_
	36.31	33.44	30.58	27.71	24.84	21.97	19.11	16.24	13.37	10.51	7.64	4.77													
Unit	1	2	3	4	-	6	7	8	9					14											25
Rs Lakh										_	_					-	_							_	6.87
Rs Lakh	2.87			2.87		2.87	2.87	2.87		2.87	2.87		0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Rs Lakh	4.46	4.11	3.76	3.41	3.05	2.70	2.35	2.00	1.64	1.29	0.94	0.59	-	-	-	-	-	-	-	-	-	-	-	-	-
Rs Lakh	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.33	0.33	0.29	0.30	0.31	0.32	0.33	0.34	0.36	0.37	0.39	0.41	0.42	0.44	0.46
Rs Lakh	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88	3.88
Rs Lakh	12.70	12.45	12.20	11.96	11 73	11 51	11 20	11.08	10 00	10.60	11 17	11.00	0.45	0 66	0.00	0.40		0.64	0.00	10.31	40.50	10.00	11 21	11.58	11.97
			ILILO	11150	11175	11.51	11.25	11.00	10.00	10.05	11.17	11.00	6.43	8.00	8.88	9.12	9.37	9.04	9.92	10.21	10.53	10.86	11,21	22,50	
			ILILO	11.50	11.75	11.51	11.23	11.00	10.00	10.05	11.17	11.00	8,43	8.00	8.88	9.12	9.37	9.04	9.92	10.21	10.53	10.86	11.21	22.50	
Unit	1	2	3	4	5	6	7	8	9	10.03	11	12	13	14	15	16	9.37	18	19	20	21	22	23	24	25
Unit MW	1 0.139			4 0.139			7 0.139																		25 0.139
	1 0.139 18.00%	2	3	4	5	6	7 0.139	8 0.139	9	10	11	12	13 0.139	14	15 0.139	16	17	18	19	20	21	22	23	24	
MW		2 0.139	3 0.139	4 0.139	5 0.139	6 0.139	7 0.139	8 0.139	9 0.139	10 0.139	11 0.139	12 0.139	13 0.139	14 0.139	15 0.139	16 0.139	17 0.139	18 0.139	19 0.139	20 0.139	21 0.139	22 0.139	23 0.139	24 0.139	0.139
MW %	18.00%	2 0.139 18.00%	3 0.139 18.00%	4 0.139 18.00%	5 0.139 18.00%	6 0.139 18.00%	7 0.139 18.00%	8 0.139 18.00%	9 0.139 18.00%	10 0.139 18.00%	11 0.139 18.00%	12 0.139 18.00%	13 0.139 18.00%	14 0.139 18.00%	15 0.139 18.00%	16 0.139 18.00%	17 0.139 18.00%	18 0.139 18.00%	19 0.139 18.00%	20 0.139 18.00%	21 0.139 18.00%	22 0.139 18.00%	23 0.139 18.00%	24 0.139 18.00%	0.139 18.00%
MW % MU	18.00% 0.22	2 0.139 18.00%	3 0.139 18.00% 0.22	4 0.139 18.00%	5 0.139 18.00%	6 0.139 18.00% 0.22	7 0.139 18.00% 0.22	8 0.139 18.00%	9 0.139 18.00%	10 0.139 18.00% 0.22	11 0.139 18.00%	12 0.139 18.00%	13 0.139 18.00%	14 0.139 18.00%	15 0.139 18.00%	16 0.139 18.00%	17 0.139 18.00%	18 0.139 18.00%	19 0.139 18.00%	20 0.139 18.00%	21 0.139 18.00%	22 0.139 18.00%	23 0.139 18.00% 0.22	24 0.139 18.00%	0.139 18.00%
MW % MU %	18.00% 0.22 -	2 0.139 18.00% 0.22	3 0.139 18.00% 0.22	4 0.139 18.00% 0.22	5 0.139 18.00% 0.22	6 0.139 18.00% 0.22	7 0.139 18.00% 0.22	8 0.139 18.00% 0.22	9 0.139 18.00% 0.22	10 0.139 18.00% 0.22	11 0.139 18.00% 0.22	12 0.139 18.00% 0.22	13 0.139 18.00% 0.22	14 0.139 18.00% 0.22	15 0.139 18.00% 0.22	16 0.139 18.00% 0.22	17 0.139 18.00% 0.22	18 0.139 18.00% 0.22	19 0.139 18.00% 0.22	20 0.139 18.00% 0.22	21 0.139 18.00% 0.22	0.139 18.00% 0.22	23 0.139 18.00% 0.22	24 0.139 18.00% 0.22	0.139 18.00% 0.22 -
	Rs Lakh Rs Lakh Rs Lakh Rs Lakh	in Lakhs 53.92 37.74 16.18 37.74 2.87 34.88 36.31 Unit 1 Rs Lakh 1.81 Rs Lakh 2.87 Rs Lakh 4.46 Rs Lakh 0.32 Rs Lakh 3.24	in Lakhs 53.92 37.74 16.18 37.74 34.88 2.87 2.87 34.88 32.01 36.31 33.44 Unit 1 2 Rs Lakh 1.81 1.91 Rs Lakh 2.87 Rs Lakh 4.46 4.11 Rs Lakh 0.32 0.32 Rs Lakh 3.24 3.24	in Lakhs 53.92 37.74 16.18 37.74 34.88 32.01 2.87 2.87 2.87 2.87 34.88 32.01 29.14 36.31 33.44 30.58 Unit 1 2 3 Rs Lakh 1.81 1.91 2.02 Rs Lakh 2.87 2.87 2.87 2.87 Rs Lakh 4.46 4.11 3.76 Rs Lakh 0.32 0.32 0.32 Rs Lakh 3.24 3.24 3.24	in Lakhs 53.92 37.74 16.18 37.74 34.88 32.01 29.14 2.87 2.87 2.87 2.87 2.87 2.87 34.88 32.01 29.14 26.28 36.31 33.44 30.58 27.71 Unit 1 2 3 4 Rs Lakh 1.81 1.91 2.02 2.14 Rs Lakh 2.87 2.87 2.87 2.87 2.87 Rs Lakh 4.46 4.11 3.76 3.41 Rs Lakh 0.32 0.32 0.32 0.32 Rs Lakh 3.24 3.24 3.24	in Lakhs 53.92 37.74 16.18 37.74 34.88 32.01 29.14 26.28 2.87 2.87 2.87 2.87 2.87 2.87 2.87 2	in Lakhs 53.92 37.74 16.18 37.74 34.88 32.01 29.14 26.28 23.41 2.87 2.87 2.87 2.87 2.87 2.87 2.87 2.87	in Lakhs 53.92 37.74 16.18 37.74 34.88 32.01 29.14 26.28 23.41 20.54 2.87 2.87 2.87 2.87 2.87 2.87 2.87 2.87	in Lakhs 53.92 37.74 16.18 37.74 34.88 32.01 29.14 26.28 23.41 20.54 17.67 2.87 2.87 2.87 2.87 2.87 2.87 2.87 2.8	in Lakhs 53.92 37.74 16.18 37.74 34.88 32.01 29.14 26.28 23.41 20.54 17.67 14.81 2.87 2.87 2.87 2.87 2.87 2.87 2.87 2.87	in Lakhs 53.92 37.74 16.18 37.74 34.88 32.01 29.14 26.28 23.41 20.54 17.67 14.81 11.94 2.87 2.87 2.87 2.87 2.87 2.87 2.87 2.87	in Lakhs 53.92 37.74 16.18 37.74	in Lakhs 53.92 37.74 16.18 37.74 34.88 32.01 29.14 26.28 23.41 20.54 17.67 14.81 11.94 9.07 6.21 2.87 2.87 2.87 2.87 2.87 2.87 2.87 2.87	in Lakhs 53.92 37.74 16.18 37.74 34.88 32.01 29.14 26.28 23.41 20.54 17.67 14.81 11.94 9.07 6.21 2.87 2.87 2.87 2.87 2.87 2.87 2.87 2.87	in Lakhs 53.92 37.74 16.18 37.74 34.88 32.01 29.14 26.28 23.41 20.54 17.67 14.81 11.94 9.07 6.21 2.87 2.87 2.87 2.87 2.87 2.87 2.87 2.87	in Lakhs 53.92 37.74 16.18 37.74 34.88 32.01 29.14 26.28 23.41 20.54 17.67 14.81 11.94 9.07 6.21 2.87 2.87 2.87 2.87 2.87 2.87 2.87 2.87	in Lakhs 53.92 37.74 16.18 37.74 34.88 32.01 29.14 26.28 23.41 20.54 17.67 14.81 11.94 9.07 6.21 2.87 2.87 2.87 2.87 2.87 2.87 2.87 2.87	in Lakhs 53.92 37.74 16.18 37.74 34.88 32.01 29.14 26.28 23.41 20.54 17.67 14.81 11.94 9.07 6.21 2.87 2.87 2.87 2.87 2.87 2.87 2.87 2.87	in Lakhs 53.92 37.74 16.18 37.74 34.88 32.01 29.14 26.28 23.41 20.54 17.67 14.81 11.94 9.07 6.21 2.87 2.87 2.87 2.87 2.87 2.87 2.87 2.87	in Lakhs 53.92 37.74 16.18 37.74	In Lakhs 53.92 37.74 16.18 37.74 34.88 32.01 29.14 26.28 23.41 20.54 17.67 14.81 11.94 9.07 6.21 2.87 2.87 2.87 2.87 2.87 2.87 2.87 2.87	in lakhs 53.92 37.74 16.18 37.74	in lakhs 53.92 37.74 16.18 37.74 34.88 32.01 29.14 26.28 23.41 20.54 17.67 14.81 11.94 9.07 6.21 2.87 2.87 2.87 2.87 2.87 2.87 2.87 2.87	in lakhs 53.92 37.74 16.18 37.74 34.88 32.01 29.14 26.28 23.41 20.54 17.67 14.81 11.94 9.07 6.21 2.87	in Lakhs 53.92 37.74 16.18 37.74 34.88 32.01 29.14 26.28 23.41 20.54 17.67 14.81 11.94 9.07 6.21 2.87 2.87 2.87 2.87 2.87 2.87 2.87 2.87

0.35

1.69

0.39

1.93

0.31

1.57

0.27

1.37

0.22

0.85

0.24

0.93

0.19

0.78

0.17

0.15

0.65

Levelised Tariff 5.18

Discount Factor

Discounted Tariff

Discount factor Rate 12.53%

0.06

0.32

0.07

0.35

0.12

0.54

0.11

0.49

0.09

0.45

0.08

0.41

0.07

0.38

0.13

0.59

Year wise Levelized Tariff of Rooftop Solar Plant (FY 2013-14)

Plant FY 2013-14 FY 2013-14 in Lakhs 119.10 Capital Cost 83.37 Debt Equity 35.73 Op. Debt 83.37 63.95 76.90 70.42 Repayment 6.48 6.48 6.48

51.00 44.52 38.05 31.57 25.10 18.62 12.15 57.47 6.48 6.48 6.48 6.48 6.48 6.48 6.48 6.48 6.48 CI. Debt 76.90 70.42 63.95 57.47 51.00 44.52 38.05 31.57 25.10 18.62 12.15 5.67 Average Debt 80.13 73.66 67.18 60.71 54.23 47.76 41.28 34.81 28.33 21.86 15.38 8.91

Fixed Cost	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh	3.61	3.82	4.04	4.27	4.51	4.77	5.05	5.33	5.64	5.96	6.30	6.66	7.04	7.45	7.87	8.32	8.80	9.30	9.84	10.40	10.99	11.62	12.29	12.99	13.73
Depreciation	Rs Lakh	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71
Interest on term loan	Rs Lakh	10.41	9.56	8.72	7.88	7.04	6.20	5.36	4.52	3.68	2.84	2.00	1.16	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest on working Capital	Rs Lakh	0.75	0.74	0.74	0.73	0.72	0.72	0.71	0.71	0.71	0.71	0.74	0.74	0.63	0.65	0.67	0.70	0.72	0.75	0.78	0.81	0.84	0.88	0.91	0.95	0.99
Return on Equity	Rs Lakh	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15	8.58	8.58	8.58	8.58	8.58	8.58	8.58	8.58	8.58	8.58	8.58	8.58	8.58	8.58	8.58
Total Fixed Cost	Rs Lakh	28.39	27.75	27.12	26.50	25.90	25.31	24.74	24.19	23.65	23.13	24.09	23.61	17.96	18.38	18.83	19.31	19.81	20.34	20.90	21.50	22.12	22.79	23.49	24.23	25.01

Units Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278	0.278
CUF	%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%
Gross Generation	MU	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
Auxiliary Consumption	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	•	-	-		-	-	-
Electricity Generation	MU	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44

Per unit Fixed Cost	Rs/kWh	6.48	6.33	6.19	6.05	5.91	5.77	5.64	5.52	5.39	5.28	5.50	5.39	4.10	4.19	4.30	4.40	4.52	4.64	4.77	4.90	5.05	5.20	5.36	5.53	5.71
Discount Factor		1	0.89	0.79	0.70	0.62	0.55	0.48	0.43	0.38	0.34	0.30	0.26	0.23	0.21	0.18	0.16	0.14	0.13	0.11	0.10	0.09	0.08	0.07	0.06	0.05
Discounted Tariff		6.48	5.61	4.86	4.21	3.64	3.15	2.73	2.37	2.05	1.78	1.64	1.42	0.96	0.87	0.79	0.72	0.65	0.59	0.54	0.49	0.45	0.41	0.37	0.34	0.31

Levelised Tariff 5.68

Discount factor Rate 12.86%

Year wise Levelized Tariff of Rooftop Solar Plant (FY 2014-15)

Plant	FY 2014-15																									
FY 2014-15	in Lakhs																									
Capital Cost	94.68																									
Debt	66.27																									
Equity	28.40																									
Op. Debt		66.27	60.99	55.70	50.42	45.13	39.84	34.56	29.27	23.99	18.70	13.41	8.13													
Repayment		5.29	5.29	5.29	5.29	5.29	5.29	5.29	5.29	5.29	5.29	5.29	5.29													
Cl. Debt		60.99	55.70	50.42	45.13	39.84	34.56	29.27	23.99	18.70	13.41	8.13	2.84													
Average Debt		63.63	58.34	53.06	47.77	42.49	37.20	31.91	26.63	21.34	16.06	10.77	5.48													
Fixed Cost	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh	2.47	2.61	2.76	2.92	3.09	3.26	3.45	3.65	3.85	4.07	4.31	4.55	4.81	5.09	5.38	5.69	6.01	6.36	6.72	7.11	7.51	7.94	8.40	8.88	9.39
Depreciation	Rs Lakh	5.29	5.29	5.29	5.29	5.29	5.29	5.29	5.29	5.29	5.29	5.29	5.29	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
Interest on term loan	Rs Lakh	8.09	7.41	6.74	6.07	5.40	4.73	4.06	3.38	2.71	2.04	1.37	0.70	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest on working Capital	Rs Lakh	0.56	0.55	0.55	0.54	0.53	0.53	0.52	0.52	0.52	0.51	0.54	0.53	0.44	0.46	0.48	0.49	0.51	0.53	0.55	0.57	0.59	0.61	0.64	0.66	0.69
Return on Equity	Rs Lakh	5.68	5.68	5.68	5.68	5.68	5.68	5.68	5.68	5.68	5.68	6.82	6.82	6.82	6.82	6.82	6.82	6.82	6.82	6.82	6.82	6.82	6.82	6.82	6.82	6.82
Total Fixed Cost	Rs Lakh	22.08	21.55	21.02	20.50	19.99	19.48	18.99	18.52	18.05	17.59	18.31	17.89	13.47	13.76	14.07	14.40	14.74	15.10	15.48	15.89	16.32	16.77	17.25	17.76	18.29
Units Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW	0.190	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
CUF	%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%
Gross Generation	MU	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Auxiliary Consumption	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electricity Generation	MU	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Per unit Fixed Cost	Rs/kWh	7.37	7.19	7.02	6.84	6.67	6.50	6.34	6.18	6.02	5.87	6.11	5.97	4.50	4.59	4.70	4.81	4.92	5.04	5.17	5.30	5.45	5.60	5.76	5.93	6.11
Discount Factor		1	0.89	0.79	0.70	0.62	0.55	0.49	0.43	0.38	0.34	0.30	0.27	0.24	0.21	0.19	0.17	0.15	0.13	0.12	0.10	0.09	0.08	0.07	0.06	0.06
Discounted Tariff		7.37	6.38	5.52	4.78	4.13	3.57	3.09	2.67	2.31	2.00	1.84	1.60	1.07	0.97	0.88	0.80	0.72	0.66	0.60	0.54	0.50	0.45	0.41	0.38	0.34
Levelised Tariff	6.37																									

Year wise Levelized Tariff of Rooftop Solar Plant (FY 2015-16)

 Plant
 FY 2015-16

 FY 2015-16
 in Lakhs

 Capital Cost
 539.90

 Debt
 377.93

 Equity
 161.97

Op. Debt 377.93 347.48 317.04 286.60 256.16 225.71 195.27 164.83 134.38 103.94 73.50 43.06 Repayment 30.44 30.44 30.44 30.44 30.44 30.44 30.44 30.44 30.44 30.44 30.44 Cl. Debt 347.48 317.04 286.60 256.16 225.71 195.27 164.83 134.38 103.94 73.50 43.06 12.61 Average Debt 362.71 332.26 301.82 271.38 240.93 210.49 180.05 149.61 119.16 88.72 58.28 27.84

Fixed Cost	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh	13.57	14.35	15.17	16.04	16.95	17.92	18.95	20.03	21.18	22.39	23.67	25.02	26.46	27.97	29.57	31.26	33.05	34.94	36.94	39.05	41.28	43.65	46.14	48.78	51.57
Depreciation	Rs Lakh	30.44	30.44	30.44	30.44	30.44	30.44	30.44	30.44	30.44	30.44	30.44	30.44	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05
Interest on term loan	Rs Lakh	47.15	43.19	39.24	35.28	31.32	27.36	23.41	19.45	15.49	11.53	7.58	3.62			-						-				-
Interest on working Capital	Rs Lakh	3.28	3.23	3.19	3.14	3.10	3.07	3.03	3.00	2.97	2.95	3.08	3.06	2.54	2.63	2.71	2.81	2.91	3.01	3.12	3.24	3.36	3.49	3.63	3.77	3.93
Return on Equity	Rs Lakh	32.39	32.39	32.39	32.39	32.39	32.39	32.39	32.39	32.39	32.39	38.87	38.87	38.87	38.87	38.87	38.87	38.87	38.87	38.87	38.87	38.87	38.87	38.87	38.87	38.87
Total Fixed Cost	Rs Lakh	126.84	123.61	120.43	117.30	114.22	111.19	108.22	105.32	102.48	99.71	103.64	101.02	75.92	77.52	79.21	80.99	82.88	84.87	86.98	89.21	91.57	94.06	96.69	99.48	102.42

Units Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW	1.04	1.044	1.044	1.044	1.044	1.044	1.044	1.044	1.044	1.044	1.044	1.044	1.044	1.044	1.044	1.044	1.044	1.044	1.044	1.044	1.044	1.044	1.044	1.044	1.044
CUF	%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%
Gross Generation	MU	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65
Auxiliary Consumption	%	-	-	-	-	-	-	-		-						-			-	-			-			-
Electricity Generation	MU	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65	1.65

Per unit Fixed Cost	Rs/kWh	7.71	7.51	7.32	7.13	6.94	6.75	6.57	6.40	6.23	6.06	6.30	6.14	4.61	4.71	4.81	4.92	5.03	5.16	5.28	5.42	5.56	5.71	5.87	6.04	6.22
Discount Factor		1	0.89	0.79	0.70	0.62	0.55	0.49	0.43	0.38	0.34	0.30	0.27	0.24	0.21	0.18	0.16	0.15	0.13	0.11	0.10	0.09	0.08	0.07	0.06	0.06
Discounted Tariff		7.71	6.66	5.75	4.96	4.28	3.70	3.19	2.75	2.37	2.05	1.89	1.63	1.09	0.98	0.89	0.81	0.73	0.66	0.60	0.55	0.50	0.45	0.41	0.38	0.34

Levelised Tariff 6.61

Discount factor Rate 12.81%

Year wise Levelized Tariff of Rooftop Solar Plant (FY 2016-17)

Plant FY 2016-17
FY 2016-17 in Lakhs
Capital Cost 551.55
Debt 386.09
Equity 165.47

Op. Debt 229.12 197.73 166.34 134.95 103.55 72.16 40.77 386.09 354.69 323.30 291.91 260.52 31.39 31.39 31.39 31.39 31.39 31.39 31.39 31.39 31.39 31.39 31.39 Repayment 166.34 134.95 103.55 72.16 Cl. Debt 354.69 323.30 291.91 260.52 229.12 197.73 9.38 Average Debt 370.39 339.00 307.60 276.21 244.82 213.43 182.03 150.64 119.25 87.86 56.46 25.07

Fixed Cost	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh	13.68	14.46	15.29	16.16	17.08	18.06	19.09	20.19	21.34	22.56	23.85	25.22	26.66	28.18	29.80	31.50	33.30	35.21	37.22	39.35	41.60	43.98	46.50	49.16	51.97
Depreciation	Rs Lakh	31.39	31.39	31.39	31.39	31.39	31.39	31.39	31.39	31.39	31.39	31.39	31.39	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30
Interest on term loan	Rs Lakh	47.27	43.27	39.26	35.25	31.25	27.24	23.23	19.23	15.22	11.21	7.21	3.20	-	-	-	-	-	-	-			-		-	-
Interest on working Capital	Rs Lakh	3.27	3.22	3.17	3.13	3.09	3.05	3.02	2.99	2.96	2.94	3.06	3.05	2.53	2.61	2.70	2.79	2.89	3.00	3.10	3.22	3.34	3.47	3.61	3.75	3.90
Return on Equity	Rs Lakh	33.09	33.09	33.09	33.09	33.09	33.09	33.09	33.09	33.09	33.09	39.71	39.71	39.71	39.71	39.71	39.71	39.71	39.71	39.71	39.71	39.71	39.71	39.71	39.71	39.71
Total Fixed Cost	Rs Lakh	128.70	125.43	122.21	119.03	115.91	112.84	109.83	106.89	104.01	101.20	105.23	102.57	77.20	78.81	80.51	82.31	84.21	86.21	88.34	90.58	92.96	95.46	98.12	100.92	103.88

Units Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW	1.05	1.052	1.052	1.052	1.052	1.052	1.052	1.052	1.052	1.052	1.052	1.052	1.052	1.052	1.052	1.052	1.052	1.052	1.052	1.052	1.052	1.052	1.052	1.052	1.052
CUF	%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%
Gross Generation	MU	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66
Auxiliary Consumption	%	-	-	-	-	-	-	-				•	-		-	-	-	-	-	-		-				-
Electricity Generation	MU	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66

Per unit Fixed Cost	Rs/kWh	7.76	7.56	7.37	7.18	6.99	6.80	6.62	6.44	6.27	6.10	6.34	6.18	4.65	4.75	4.85	4.96	5.08	5.20	5.33	5.46	5.60	5.76	5.91	6.08	6.26
Discount Factor		1	0.89	0.79	0.70	0.62	0.55	0.49	0.43	0.38	0.34	0.30	0.27	0.24	0.21	0.19	0.17	0.15	0.13	0.12	0.10	0.09	0.08	0.07	0.06	0.06
Discounted Tariff		7.76	6.71	5.80	5.01	4.33	3.74	3.23	2.79	2.41	2.08	1.92	1.66	1.11	1.00	0.91	0.83	0.75	0.68	0.62	0.56	0.51	0.47	0.43	0.39	0.36

Levelised Tariff 6.65

Discount factor Rate 12.70%

Year wise Levelized Tariff of Rooftop Solar Plant (FY 2017-18)

Plant	FY 2017-18												
FY 2017-18	in Lakhs												
Capital Cost	87.87												
Debt	61.51												
Equity	26.36												
Op. Debt		61.51	56.47	51.44	46.40	41.37	36.33	31.30	26.26	21.23	16.20	11.16	6.13
Repayment		5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03
CI. Debt		56.47	51.44	46.40	41.37	36.33	31.30	26.26	21.23	16.20	11.16	6.13	1.09
Average Debt		58.99	53.96	48.92	43.89	38.85	33.82	28.78	23.75	18.71	13.68	8.64	3.61

Fixed Cost	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	2 5
O&M Expenses	Rs Lakh	2.30	2.43	2.57	2.72	2.87	3.04	3.21	3.40	3.59	3.80	4.01	4.24	4.49	4.74	5.01	5.30	5.60	5.92	6.26	6.62	7.00	7.40	7.82	8.27	8.74
Depreciation	Rs Lakh	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
Interest on term loan	Rs Lakh	7.26	6.64	6.02	5.40	4.78	4.16	3.54	2.92	2.30	1.68	1.06	0.44	-		-		-	-	-	-	-	-	-	-	-
Interest on working Capital	Rs Lakh	0.50	0.50	0.49	0.48	0.48	0.47	0.47	0.47	0.46	0.46	0.48	0.48	0.40	0.42	0.43	0.44	0.46	0.48	0.49	0.51	0.53	0.55	0.58	0.60	0.62
Return on Equity	Rs Lakh	5.27	5.27	5.27	5.27	5.27	5.27	5.27	5.27	5.27	5.27	6.33	6.33	6.33	6.33	6.33	6.33	6.33	6.33	6.33	6.33	6.33	6.33	6.33	6.33	6.33
Total Fixed Cost	Rs Lakh	20.37	19.87	19.39	18.91	18.44	17.98	17.53	17.09	16.66	16.25	16.92	16.53	12.54	12.81	13.10	13.40	13.72	14.06	14.41	14.79	15.19	15.61	16.06	16.53	17.03

Units Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW	0.18	0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.177	0.177
CUF	%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%
Gross Generation	MU	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Auxiliary Consumption	%	-	-	-	-	-	-	-			-	-	-	-		-		-	-	-		-		-	-	-
Electricity Generation	MU	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28

Per unit Fixed Cost	Rs/kWh	7.30	7.12	6.95	6.77	6.61	6.44	6.28	6.12	5.97	5.82	6.06	5.92	4.49	4.59	4.69	4.80	4.92	5.04	5.16	5.30	5.44	5.59	5.75	5.92	6.10
Discount Factor		1	0.89	0.79	0.70	0.62	0.56	0.49	0.44	0.39	0.35	0.31	0.27	0.24	0.22	0.19	0.17	0.15	0.14	0.12	0.11	0.10	0.08	0.08	0.07	0.06
Discounted Tariff		7.30	6.33	5.49	4.76	4.13	3.58	3.10	2.69	2.33	2.02	1.87	1.62	1.10	0.99	0.90	0.82	0.75	0.68	0.62	0.57	0.52	0.47	0.43	0.40	0.36

Levelised Tariff 6.31

Discount factor Rate 12.48%

Year wise Levelized Tariff of Rooftop Solar Plant (FY 2018-19)

Plant FY 2018-19 FY 2018-19 in Lakhs 575.57 Capital Cost Debt 402.90 172.67 Equity Op. Debt 402.90 369.69 336.49 303.29 270.08 236.88 203.68 170.47 137.27 104.07 70.86 37.66 Repayment 33.20 33.20 33.20 33.20 33.20 33.20 33.20 33.20 33.20 33.20 33.20 33.20 170.47 137.27 104.07 Cl. Debt 369.69 336.49 303.29 270.08 236.88 203.68 37.66 4.46 70.86 87.47 54.26 21.06 253.48 Average Debt 386.30 353.09 319.89 286.69 220.28 187.08 153.87 120.67

Fixed Cost	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh	16.34	17.28	18.26	19.31	20.41	21.58	22.82	24.12	25.50	26.96	28.50	30.13	31.85	33.68	35.60	37.64	39.79	42.07	44.47	47.02	49.71	52.55	55.56	58.73	62.09
Depreciation	Rs Lakh	33.20	33.20	33.20	33.20	33.20	33.20	33.20	33.20	33.20	33.20	33.20	33.20	8.78	8.78	8.78	8.78	8.78	8.78	8.78	8.78	8.78	8.78	8.78	8.78	8.78
Interest on term loan	Rs Lakh	46.55	42.55	38.55	34.54	30.54	26.54	22.54	18.54	14.54	10.54	6.54	2.54	-	-	-	-	-	-	-	-		-			-
Interest on working Capital	Rs Lakh	3.28	3.24	3.21	3.18	3.15	3.12	3.10	3.08	3.07	3.05	3.20	3.19	2.71	2.80	2.90	3.00	3.11	3.23	3.35	3.48	3.62	3.77	3.92	4.08	4.26
Return on Equity	Rs Lakh	34.53	34.53	34.53	34.53	34.53	34.53	34.53	34.53	34.53	34.53	41.44	41.44	41.44	41.44	41.44	41.44	41.44	41.44	41.44	41.44	41.44	41.44	41.44	41.44	41.44
Total Fixed Cost	Rs Lakh	133.90	130.80	127.75	124.77	121.84	118.98	116.19	113.48	110.84	108.29	112.88	110.51	84.78	86.70	88.72	90.86	93.13	95.52	98.05	100.72	103.55	106.54	109.70	113.04	116.57

Units Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW	1.26	1.257	1.257	1.257	1.257	1.257	1.257	1.257	1.257	1.257	1.257	1.257	1.257	1.257	1.257	1.257	1.257	1.257	1.257	1.257	1.257	1.257	1.257	1.257	1.257
CUF	%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%
Gross Generation	MU	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98
Auxiliary Consumption	%	-	-	-	-	-	-	-	-	-		-				-		•	-	-		-	-	•		-
Electricity Generation	MU	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98

Per unit Fixed Cost	Rs/kWh	6.76	6.60	6.45	6.29	6.15	6.00	5.86	5.73	5.59	5.46	5.70	5.58	4.28	4.37	4.48	4.58	4.70	4.82	4.95	5.08	5.22	5.38	5.53	5.70	5.88
Discount Factor		1	0.89	0.79	0.70	0.63	0.56	0.50	0.44	0.39	0.35	0.31	0.28	0.25	0.22	0.20	0.17	0.15	0.14	0.12	0.11	0.10	0.09	0.08	0.07	0.06
Discounted Tariff		6.76	5.87	5.10	4.44	3.86	3.35	2.91	2.53	2.20	1.91	1.77	1.55	1.06	0.96	0.88	0.80	0.73	0.66	0.61	0.55	0.51	0.46	0.43	0.39	0.36

Levelised Tariff 5.89

Discount factor Rate 12.37%

Year wise Levelized Tariff of Rooftop Solar Plant (FY 2019-20) before Regulation

Plant FY 2019-20 Before regulation

FY 2019-20 in Lakhs
Capital Cost 59.60
Debt 41.72
Equity 17.88

Op. Debt 41.72 38.26 34.81 31.35 27.89 24.43 20.98 17.52 14.06 10.60 7.15 3.69 3.46 3.46 3.46 3.46 3.46 Repayment 3.46 3.46 3.46 3.46 3.46 3.46 3.46 CI. Debt 38.26 34.81 31.35 27.89 3.69 0.23 24.43 20.98 17.52 14.06 10.60 7.15 Average Debt 39.99 36.53 33.08 29.62 26.16 22.70 19.25 15.79 12.33 8.87 5.42 1.96

Fixed Cost	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh	1.48	1.57	1.66	1.75	1.85	1.96	2.07	2.19	2.31	2.44	2.58	2.73	2.89	3.05	3.23	3.41	3.61	3.82	4.03	4.26	4.51	4.77	5.04	5.33	5.63
Depreciation	Rs Lakh	3.46	3.46	3.46	3.46	3.46	3.46	3.46	3.46	3.46	3.46	3.46	3.46	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Interest on term loan	Rs Lakh	4.73	4.32	3.91	3.50	3.09	2.68	2.28	1.87	1.46	1.05	0.64	0.23	-		-			-		-		-		-	-
Interest on working Capital	Rs Lakh	0.32	0.32	0.31	0.31	0.31	0.30	0.30	0.30	0.29	0.29	0.31	0.30	0.25	0.26	0.27	0.28	0.29	0.30	0.31	0.32	0.34	0.35	0.36	0.38	0.39
Return on Equity	Rs Lakh	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	3.58	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29
Total Fixed Cost	Rs Lakh	13.57	13.24	12.91	12.60	12.28	11.98	11.68	11.39	11.10	10.82	11.28	11.02	8.35	8.52	8.71	8.90	9.11	9.32	9.55	9.79	10.05	10.32	10.61	10.91	11.23

Units Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW	0.11	0.114	0.114	0.114	0.114	0.114	0.114	0.114	0.114	0.114	0.114	0.114	0.114	0.114	0.114	0.114	0.114	0.114	0.114	0.114	0.114	0.114	0.114	0.114	0.114
CUF	%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%
Gross Generation	MU	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Auxiliary Consumption	%	-	-	-	-	-	-	-	•	-		-	-	-	-	-			-				-	-	•	-
Electricity Generation	MU	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18

Per unit Fixed Cost	Rs/kWh	7.55	7.36	7.18	7.01	6.83	6.66	6.50	6.33	6.17	6.02	6.28	6.13	4.64	4.74	4.84	4.95	5.07	5.19	5.31	5.45	5.59	5.74	5.90	6.07	6.25
Discount Factor		1	0.89	0.79	0.71	0.63	0.56	0.50	0.45	0.40	0.35	0.31	0.28	0.25	0.22	0.20	0.18	0.16	0.14	0.12	0.11	0.10	0.09	0.08	0.07	0.06
Discounted Tariff		7.55	6.56	5.70	4.95	4.30	3.74	3.25	2.82	2.45	2.13	1.97	1.72	1.16	1.05	0.96	0.87	0.80	0.73	0.66	0.61	0.55	0.51	0.46	0.42	0.39

Levelised Tariff 6.51

Discount factor Rate 12.26%

Year wise Levelized Tariff of Rooftop Solar Plant (FY 2019-20) after Regulation

FY 2019-20 After regulation

in Lakhs

50.33

4.73

9.41%

Plant

FY 2019-20

Capital Cost

Levelised Tariff

Discount factor Rate

Debt	35.23																									
Equity	15.10																									
Op. Debt		35.23	32.31	29.40	26.48	23.56	20.65	17.73	14.81	11.89	8.98	6.06	3.14													
Repayment		2.92	2.92	2.92	2.92	2.92	2.92	2.92	2.92	2.92	2.92	2.92	2.92													
CI. Debt		32.31	29.40	26.48	23.56	20.65	17.73	14.81	11.89	8.98	6.06	3.14	0.23													
Average Debt		33.77	30.85	27.94	25.02	22.10	19.19	16.27	13.35	10.44	7.52	4.60	1.68													
Fixed Cost	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh	0.75	0.78	0.81	0.84	0.87	0.91	0.94	0.97	1.01	1.05	1.09	1.13	1.17	1.21	1.26	1.31	1.35	1.40	1.46	1.51	1.57	1.63	1.69	1.75	1.81
Depreciation	Rs Lakh	2.92	2.92	2.92	2.92	2.92	2.92	2.92	2.92	2.92	2.92	2.92	2.92	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Interest on term loan	Rs Lakh	3.55	3.24	2.94	2.63	2.32	2.02	1.71	1.40	1.10	0.79	0.48	0.18	-	-	-	-	-	-	-	-	-	-	-	-	
Interest on working Capital	Rs Lakh	0.21	0.21	0.21	0.20	0.20	0.19	0.19	0.18	0.18	0.17	0.17	0.17	0.12	0.12	0.13	0.13	0.13	0.13	0.14	0.14	0.14	0.14	0.15	0.15	0.15
Return on Equity	Rs Lakh	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69
Total Fixed Cost	Rs Lakh	10.13	9.85	9.57	9.28	9.00	8.73	8.45	8.17	7.90	7.62	7.35	7.08	4.76	4.80	4.85	4.90	4.95	5.00	5.06	5.12	5.17	5.24	5.30	5.36	5.43
Units Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW	0.11	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106	0.106
CUF	%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%
Gross Generation	MU	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Auxiliary Consumption	%	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004
Electricity Generation	MU	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Per unit Fixed Cost	Rs/kWh	6.08	5.91	5.74	5.57	5.40	5.23	5.07	4.90	4.74	4.57	4.41	4.25	2.85	2.88	2.91	2.94	2.97	3.00	3.03	3.07	3.10	3.14	3.18	3.22	3.26
Discount Factor		1	0.91	0.81	0.74	0.68	0.62	0.57	0.52	0.47	0.43	0.40	0.36	0.33	0.30	0.28	0.25	0.23	0.21	0.19	0.18	0.16	0.15	0.13	0.12	0.11
Discounted Tariff		6.08	5.40	4.66	4.13	3.66	3.25	2.87	2.54	2.24	1.98	1.74	1.54	0.94	0.87	0.80	0.74	0.68	0.63	0.58	0.54	0.50	0.46	0.43	0.40	0.37
1																										

Year wise Levelized Tariff of Rooftop Solar Plant (FY 2020-21)

FY 2020-21

Plant

FY 12-13	in Lakhs												
Capital Cost	28.87												
Debt	20.21												
Equity	8.66												
Op. Debt		20.21	18.52	16.84	15.16	13.48	11.79	10.11	8.43	6.74	5.06	3.38	1.69
Repayment		1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68
Cl. Debt		18.52	16.84	15.16	13.48	11.79	10.11	8.43	6.74	5.06	3.38	1.69	0.01
Average Debt		19.37	17.68	16.00	14.32	12.63	10.95	9.27	7.58	5.90	4.22	2.54	0.85

Fixed Cost	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh	0.43	0.45	0.47	0.49	0.51	0.52	0.55	0.57	0.59	0.61	0.64	0.66	0.69	0.71	0.74	0.77	0.80	0.83	0.87	0.90	0.94	0.97	1.01	1.05	1.09
Depreciation	Rs Lakh	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	1.68	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Interest on term loan	Rs Lakh	1.92	1.75	1.59	1.42	1.25	1.09	0.92	0.75	0.58	0.42	0.25	0.08	-	-	-	-	-	-	-	-		-		-	-
Interest on working Capital	Rs Lakh	0.11	0.11	0.11	0.11	0.10	0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08
Return on Equity	Rs Lakh	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47
Total Fixed Cost	Rs Lakh	5.62	5.47	5.31	5.16	5.01	4.86	4.72	4.57	4.42	4.28	4.13	3.99	2.67	2.70	2.72	2.76	2.79	2.82	2.85	2.89	2.93	2.96	3.00	3.05	3.09

Units Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059	0.059
CUF	%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%
Gross Generation	MU	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Auxiliary Consumption	%	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Electricity Generation	MU	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09

Per unit Fixed Cost	Rs/kWh	6.05	5.89	5.73	5.56	5.40	5.24	5.08	4.92	4.76	4.61	4.45	4.30	2.87	2.90	2.94	2.97	3.00	3.04	3.08	3.11	3.15	3.20	3.24	3.28	3.33
Discount Factor		1	0.92	0.84	0.77	0.71	0.65	0.59	0.54	0.50	0.46	0.42	0.38	0.35	0.32	0.29	0.27	0.25	0.23	0.21	0.19	0.17	0.16	0.15	0.13	0.12
Discounted Tariff		6.05	5.40	4.81	4.28	3.81	3.39	3.01	2.67	2.37	2.10	1.86	1.65	1.01	0.93	0.87	0.80	0.74	0.69	0.64	0.59	0.55	0.51	0.48	0.44	0.41

Levelised Tariff 4.72

Discount factor Rate 9.12%

Levelized Tariff of 3+1 MWp Solar Plant (FY 2015-16)

Plant FY 2015-16 3+1 MWP

FY 2015-16 in Lakhs Capital Cost 1,954.02 1,367.81 Debt Equity 586.21

Op. Debt 1,367.81 1,258.26 1,148.71 1,039.15 929.60 820.05 710.49 600.94 491.39 381.83 272.28 162.73 Repayment 109.55 109.55 109.55 109.55 109.55 109.55 109.55 109.55 109.55 CI. Debt 1,258.26 1,148.71 1,039.15 929.60 820.05 710.49 600.94 491.39 381.83 272.28 162.73 53.17 1,313.04 1,203.48 1,093.93 655.72 546.16 436.61 327.06 217.50 107.95 Average Debt 984.38 874.82 765.27

Fixed Cost	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh	52.00	54.97	58.12	61.44	64.96	68.67	72.60	76.75	81.14	85.79	90.69	95.88	101.37	107.16	113.29	119.77	126.62	133.87	141.52	149.62	158.18	167.23	176.79	186.90	197.59
Depreciation	Rs Lakh	109.55	109.55	109.55	109.55	109.55	109.55	109.55	109.55	109.55	109.55	109.55	109.55	28.97	28.97	28.97	28.97	28.97	28.97	28.97	28.97	28.97	28.97	28.97	28.97	28.97
Interest on term loan	Rs Lakh	170.69	156.45	142.21	127.97	113.73	99.49	85.24	71.00	56.76	42.52	28.28	14.03	-	-	-	-	-		-	-	-	-	-	-	-
Interest on working Capital	Rs Lakh	12.02	11.86	11.70	11.56	11.43	11.30	11.19	11.09	11.01	10.94	11.42	11.38	9.50	9.83	10.16	10.52	10.90	11.30	11.72	12.17	12.64	13.14	13.67	14.23	14.82
Return on Equity	Rs Lakh	117.24	117.24	117.24	117.24	117.24	117.24	117.24	117.24	117.24	117.24	140.69	140.69	140.69	140.69	140.69	140.69	140.69	140.69	140.69	140.69	140.69	140.69	140.69	140.69	140.69
Total Fixed Cost	Rs Lakh	461.51	450.08	438.83	427.77	416.91	406.26	395.83	385.64	375.71	366.04	380.63	371.54	280.53	286.65	293.11	299.95	307.18	314.82	322.90	331.45	340.48	350.03	360.12	370.79	382.07
		•																								
Units Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Canacity	MW	4.00	4	Δ	Δ	4	4	4	4	Δ	4	Δ	4	4	4	Δ	Δ	4	4	4	4	Δ	4	Δ	Δ	4

Units Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	MW	4.00	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
CUF	%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%
Gross Generation	MU	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31
Auxiliary Consumption	%		-	-	-		-	-		-						-	-		-		-	-	-	-		-
Electricity Generation	MU	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31

Per unit Fixed Cost	Rs/kWh	7.32	7.14	6.96	6.78	6.61	6.44	6.28	6.11	5.96	5.80	6.03	5.89	4.45	4.54	4.65	4.76	4.87	4.99	5.12	5.26	5.40	5.55	5.71	5.88	6.06
Discount Factor		1	0.89	0.79	0.70	0.62	0.55	0.49	0.43	0.38	0.34	0.30	0.27	0.24	0.21	0.18	0.16	0.15	0.13	0.11	0.10	0.09	0.08	0.07	0.06	0.06
Discounted Tariff		7.32	6.33	5.47	4.72	4.08	3.53	3.04	2.63	2.27	1.96	1.81	1.56	1.05	0.95	0.86	0.78	0.71	0.64	0.58	0.53	0.48	0.44	0.40	0.37	0.34

6.31 Levelised Tariff

12.81% Discount factor Rate

Levelized Tariff of 6 MWp Solar Plant (FY 2016-17)

Plant FY 2016-17 6 MWP

FY 2016-17 in Lakhs
Capital Cost 2,742.64
Debt 1,919.85
Equity 822.79

Op. Debt 1,919.85 1,763.30 1,606.74 1,450.19 1,293.64 1,137.09 980.54 823.98 667.43 510.88 354.33 197.78 Repayment 156.55 156.55 156.55 156.55 156.55 156.55 156.55 156.55 156.55 CI. Debt 1,763.30 1,606.74 1,450.19 1,293.64 1,137.09 980.54 823.98 667.43 510.88 354.33 197.78 41.22 Average Debt 1,841.57 1,685.02 1,528.47 1,371.92 1,215.36 1,058.81 902.26 745.71 589.16 432.60 276.05 119.50

5.16

3.34

2.89

2.50

2.17

E: 10 /			_	_		_	_		•	_	40		40	40		45	40	4.7	40							
Fixed Cost	Unit	1	2	3	4	5	6	1	8	9	10	11	12	13	14	15	16	1/	18	19	20	21	22	23	24	25
O&M Expenses	Rs Lakh	78.00	82.46	87.18	92.17	97.44	103.01	108.90	115.13	121.72	128.68	136.04	143.82	152.05	160.75	169.94	179.66	189.94	200.80	212.29	224.43	237.27	250.84	265.19	280.36	296.39
Depreciation	Rs Lakh	156.55	156.55	156.55	156.55	156.55	156.55	156.55	156.55	156.55	156.55	156.55	156.55	41.39	41.39	41.39	41.39	41.39	41.39	41.39	41.39	41.39	41.39	41.39	41.39	41.39
Interest on term loan	Rs Lakh	235.04	215.06	195.08	175.10	155.12	135.14	115.16	95.18	75.19	55.21	35.23	15.25	-	-	-	-	-	-	-	-	•		-	-	-
Interest on working Capital	Rs Lakh	16.80	16.59	16.40	16.22	16.05	15.90	15.77	15.66	15.56	15.49	16.18	16.15	13.65	14.12	14.62	15.15	15.70	16.29	16.92	17.58	18.27	19.01	19.79	20.61	21.48
Return on Equity	Rs Lakh	164.56	164.56	164.56	164.56	164.56	164.56	164.56	164.56	164.56	164.56	197.47	197.47	197.47	197.47	197.47	197.47	197.47	197.47	197.47	197.47	197.47	197.47	197.47	197.47	197.47
Total Fixed Cost	Rs Lakh	650.96	635.23	619.77	604.59	589.72	575.16	560.94	547.07	533.58	520.49	541.47	529.25	404.56	413.73	423.42	433.67	444.51	455.96	468.07	480.87	494.40	508.71	523.84	539.83	556.74
Units Generation	Unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Installed Capacity	1011																									
motuned outpacky	MW	6.00	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
CUF	MVV %	6.00 18.00%	18.00%	18.00%	6 18.00%	6 18.00%	6 18.00%	6 18.00%	6 18.00%	6 18.00%	6 18.00%	6 18.00%	6 18.00%	6 18.00%	6 18.00%	6 18.00%	6 18.00%	6 18.00%	6 18.00%	6 18.00%	6 18.00%	6 18.00%	6 18.00%	6 18.00%	6 18.00%	18.00%
CUF Gross Generation			18.00% 9.46	18.00% 9.46	18.00% 9.46	6 18.00% 9.46	18.00% 9.46																			
CUF	%	18.00%																								
CUF Gross Generation	% MU	18.00% 9.46	9.46	9.46	9.46	9.46	9.46	9.46	9.46		9.46	9.46	9.46		9.46	9.46		9.46	9.46	9.46	9.46		9.46	9.46	9.46	9.46
CUF Gross Generation Auxiliary Consumption	% MU %	18.00% 9.46 -	9.46	9.46	9.46	9.46	9.46 -	9.46	9.46	9.46	9.46	9.46 -	9.46 -	9.46 -	9.46	9.46 -	9.46	9.46	9.46	9.46	9.46	9.46	9.46	9.46	9.46	9.46
CUF Gross Generation Auxiliary Consumption	% MU %	18.00% 9.46 -	9.46	9.46	9.46	9.46	9.46 -	9.46	9.46	9.46	9.46	9.46 -	9.46 -	9.46 -	9.46	9.46 -	9.46	9.46	9.46	9.46	9.46	9.46	9.46	9.46	9.46	9.46

1.88

1.73

1.50

1.02

0.92

0.76

0.69

0.63

0.58

0.52

Levelised Tariff 5.97

Discounted Tariff

Discount factor Rate 12.70%

0.36

0.33