

GUJARAT ELECTRICITY REGULATORY COMMISSION
Determination of Tariff for Procurement of power by the Distribution Licensees and others
from Solar Energy Projects for the State of Gujarat
Order No. 3 of 2015

Sl. No.	Description	Summary																					
1.	Title	Determination of Tariff for Procurement of power by the Distribution Licensees and others from Solar Energy Projects for the State of Gujarat. - Order No. 3 of 2015																					
2.	Potential of Solar Power	Most of the State of Gujarat receives an average solar insolation of greater than 5.5 kWh per square meter per day																					
Determination of Tariff for procurement of power from Solar PV Power Projects																							
3.	Plant Capacity	To limit the size of all Rooftop systems below 100kW to the consumers /buildings connected load or sanctioned demand																					
4.	Photovoltaic system classification for Tariff Applicability	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>System Size</th> <th>System Type</th> <th>Evacuation Specification</th> <th>Applicable Tariff</th> </tr> </thead> <tbody> <tr> <td>From 1kW - 6 kW</td> <td>Rooftop</td> <td>230 V, 1-ph, 50 Hz</td> <td rowspan="2">Kilowatt-scale Photovoltaic Tariff</td> </tr> <tr> <td>More than 6 kW - 100 kW</td> <td>Rooftop</td> <td>415 V, 3-ph, 50 Hz</td> </tr> <tr> <td>More than 100 kW - 1 MW</td> <td>Rooftop/ Ground - mounted</td> <td>11 kV, 3-ph, 50 Hz</td> <td rowspan="3">Large Rooftop and Megawatt-scale Photovoltaic Tariff</td> </tr> <tr> <td>More than 1MW- 4MW</td> <td>Ground mounted</td> <td>11 kV, 3-ph, 50 Hz</td> </tr> <tr> <td>More than 4MW</td> <td>Ground mounted</td> <td>66 kV, 3-ph, 50 Hz</td> </tr> </tbody> </table>	System Size	System Type	Evacuation Specification	Applicable Tariff	From 1kW - 6 kW	Rooftop	230 V, 1-ph, 50 Hz	Kilowatt-scale Photovoltaic Tariff	More than 6 kW - 100 kW	Rooftop	415 V, 3-ph, 50 Hz	More than 100 kW - 1 MW	Rooftop/ Ground - mounted	11 kV, 3-ph, 50 Hz	Large Rooftop and Megawatt-scale Photovoltaic Tariff	More than 1MW- 4MW	Ground mounted	11 kV, 3-ph, 50 Hz	More than 4MW	Ground mounted	66 kV, 3-ph, 50 Hz
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Parameters for Solar Photovoltaic Power Projects																							
5.	Tariff	Single part Tariff																					
6.	Capital Cost (Solar PV)	For large Rooftop and Megawatt-scale System - Rs. 615 Lakh per MW For Kilowatt-scale System - Rs 0.80 Lakh per KW <ul style="list-style-type: none"> • Capital Cost to include cost of land, building & civil works • Responsibility for laying the transmission line/ transmission infrastructure to the nearest STU substation for Power evacuation lies with the developer 																					
7.	O&M	Rs. 10.90 Lakh per MW/annum Rs. 0.01 Lakh per kW/annum																					
8.	Escalation in O&M Cost	5.72% Annually																					
9.	Capacity Utilization Factor(Solar PV)	19%																					
10.	Performance Degradation	1% Annually																					
11.	Auxiliary Consumption	0.25% of Energy Generation - for MW scale NIL - for kW scale																					
12.	Useful Life	25 years																					
Financial Parameters																							
13.	Debt: Equity Ratio	70:30																					
14.	Loan Tenure	10 years																					
15.	Interest Rate on loan	12.7% Annually																					
16.	Insurance Cost	0.35% of Capital cost Annually																					
17.	Interest on Working Capital	11.85% Annually																					
18.	Working Capital	Sum of (i) one month's expense on O&M expenses (ii) Receivables equivalent to one month's energy charges at normative CUF.																					

19.	Rate of Depreciation	i) 6% Annually for the first 10 years ii) 2% Annually for the next 15 years			
20.	Minimum Alternate Tax Rate	20.008% Annually for the first 10 years			
21.	Corporate Tax Rate	32.445% Annually from the 11 th year until 25 th year			
22.	Return on Equity	14% Annually			
23.	Discount Factor for levelised Tariff	10.647% Annually			
24.	Levelized tariff for megawatt-scale and kilowatt-scale photovoltaic systems commissioned between July 1, 2015 and March 31, 2018.	Period	July 1, 2015 to March 31, 2016	April 1, 2016 to March 31, 2017	April 1, 2017 to March 31, 2018
		Levelized Tariff for Large Rooftop and Megawatt Scale Power Plant			
		Without Accelerated Depreciation Benefit	6.77	6.30	5.86
		With Accelerated Depreciation Benefit	6.17	5.74	5.34
		Levelized Tariff for Kilowatt Scale Power Plant			
		Without Accelerated Depreciation Benefit	8.42	7.83	7.28
		With Accelerated Depreciation Benefit	7.64	7.11	6.61
Determination of Tariff for procurement of power from Solar Thermal Power Projects					
25.	Capital Cost	Rs 1200 Lakh per MW for MW Scale System			
26.	O&M Cost	1.5% of Capital cost			
27.	Escalation in O&M cost	5.72% Annually			
28.	Capacity Utilization Factor	23%			
29.	Performance Degradation	0.25% Annually			
30.	Auxiliary Consumption	10% of Energy Generation			
31.	Useful Life	25 years			
Financial Parameters					
32.	Debt: Equity Ratio	70:30			
33.	Loan Tenure	10 years			
34.	Interest rate of Loan	12.70%			
35.	Insurance Cost	0.35% of Capital Cost Annually			
36.	Interest on Working Capital	11.85% Annually			
37.	Working Capital	Sum of (i) one month O&M expenses (ii) Receivables equivalent to one Months' Energy Charges at normative CUF			
38.	Rate of Depreciation	6% annually for the first 10 years 2% annually for the next 15 years			
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40.	Corporate Tax Rate	32.445% Annually from the 11 th year until 25 th year			
41.	Return on Equity	14% Annually			
42.	Discount Factor	10.647% Annually			

43	Levelized Tariff for Solar Thermal Projects commissioned between July 1, 2015 and March 31, 2018.	<ul style="list-style-type: none"> • With accelerated depreciation benefit : Rs 10.11 / kWh • Without accelerated depreciation benefit : Rs 11.22 / kWh
44	Tariff for variants (Hybrid) in Technology	In case Developer develops the system with thermal storage or as a hybrid, the tariff determination would be on case-to-case basis under „project specific“ tariff determination route based on petition filed by the Developer
Other Considerations		
45	Plant & Machinery	Only new plants and machinery eligible
46	Auxiliary Power Supply	STU/Distribution Licensee shall provide auxiliary power for the solar generator under kWh to kWh adjustment basis.
47	Reactive Energy Charges	As approved by the commission in tariff orders for GETCO from time to time.
48	Evacuation Facilities	<ul style="list-style-type: none"> • Interfacing line as per the CEA (Technical Standard for connectivity to the grid) Regulations, 2012 shall be provided by the STU/ Distribution Licensee at their cost • Switchyard equipment, metering and protection arrangement and RTUs at generator end to be provided by the owners of generators at their cost • Responsibility of constructing the transmission line shall lie with the developer
49.	Transmission and Wheeling Charges	Whenever the power is sold to a Distribution licensee, the Solar Power Generator will supply the power at the interconnection point of the generator-STU. Thereafter, the transmission/ wheeling charges will be borne by the Distribution Licensee
49.1	Wheeling with Injection at 66 kV or above	<ul style="list-style-type: none"> • Applicable to solar plants of capacity greater than 4 MW. Wheeling of power to the desired location(s) at 66 kV voltage level and above, within the State allowed on payment of transmission charges and transmission losses applicable to normal Open-Access Consumers. • Wheeling of power to the desired location(s), below 66 KV, within the State allowed on payment of transmission charges as applicable to normal open access customers and transmission and wheeling loss @ 7% of the energy fed into the grid. • Loss to be shared between the transmission and distribution licensees in the ratio of 4:3.
49.2	Wheeling with Injection at 11 kV or above and below 66 kV	<ul style="list-style-type: none"> • Applicable to ground-mounted/ rooftop solar plant of capacity between 100 kW and 1 MW, and ground-mounted solar plants between 1 MW and 4 MW. • Wheeling of power to the desired location(s) within the area of same distribution licensee allowed on payment (in kind) of distribution loss @ 3% of the energy fed in to the grid. • Wheeling of power to the desired location(s) within the State but in the area of a different Distribution licensee allowed on payment of transmission charges as applicable to normal Open-Access Customers and T&D loss @ 10% of the energy fed in to the grid. • Losses to be shared among the transmission licensee and two distribution licensees involved in the ratio of 3:4:3.
49.3	Wheeling with Injection at 415 V or below	<ul style="list-style-type: none"> • Applicable to rooftop solar installations capacity between 1 kW and 6 kW feeding at 220 V, 1ϕ; and between 6 kW and 100 kW at 415 V, 3ϕ. • Wheeling of power feeding at 415V allowed only to the locations within the same distribution licensee and no wheeling charges applicable • Power from rooftop solar plants at 220 V not allowed to be wheeled and will have to be consumed within the same premises
49.4	Wheeling at two or More Locations	If a Solar Power Generator owner wheel electricity to two or more locations, it shall pay Rs.0.05 per unit on energy fed in the grid to Distribution Company in whose area power is consumed in addition to the transmission charges and losses, as applicable

50	Cross- Subsidy Surcharge	No cross-subsidy surcharge levied in case of third-party sale or captive use.								
51	Banking	<ul style="list-style-type: none"> • All solar power projects commissioned under captive generating mode and not operating under the REC route or third party sale shall be eligible for banking of energy for one month period only. • Banking to be on first in first out energy basis. • Any surplus energy banked in the given billing cycle available after set-off shall be considered as deemed sale to the concerned Distribution Licensees at Average Power Purchase Cost rate determined by the Commission for relevant year 								
52	REC Projects	<p>Solar power projects set up and operate under the REC route shall:</p> <ul style="list-style-type: none"> • Pay the entire transmission and wheeling charges and losses and cross subsidy surcharge. • Not eligible for banking facility 								
53	Applicability of Intra-state ABT	Not applicable								
54	Energy Accounting	<ul style="list-style-type: none"> • Projects to provide ABT compliant meters at the interface points. • Interface metering to conform to CEA (Installation and Operation of Meters) Regulations, 2010. • Electricity generated from the SPG shall be metered and readings taken jointly by the Developer with GETCO/Distribution Company at the interconnection point of the generator bus-bar with the transmission/ distribution system • In case of solar rooftop power projects, a separate metering system shall be provided at the output terminal of solar roof-top power project 								
55	Connectivity Charges for Rooftop Power Plants	<p>Connectivity Charges and Fees to be payable to the respective Distribution Licensee</p> <table border="1"> <thead> <tr> <th>System Size</th> <th>Applicable fees (Rs.)</th> </tr> </thead> <tbody> <tr> <td>From 1 kW up to 6 kW</td> <td>1,500 per connection</td> </tr> <tr> <td>More than 6 kW up to 100 kW</td> <td>10,000</td> </tr> <tr> <td>More than 100 kW up to 1 MW</td> <td>50,000</td> </tr> </tbody> </table>	System Size	Applicable fees (Rs.)	From 1 kW up to 6 kW	1,500 per connection	More than 6 kW up to 100 kW	10,000	More than 100 kW up to 1 MW	50,000
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56	Parallel Operation Charges	No parallel operation charges shall be levied by the distribution licensee for all solar PV systems for captive use								
57	Power Purchase Agreement (PPA)	<p>Term - 25 years</p> <p>Developer to submit a Bank guarantee/ security deposit of Rs 25 lakh/MW to distribution licensee on signing of PPA</p>								
58	Sharing of Clean Development Mechanism(CDM) Benefit	<ul style="list-style-type: none"> • 100% by project developer in the first year after the date of commercial operation of the generating station. • 2nd year – share of beneficiaries @ 10% to progressively increase by 10% every year up to 50% where after to be shared in equal proportion, by the generating company and the beneficiaries 								
59	Standards of CEA and RRF mechanism of CERC	<ul style="list-style-type: none"> • Developers to comply with the CEA Regulations/ Standards for grid connectivity of solar projects and CERC Regulations "Procedure for the implementation of the Mechanism of Renewable Regulatory Fund" (RRF) under Regulation 6.1 (d) of the CERC (Indian Electricity Grid Code) Regulation, 2010 (dated 18-2-2011). • In the absence of compliance of above regulations, GEDA shall not issue the commissioning certificate. 								
60	Control Period	1.7.2015 to 31.3.2018								
61	Non-Applicability of Merit Order	All solar energy power plants to be considered as Must-Run facilities, and not subject to merit order dispatch principles								