

NAGALAND ELECTRICITY REGULATORY COMMISSION (NERC)
NAGALAND : KOHIMA

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Dated Kohima, the 04th Oct., '16

NOTIFICATION

No. NERC/REGN/2016: In exercise of the powers conferred under section 61 & 86 read with section 181 of the Electricity Act, 2003 (36 of 2003) and also read with NERC Regulation No. 70 of the Principal Regulations, 2011 (**Determination of Generation Tariff for Renewable Energy**) the Nagaland Electricity Regulatory Commission (NERC), Kohima hereby notify final Amendment "**NERC (Determination of Generation Tariff for Renewable Energy) (First Amendment) Regulations, 2016**" as under:

1. The Regulation 17(2) of the Principal Regulations shall now be read as:
"For the purpose of computation of Tariff, the normative interest rate shall be considered as average long term prime lending rate (LTPLR) of the State Bank of India (SBI) prevalent during the previous year plus 300 basis points."
2. The Regulation 18(1)(C) of the Principal Regulations shall now be read as:
"Annual Depreciation shall be based on 'Differential Depreciation Approach' using 'Straight Line Method' over two distinct periods comprising loan tenure and period beyond loan tenure over useful life. The depreciation rate for the first 12 year of the Tariff Period shall be 5.83% per annum and the remaining depreciation shall be spread over the remaining useful life of the project from 13th year onwards."
3. The Regulation 19(2) of the Principal Regulations shall now be read as:
*"The normative Return on Equity shall be:
a) Pre-tax 20% per annum for the 10 years.
b) Pre-tax 24% per annum from 11th year onwards."*
4. The Regulation 20(3) of the Principal Regulations shall now be read as:
"Interest on working Capital shall be at interest rate equivalent to average State bank short term PLR (SBAR) during the previous year plus 350 basis point."
5. The Regulation 60 of the Principal regulations shall now be read as under:

1. Land Cost :

Commission considered the land requirement to 5 acres / MW which is in line with the guidelines for selection of solar projects under JNNSM.

The development in technology shall improve in future which will eventually reduce requirement of land per MW of installation. Further the land acquired for setting up Solar PV power projects is mostly arid / barren or of no commercial use. To avoid cost of transmission system, developer may prefer to acquire land close to grid sub-station. Commission considered the cost of land at Rs. 25 lakhs / MW at an estimated cost of Rs. 5 lakh / acre.

2. Civil & General Works:

Commission considered cost towards civil and general works at Rs. 126 lakh / MW i.e. 40% hike of the NERC's Regulations, 2011 rate considering with the high cost of building materials, equipments & other charges prevailing in the state.

3. Cost of PV Modules:

The Commission considered the estimated cost of PV modules at Rs. 377.65 Lakh/ MW i.e. 15% hike of CERC's rate considering with the high transportation cost and other charges prevailing in the state.

4. Mounting Structure:

The Commission considered the cost towards mounting structures at Rs 40.25 lakh/MW i.e. 15% hike of CERC's rate considering with the high cost of building materials, equipments & other charges prevailing in the state.

5. Power Conditioning Unit (PCU):

The overall output from the Solar PV Power Plant to a large extent depends on the quality of the power conditioning unit.

Accordingly Commission considered the cost towards power conditioning unit at Rs. 38.5 Lakh / MW i.e. 10% increased from CERC's rate considering with the high transportation cost and other charges prevailing in the state.

6. Evacuation cost up to inter-connection point (Cables and Transformers):

The Commission considered the cost of evacuation arrangement at Rs. 93.50 Lakh / MW i.e. 10% hike of the NERC's Regulations, 2011 rate considering with the high cost of equipments & other charges prevailing in the state.

7. Preliminary & Pre-operative expenses:

The expenses cost towards pre-operative and preliminary expenses essentially include cost towards services related to installation and commissioning, project management, insurance, contingency taxes, duties, interest during construction (IDC), finance charges etc.

Accordingly, the Commission considered the preliminary and pre-operative costs at Rs. 86.31 / MW in line with the MoU signed between Kerala Government and NHPC.

The benchmark capital cost norm for Solar PV power projects at Rs. 787.21 lakh / MW is summarized below:

Sl. No	Particulars	Capital Cost Norms (Rs. lakh / MW)
1	Land Cost	25.00
2	Civil & General Works	126.00
3	PV Modules	377.65
4	Mounting Structures	40.25
5	Power Conditioning Unit	38.50
6	Evacuation cost upto inter connection point (Cables & Transformers)	93.50
7	Preliminary & pre-operative Expenses	86.31
	Total Capital Cost	787.21

6. The Regulation 62 of the Principal regulations shall now be read as:

Operation and Maintenance Expenses:

In case of solar PV based power projects, repairs and maintenance expenses are not significant due to limited wear and tear and mainly pertains transformer replacement of ports for control system or power conditioning systems. Manpower related expenses would pertain to inspection / testing / cleaning array systems etc. There is no operational experience of MW scale PV solar system in India to ascertain norms for O&M expenses.

Commission has specified O&M expenses at Rs. 11.00 lakh / MW for the first year of operation which shall be escalated at the rate of 5.72 % per annum in line with the CERC's guideline.

By Order of the Commission.

Sd/-
W. Y. YANTHAN
Secretary,
Nagaland Electricity Regulatory
Commission (NERC), Kohima.