

POWER CORPORATION LTD. ICE OF EIC/COMMERCIAL, PATIALA (SALES -1)

CC No. 29 /2015

08-06-2015

All EIC/CE/DS PSPCL

Memo no.:

118

Subject:

To

Instructions/Guidelines regarding net metering for Grid Interactive Roof Top Solar Photo Voltaic Power Plants.

/PPA/Roof-Top

Dated:

In compliance to PSERC (Grid Interactive Roof Top Solar Photo Voltaic Systems based on Net Metering) Regulations, 2015 notified vide No. PSERC/Secy./Regu./101 dated 07.05.2015 (hereinafter called Regulations), for encouraging solar power generation to harness vast solar potential in the State, PSPCL is pleased to formulate Instructions on net metering for grid interactive Roof Top Solar Photo Voltaic Power Plants. The salient features of the policy are detailed below:-

All the consumers of the PSPCL who intend to set up rooftop solar PV plants in their premises shall be eligible to do so with project capacity ranging from minimum 1 kWp upto 1MWp (AC side) with/ without battery back-up support. Those consumers, who have already installed Roof top Solar PV System before commencement of these regulations, shall also be eligible subject to compliance of these regulations. Third party owned Solar PV Plant System, where developers or intermediaries or turnkey installers who lease rooftop systems to individual owners and the owners in turn, pay them monthly lease rental shall also be eligible in case of third party owned Solar PV Plant the arrangement i.e. signing of an agreement for lease of rooftop system between Rooftop owner and developer or intermediary or turnkey installer will be personal to them. For all intent and purposes, PSPCL will deal with the Rooftop owner/consumer only.

The electricity generated from such a system shall be used to meet the rooftop owner's internal electricity needs while the excess generation shall be fed into the grid on net metering basis.

1. Procedure/salient features

1. The consumer intending to set up the Roof top solar PV system (self or third party owned) can download the solar net-metering rooftop Application Form - A and Supplementary Agreement Form -D(it shall be supplementary to original A&A form) from the website of the PSPCL and shall submit the same to the concerned DS/Subdivision for grant of permission to set-up the plant along with processing fee of Rs. 50/kVA or part thereof subject to maximum of Rs. 10,000/- for grant of permission to set-up the plant on first-cum-first serve basis. The permission shall be granted (Form -B) after checking the feasibility by officer as per table below:-

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Capacity of roof top solar PV system	Competent Authority to check the feasibility		
Upto 10 kWp on A.C Side	AE/AEE/Xen (DS)		
Exceeding 10 kWp and up to 1 MWp	Sr. Xen/Addl.SE (DS)		

AE/AEE/XEN of concerned sub-divn. shall issue approval letter to the feasibility cleared applicant within 30 days of receipt of application (Form – C). The consumer shall set up the plant and submit the work completion report along with Single Line Diagram of the synchronizing and protection arrangement issued by the plant supplier/EPC contractor within 180 days envisaging that the plant has been installed as per the standards and specifications approved by State Nodal Agency. In case of delay, the consumer shall have to get further extension from PSPCL within original (180 days) allowed period. Such extension shall be granted for a maximum period of 2-months only and the approval granted shall lapse automatically if the project is not set-up even in the extended 2-months period and the fee deposited by the consumer shall be forfeited. Such consumer shall have to apply afresh.

Competent authority to approve the single line diagram, protection arrangements and site verification of the solar plant to be set up by the consumer shall be as below:-

Capacity of roof top solar PV system	Competent Authority to approve single line diagram and to carryout site verification
Upto 10 kWp on A.C Side	AE/AEE/Xen (DS)
Exceeding 10 kWp and up to 1 MWp	Sr. Xen /Addl.SE (DS)

PSPCL shall install and seal the Bi-directional and unidirectional energy meter(s) (as per ESIM Clause 53) within 10 days of the submission of work completion report and plant shall be treated as commissioned for net-metering commercial operations from that date.

2. Metering

The metering system shall be as per CEA (Installation and Operation of Meters) Regulations, 2006, as amended from time to time.

The solar meter (a unidirectional meter) is required to be installed as an integral part of the net metering system at the point at which the electricity is generated by Solar Energy System and delivered to the main panel.

The net metering equipment (Bi-directional meters) and the Solar meter (unidirectional) as per CEA Regulations shall be installed and maintained by the distribution licensee at the cost of the eligible consumer.

Provided the eligible consumer may procure the net meter/solar meter and present the same to the distribution licensee for testing and installation as per Regulation 21.2 of the Supply Code. No

meter rental shall be charged from the consumer. In case meters are provided by the distribution licensee, consumer shall be liable to pay meter rental as approved by the Commission. The location of the meter shall be as per CEA Metering Regulation.

The installed meters shall be jointly inspected and thereafter sealed by the distribution licensee in the presence of the consumer as per the procedure laid down in Supply Code:

Provided that in case the eligible consumer is under the ambit of TOD Tariff, the meter compliant of recording time of day consumption/generation shall be installed.

The meter reading taken by the distribution licensee shall form the basis of commercial settlement.

Meter readings shall be taken as per ESIM clause 81.

3. Energy Accounting and Settlement

The procedure for billing and energy accounting shall be as under

a) For each billing cycle the consumer shall receive an energy account statement showing quantum of electricity injected by the eligible consumer in the billing period, electricity supplied by the distribution licensee in the billing period, net billed electricity for payment by the consumer for that billing cycle and net carried over electricity to the next billing period separately.

b) In case the electricity injected exceeds the electricity consumed from PSPCL during the billing cycle such excess injected electricity shall be carried forward to the next billing cycle as electricity banked and may be utilized in the next billing cycle(s) within the settlement period. In such a case, the distribution licensee shall issue an invoice containing all these details.

c) In case the electricity supplied by the distribution licensee during any billing period exceeds the electricity injected by the eligible consumer, the distribution licensee shall raise a bill for net electricity consumption as per applicable tariff of that category after taking into account any electricity credit balance from previous billing period.

d) In case the eligible consumer is under the ambit of TOD tariff, the electricity consumption in any time block i.e. peak hours, off peak hours etc. shall be first compensated with the electricity injected in the same time block. Any excess injection over and above the consumption in any other time block in a billing cycle shall be accounted as if the excess injection occurred during non peak hours.

e) The surplus energy measured in kWh/kVAh shall be utilized to offset the consumption measured in kWh/kVAh and may not be utilized to compensate any other fee and charges imposed by the licensee as per the orders of the Commission.

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f) The Monthly Minimum Charges (MMC), where applicable, shall be leviable on total consumption of the consumer and not on net consumption. A normative P.F. of 0.9 of each billing cycle shall be considered for conversion of kWh to kVAh where ever applicable.

g) The distribution licensee shall also take the reading of solar meter for recording total solar power generated by Solar PV system of consumer.

h) In case of any dispute in billing the consumer can approach the Dispute Settlement Committee, Consumer Grievances Redressal Forum and Electricity Ombudsman in accordance with PSERC (Forum & Ombudsman) Regulations 2008 as amended from time to time.

The electricity generated from a rooftop solar system shall not exceed 90% of the electricity consumption by the consumer in a settlement period. The excess energy generated in a billing cycle shall be allowed to be carried forward to the next billing cycle upto the end of the settlement period.

Provided that in the event of electricity generated exceeds 90% of the electricity consumed at the end of the settlement period no payment shall be made by PSPCL and shall not be carried forward to next settlement period and the same shall be treated as inadvertent injection.

Provided also that at the beginning of each settlement period (1st October to 30th September) cumulative carried over solar electricity injected shall be reset to zero.

All charges on net electricity consumed from PSPCL shall be leviable as usual. All the instructions, rules and regulations applicable to the consumers of the PSPCL for the applicable class/category including but not limited to the Tariff rates, Payment Schedule, Late payment surcharge, connected load/ contract demand, Load Surcharge, peak load restrictions, security Consumption Deposit etc., shall also be applicable to the Roof Top Solar plant owner as a consumer of PSPCL.

Meticulous compliance of the above instructions may please be ensured This issues with the approval of competent authority.

NOTE:

These instructions/guidelines shall be read with provisions of PSERC Regulation for Grid Interactive Roof-Top Solar Photovoltaic Power Plants System issued vide notification no PSERC/Secy./Regu. 101 dated 7th May, 2015 and in case of any inconsistency the provisions of the Regulation shall prevail.

"Above regulation notified by PSERC can also be downloaded from PSPCL's Website

http://pspcl.in/docs/sales_circulars.htm

Dy. CE /Sales-1 For EIC/Commercial PSPCL, Patiala.

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Endst no. 1 119/139 1 PPA/Roof-Top

Dated: 4-06-2015

ਉਪਰੋਕਤ ਦਾ ਉਤਾਰਾ ਹੇਠ ਲਿਖਿਆਂ ਨੂੰ ਸੂਚਨਾ ਅਤੇ ਲੋੜੀਂਦੀ ਕਾਰਵਾਈ ਲਈ ਭੇਜਿਆ ਜਾਂਦਾ ਹੈ:-ਚੇਅਰਮੈਨ-ਕਮ-ਮੈਨੇਜਿੰਗ ਡਾਇਰੈਕਟਰ, ਪੰਜਾਬ ਰਾਜ ਪਾਵਰ ਕਾਰਪੋਰੇਸ਼ਨ ਲਿਮ, ਪਟਿਆਲਾ।

- 1. ਸਾਰੇ ਨਿਰਦੇਸ਼ਕ, ਪੰਜਾਬ ਰਾਜ ਪਾਵਰ ਕਾਰਪੋਰੇਸ਼ਨ ਲਿਮ, ਪਟਿਆਲਾ।
- 2. ਵਿੱਤ ਕਮਿਸ਼ਨਰ/ਫਾਇਨਾਸ ਟੂ ਗੋਰਮਿੰਟ ਪੰਜਾਬ ਐਕਸ ਆਫੀਸ ਮੈਂਬਰ, ਪੀ.ਐਸ.ਈ.ਆਰ.ਸੀ, ਚੰਡੀਗਤੂ।

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- 3. ਸਕੱਤਰ/ ਬਿਜਲੀ ਵਿਭਾਗ, ਪੰਜਾਬ ਸਰਕਾਰ, **ਚੰਡੀਗ**ੜ੍ਹ। 4.
- ਸਕੱਤਰ, ਪੰਜਾਬ ਸਰਕਾਰ/ਇੰਡ: ਅਤੇ ਕਾਮਰਸ ਵਿਭਾਗ, ਪੰਜਾਬ ਸਰਕਾਰ, ਚੰਡੀਗੜ੍ਹ। 5.
- ਪ੍ਰੈਜ਼ੀਡੇਟ,ਸਟੇਟ ਡਿਸਪਿਊਟ ਰਿਡਰੈਸਲ ਕਮਿਸ਼ਨ (ਪੰਜਾਬ) SCO ਨੰ: 3009-10, Sec-22, ਚੰਡੀਗੜ੍ਹ
- 6, ਮੁੱਖ ਇੰਜ:/ ਚੇਅਰਮੈਨ (ਫੋਰਮ), ਪੀ.-1, ਵਾਈਟ ਹਾਊਸ, ਰਾਜਪੁਰਾ ਕਲੌਨੀ, ਪਟਿਆਲਾ। 7.
- ਸਕੱਤਰ, PSERC, SCO.ਨੰ: 220-221, ਸੈਕਟਰ-34 ਏ, ਚੰਡੀਗੜ੍ਹ। 8
- Ombudsman, Electricity Punjab 66 KV Grid Sub Stn., Plot no. A-2, Industrial Area, Phase-1, SAS 9. Nagar (Mohali)-160055
- ਨਿਜੀ ਸਕੱਤਰ ਟੂ ਬਿਜਲੀ ਮੰਤਰੀ, ਪੰਜਾਬ ਸਿਵਲ ਸਕੱਤਰੇਤ ਪੰਜਾਬ ਸਰਕਾਰ ਚੰਡੀਗੜ੍ਹ। 10.
- ਚੀਫ ਕੋ-ਆਰਡੀਨੇਟਰ, ਉਦਯੋਗ ਸਹਾਇਕ ਡਾਇਰੈਕਟਰ ਆਫ ਇੰਡੀਸਟਰੀਜ਼ ਪੰਜਾਬ Sec-17, ਚੰਡੀਗੜ੍ਹ। 11.
- Chief Administration & IR, PSPCL. Patiala. 12.
- ਮੁੱਖ ਬਿਜਲੀ ਇੰਸਪੈਕਟਰ, ਪੰਜਾਬ ਸਰਕਾਰ, ਪਟਿਆਲਾ। 13.
- Chief Auditor, PSPCL, Patiala. 14.
- Chief Engineer / ARR & TR, PSPCL, Patiala. 15.
- ਮੁੱਖ ਇੰਜ:/ਆਈ.ਟੀ., ਪੀ.ਐਸ.ਪੀ.ਸੀ.ਐਲ., ਪਟਿਆਲਾ। 16.
- ਡੀ.ਜੀ.ਐਮ./ਆਈ.ਟੀ.,(ਐਸ.ਡੀ.ਅਤੇ ਆਈ.) ਪੀ.ਐਸ.ਪੀ.ਸੀ.ਐਲ., ਪਟਿਆਲਾ। 17.
- Dy.CE/Sales-I, Dy.CE/Sales-2 and Dy.CE/Billing, PSPCL 18.
- All Addl SEs / Sr.Xens / AEEs under Commercial organization, PSPCL. 19.
- This circular can be downloaded from PSPCL website (www.pspcl.in). 20.
- Chief Engineer nictering PSPEL Patiala. 21 ..

Addt.SE /Sales-4 For EIC/Commercial **PSPCL**, Patiala.

APPLICATION FORMFOR APPROVAL TO INSTALL GRID INTERACTIVE ROOF TOP SPV NET METERING POWER PLANT (Form - A)

(To be filled by Applicant)

The Sub Divisional Engineer PSPCL.

Sir

To

I opt to install Roof-top Solar Photo Voltaic Power Plant as per GOP policy on Net Metering, the details of which are as under:-

Name of Consumer/firm/industry/ Installation/institution/organization/office etc. :	
Address/Location.:	
Contact No. and E-mail ID:	1
i) Name of Sub-Division:	
ii) Name of consumer as per bill	
iii) Account no.	
iv) Sanctioned Load/Contract Demand	
v) Category (DS / NRS / SP / MS / BS/ Indl.)	
vi) Connection type (single or three phase)	
Details of Roof-top SPV	
	Horizontal/slanting RCC/Shed
	sq.ft.
iii) Proposed capacity to be installed	
Whether self owned or third party owned. In case of	
Third party owned, copy of Agreement, Lease,	
Registered Deed:	
Identity Proof:	-
Processing fee of Rs. 50/kVA or part thereof subject to maximum of Rs. 10000/ (for grant of permission): (Transaction No. with Amount & Date)	
	Address/Location.: Contact No. and E-mail ID: Electricity connection details: i) Name of Sub-Division: ii) Name of consumer as per bill iii) Account no. iv) Sanctioned Load/Contract Demand v) Category (DS / NRS / SP / MS / BS/ Indl.) vi) Connection type (single or three phase) Details of Roof-top SPV i) Type of Roof ii) Available shadow free area iii) Proposed capacity to be installed iv) Permission of PEDA Whether self owned or third party owned. In case of Third party owned, copy of Agreement, Lease, Registered Deed: Identity Proof: Processing fee of Rs. 50/kVA or part thereof subject

You are requested to grant me statutory clearance/approval for installation and synchronization with the PSPCL Distribution system. I undertake to abide by the provisions contained in the PSERC Regulation for Net Metering for Grid Interactive Roof Top Solar Photovoltaic Power Plants issued vide notification no. PSERC/Secy./Regu. 101 dated 7th May, 2015 and as amended from time to time in addition to the conditions already existing in the A&A form submitted earlier for release of connection."

I shall be solely responsible for and shall pay for any loss or damage to any of supply mains, main fuses, meters and/or other apparatus and accident to human beings/animals whatsoever (fatal/non-fatal/departmental/non-departmental) that may occur due to back feeding from applicant's SPV Plant when the grid supply is off.

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Signature of the Applicant

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TECHNICAL DATA FORM FOR FEASIBILITY CLEARANCE OF ROOF TOP SPV POWER PLANT (Form - B) (To be filled by JE-II/AAE/Area Incharge)

1	Name of Consumer:	
2	Name of Address/Location:	
3	Contact No. and E-mail ID:	
4	Account No.:	
5	Name of Sub-Division with Code:	
6	Name of Division with Code:	
7	Name of Circle with Code:	
8	Sanctioned load/CD of Consumer with supply voltage (DS / NRS / SP / MS / Indl.)	
9	Capacity of proposed SPVPP (in kW/kVA): (It should not be more than 80% of the sanctioned load/CD of the consumer as per clause 6.2 of PSERC Notification)	
10	Name and Code of Distribution Transformer:	
(1)	Capacity of above Distribution Transformer:	
(11)	Connected Load (kW/kVA)	
(iii)	Maximum Demand in Amps	
(12)	No. of LT Ckts.	
11	Length of LT Feeder (mtrs)	
1.)	Size of conductor (sq. mm)	
(ii)	Maximum Demand in Amps	
12	Name of feeder with Code:	
(1)	Size of Conductor/Capacity	
13	Name of feeding Sub-Station with Code:	
14	SPVPPs already connected on this Distribution Transformer (in kW/kVA):	No. of SPVPPs
		Total capacity in (kW/kVA)
15	Senior pending SPVPPs to be connected on the T/F:	No. of SPVPPs
		Total capacity in (kW/kVA)
16	Capacity of proposed SPVPP on this T/F (in kW/kVA): (As per column no. 6.2 of PSERC Notification)	
17	Total load on this T/F (in kW/kVA) = Sum total of columns	No. of SPVPPs
	(14+15+16): (It should not be more than 30% of the T/F Capacity	Total capacity in (kW/kVA)
18	Voltage level at which the consumer is being fed:	
19	Recommendation of Field Office: (Whether capacity of SPVPP as per column-9 approved or not. If approved mention the approved capacity, if not assign the reasons)	kW/kVA

Date:

Signature of Authorized Officer

Signature of PSPCL Official

etter of Approval

Mr. /Ms/ M/s
A/c No
Memo No.:
Your request of RID No

Dated:

Ref

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Your request for installing Rooftop PV system for kWP capacity is considered and approval is accorded with the following conditions:-

1. You shall set up the plant and submit the work completion report along with Single Line Diagram of the synchronizing and protection arrangement issued by the plant supplier/EPC contractor duly approved by PEDA that the plant has been installed as per approved standards and specifications within 160 days. In case of delay you shall have to get further extension from PSPCL. Such extension will be granted for a maximum period of 2-months only and the approval granted will lapse automatically if the project is not set-up even in the extended 2-months period. However, you will be eligible to apply in the next financial year but your application will be kept at the bottom of the ist of applicants and you will be permitted to set-up the plant only if all the applicants above you are selected and there is still capacity available for allotment.

2. You will abide by the guidelines on net metering for Grid Interactive Rooftop Solar Photo voltaic Power Plants issued by Govt. of Punjab/PSERC/PSPCL.

3. The solar plant shall comply with the relevant standards specified by the MNRE /BIS and CEA. The responsibility of operation and maintenance of the solar photo voltaic (SPV) generator including all accessories and apparatus lies with the consumer. The design and installation of the rooftop SPV should be equipped with appropriately rated protective devices to sense any abnormality in the system and carry out automatic isolation of the SPV from the grid. The inverters used should meet the necessary quality requirements and should be certified for their quality by appropriate authority; the protection logics should be tested before commissioning of the plant.

4. The automatic isolation or islanding protection of SPV should be ensured for. no grid supply and low or over voltage conditions and within the required response time. Adequate rated fuses and fast acting circuit breakers on input and output side of the inverters and cisconnect/isolating switches to isolate DC and AC system for maintenance shall be provided. The consumer should provide for all internal safety and protective mechanism for earthing, surge, DC ground fault, transients etc.

To prevent back feeding and possible accidents when maintenance works are carried out by PSPCL personnel. Double pole/Triple pole with neutral isolating disconnecting switches which ever applicable can be locked by PSPCL personnel should be provided. This is in addition to automatic sensing and isolating on grid supply failure etc and in addition to internal disconnecting switches. In the event of PSPCL LT/HT supply failure, the consumer has to ensure that there will not be any solar power being fed to the LT/HT grid of PSPCL. You will be solely responsible for any

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accident to human beings/animals whatsoever (fatal/non fatal/departmental/non departmental) may occur due to back feeding from the SPV plant when the grid supply is off. PSPCL have the right to disconnect the rooftop solar system at any time in the event of possible threat/damage, from such to find solar system to its distribution system, to prevent any accident or damage, without any notice

You shall abide by all the codes and regulations issued by the Commission to the extent applicable and in force from time to time and shall comply with PSERC/PSPCLCErequirements with respect to safe, secure and reliable functioning of the SPV plant and the grid. The power injected into the grid shall be of the required quality in respect of wave shape, frequency absence of DC components etc.

The inverter standard shall be such that it should not allow solar power/battery power to extend to PSPCL's Grid on failure of PSPCL's Grid supply irrespective of connectivity options.

You shall restrict the harmonic generation within the limit specified in IEEE 519 or as may be specified by the Central Electricity Authority.

AE/AEE/XEN/DS Sub Division..... PSPCL.....

Form-D

	Suppl	omentary Ag	reement For	m for Sola	r Roof-top	Net Meterin	g	
						Original A	c No	•••••
						Cate	gory	
This Agreen		e and ente nonth)					on this	(date)
(address)	ligible	Consumer	10 0.0 111 15/03)		as first party	residing	at
AND Distribution L (audress) second party			herein after	called as	Licensee)	and having	its registered	office at as

V/cereas, the eligible consumer has taken the responsibility to set up or facilitate the requisite Photovoltac system and injection system into the Licensee's grid.

And whereas, the Licensee has verified the application and agrees to benefit the eligible consumer for the electricity generated and as per conditions of this agreement and net-metering regulations.

Both the parties hereby agree as follows:

- 1. Eligibility
- 1.1 Eligible consumer agrees that the standards and conditions of his Photovoltaic system meet the norms for being integrated into grid/distribution system and that he shall maintain the system accordingly for the duration of this agreement.
- 1.2 Eligible consumer agrees that for connection of his Photovoltaic system to Licensee's distribution system, he shall be bound by requirements of state Distribution Code and/or Licensee's conditions of service and such connection shall not affect the performance of the grid with specified reliability, security and quality as per the Central Electricity Authority (Grid Standard) Regulations 2010 as amended from time to time.
- 2. Technical and Interconnection Requirements
- 2.1 Eligible consumer agrees that the interconnection of the rooftop solar system with the network of the licensee shall be made as per the technical standards for connectivity of distributed generation resources specified under the Central Electricity Authority (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013 and subsequent amendments thereof.
- 2.2 Eligible consumer agrees that he has installed or will install, prior to connection of Photovoltaic system to Licensee's distribution system, an isolation device (both automatic and inbuilt within inverter and external manual relays) and agrees for the Licensee to have access to and operation of this if requires, for repair and maintenance of the distribution system.

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- 2.3 Eligible consumer agrees that in case of a power outage on Licensee's system, photovoltaic system will shut down, unless special transfer and isolating capabilities have been installed on photovoltaic system.
- 3.4 Eligible consumer agrees that Licensee will specify the interface/inter-connection point and metering point.
- 2.5 Eligible consumer agrees to furnish all the data such as voltage, frequency, breaker, isolator position in his system, as and when required by the Licensee. He may also try to provide facilities for online transfer of the real time operational data.
- 3. Safety

3.1 Eligible consumer shall comply with the Central Electricity Authority (Measures Relating to Safety and Electricity Supply) Regulations 2010.

3.2 Eligible consumer agrees that the design, installation, maintenance and operation of the photovoltaic system are performed in a manner conducive to the safety of the photovoltaic system as well as the uncensees distribution system.

3.3 Due to Licensee's obligation to maintain a safe and reliable distribution system, eligible consumer agrees that if it is determined by Licensee that eligible consumer's photovoltaic system either causes damage to and/or produces adverse effects affecting other distribution systems' consumers or Licensee's assets, eligible consumer will have to disconnect photovoltaic system immediately from the distribution system upon direction from the Licensee and correct the problem at his own expense prior to a "aconnection."

4. Clearances and Approvals

The eligible consumer agrees to obtain all the necessary approvals and clearances (environmental and grid connected related) before connecting the photovoltaic system to the distribution system.

5. Access and Disconnection

- 5.1 Licensee shall have access to metering equipment and disconnecting devices of photovoltaic system, both automatic and manual, at all times.
- 5.2 In emergency or outage situation, where there is no access to the disconnecting devices, both automatic and manual, such as a switch or breaker. Licensee may disconnect service to the premises.

6. Liabilities

Eligible consumer and Licensee will indemnify each other for damages or adverse effects from either cality's negligence or intentional misconduct in the connection and operation of photovoltaic system or cansee's distribution system.

5.2 Licensee and eligible consumer will not be liable to each other for any loss of profits or revenues, business interruption losses, loss of contract or loss of goodwill, or for indirect, consequential, incidental or special damages, including, but not limited to, punitive or exemplary damages.

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whether any of the said liability, loss or damages arise in contract, or otherwise.

Licensee shall not be liable for delivery or realization by eligible consumer for any fiscal or other incentive provided by the central government.

7. Commercial Settlement

All the commercial settlement under this agreement shall follow the Punjab State Electricity Regulatory Commission (Rooftop Solar Grid Interactive System based on Net Metering) Regulations, 2015 notification no. PSERC/Secy./Regu.101 dated 7th May, 2015amended from time to time

3. Connection Costs

The eligible consumer shall bear all costs related to setting up of photovoltaic system including metering and interconnection costs. The eligible consumer agrees to pay the actual cost of medifications and upgrades to the distribution facilities required to connect photovoltaic system in case

t is required.

Costs of all interconnection equipment including the isolators, and meters, are also to be borne by the eligible consumer.

... Termination

The eligible consumer can terminate the agreement at any time by giving 30 days prior written notice to the Licensee.

- Licensee may terminate the agreement with 30 days prior written notice, if eligible consumer breaches any term of this agreement and does not remedy the breach within 30 days of receiving written notice from the Licensee of the breach.
- Eligible consumer, upon termination of this agreement, shall disconnect forthwith the photovoltaic system from Licensee's distribution system.
- In case of any dispute in billing, the consumer can approach the Dispute Settlement Committee, Consumer Grievances Redressal Forum and Electricity Ombudsman in accordance with PSERC (Forum & Ombudsman) Regulations, 2008, as amended from time to time.

in the witness, where of Mr. ______for and on behalf of ______Eligible consumer) and Mr ______for and on behalf of ______(Licensee) agree to this agreement.

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Energy Meter(s) Detail

Serial No.	Motor Description	Accuracy	Load of Consumer	Voltage Level
1	Single Phase 10-60 A, whole current	Class-I	upto 7 KW	Single Phase LT 230 V
2	3 Phase 10-60 A, whole current	Class-I	More than 7KW & up to 25 KW	Three Phase LT 400 V
3	LT AC 3-Phase 4- Wires CT operated static DLMC compliant energy meter	Class- 0.5s or better	More than 25 KW & up to 100 KW	Three Phase LT 400 V
4	HT TPT Meter, DLMS Compliant & AMR Compatible	Class- 0.5s or better	More than 100 KW	Three Phase HT (11 KV)

Harmonics Standard

1

As per the standard of IEEE 519, the permissible individual harmonics level shall be less than 3% (for both voltage and current harmonics) and Total Harmonics Distortion (THD) for both voltage and current harmonics of the system shall be less than 5%.

ANNEXURE -III

Inverter Standards

P

Inverter should comply with IEC 61683/IS 61683 for efficiency and Measurements and should comply IEC 60068-2 (1,2,14,30) / Equivalent BIS Standard for environmental testing.

Inverter should supervise the grid condition continuously and in the event of grid failure (or) under voltage (or) over voltage, Solar System should be disconnected by the circuit Breaker / Auto switch provided in the inverter.

ANNEXURE -IV

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Cite

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Technical and Interconnection requirements

Parameter	Reference	Requirement
Overall conditions of service		State Distribution/Supply Code
Overall Grid Standards	Central Electricity Authority (Grid Standard) Regulations 2010	Central Electricity Authority (Grid Standard) Regulations 2010
Equipment	BIS / IEC / IEEE	BIS/IEC/IEEE
Meters	Central Electricity authority (Installation & operation of meters) Regulation 2006 as amended time to time	
Safety and supply	Central Electricity Authority(measures of safety and electricity supply) Regulations, 2010	Central Electricity Authority(measures of safety and electricity supply) Regulations, 2010
Harmonic Requirements		
Harmonic Current	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013
Synchronization	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	Photovoltaic system must be equipped with a grid frequency synchronization device. Every time the generating station is synchronized to the electricity system. It shall not cause voltage fluctuation greater than +/- 5% at point of connection.
Voltage	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	The voltage-operating window should minimize nuisance tripping and should be under operating range of 80% to 110% of the nominal connected voltage. Beyond a clearing time of 2 second, the photovoltaic system must isolate Itself from the grid.
Flicker	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	Operation of Photovoltaic system should not cause voltage flicker in excess of the limits stated in IEC 61000 standards or other equivalent Indian standards, if any.

Frequency	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	When the Distribution system frequency deviates outside the specified conditions (50.5 Hz on upper side and 47.5 Hz on lower side), There should be over and under frequency trip functions with a clearing time of 0.2 seconds.
DC Injection	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	Photovoltaic system should not inject DC power more than 0.5% of full rated output at the interconnection point or 1% of rated inverter output current into distribution system under any operating conditions.
Power Factor	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	While the output of the inverter is greater than 50%, a lagging power factor of greater than 0.9 should operate.
Islanding and Disconnection	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	The photovoltaic system in the event of fault, voltage or frequency variations must island/disconnect itself within IEC standard on stipulated period.
Overload and Overheat	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	off in case of overload or overheating and should restart when normal conditions are restored.
Paralleling Device	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	capable of withstanding 220% of the normal voltage at the interconnection point.

Note: The standards/specifications shall be subject to amendments/revisions from time to time as duly notified by PEDA on its website.

Annexure-V

Timelines to set-up Grid Interactive Roof-Top Solar Photovoltaic Power Plants



ANNEXURE-VI

Meter Configuration options

The metering system for rooftop solar system, under net-metering arrangement, shall be as elaborated below which should be applicable till such time the Central Electricity Authority notifies the standards in this matter.

a) Two Meter Configuration without Storage

The metering protocol for 'Grid connected rooftop solar PV system without storage' and location of solar meter and consumer meter shall be in accordance with the schematic below:-



The utility meter (Net-meter) has to be bi-directional meter to register both import grid electricity amount as well as export solar electricity amount.

b) Two Meter Configuration with Storage

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The metering protocol for 'Grid connected rooftop solar PV system with storage' and location of Solar Meter (SM) and Utility Meter (UM) shall be in accordance with the schematic below:-

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The utility meter (Net-meter) has to be bi-directional meter to register both import grid electricity amount as well as export solar electricity amount

and the second

Dated, Chandigarh 3rd November, 2014

Anirudh Tewari, Secretary to Government of Punjab Department of New & Renewable Energy Sources

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Sumit Punjabi Letter

ਪਟਿਆਲਾ ਸ਼ਹਿਰੀ ਯੋਜਨਾਬੰਦੀ ਅਤੇ ਵਿਕਾਸ ਅਥਾਰਿਟੀ, ਪਟਿਆਲਾ

お: ミ.ਮ. 4. / นา. สา. 8. / นาย/17/ 67/2-19 โหรา: (7-7-17)

ਵਲ,

ਮਿਲਖ ਅਫਸਰ, ਪੁੱਡਾ/ਪੀਡੀਏ, ਪਟਿਆਲਾ।

ਨਿਗਰਾਨ ਇੰਜੀਨੀਅਰ, ਪੁੱਡਾ/ਪੀਡੀਏ, ਪਟਿਆਲਾ।

ਮੰਡਲ ਇੰਜੀਨੀਅਰ (ਸਿ਼ਵਲ/ਜਸ/ਬਿਜਲੀ), ਪੁੱਡਾ/ਪੀਡੀਏ, ਪਟਿਆਲਾ।

ਨੋਡਲ ਅਫਸਰ (ਰੈਗੂ.), ਪੁੱਡਾ/ਪੀਡੀਏ, ਪਟਿਆਲਾ।

ਪ੍ਰਬੰਧਕ ਅਫਸਰ, ਪੁੱਡਾ/ਪੀਡੀਏ, ਪਟਿਆਲਾ।

ਲਾਅ ਅਫਸਰ, ਪੁੱਡਾ/ਪੀਡੀਏ, ਪਟਿਆਲਾ।

ਵਿਸ਼ਾ:

ਮਿਤੀ 10.07.2017 ਨੂੰ ਵਧੀਕ ਮੁੱਖ ਸਕੱਤਰ, ਮਕਾਨ ਉਸਾਰੀ ਅਤੇ ਸ਼ਹਿਰੀ ਵਿਕਾਸ ਵਿਭਾਗ, ਪੰਜਾਬ ਜੀ ਦੀ ਪ੍ਰਧਾਨਗੀ ਹੇਠ ਹੋਈ ਵੀਡੀਓ ਕਾਨਫਰੰਸ ਦੀ ਕਾਰਵਾਈ ਬਾਰੇ।

ਉਪਰੋਕਤ ਵਿਸ਼ੇ ਦੇ ਸਬੰਧ ਵਿੱਚ ਮਿਤੀ 10.07.2017 ਨੂੰ ਮਾਨਯੋਗ ਵਧੀਕ ਮੁੱਖ ਸਕੱਤਰ,

ਮਕਾਨ ਉਸਾਰੀ ਅਤੇ ਸ਼ਹਿਰੀ ਵਿਕਾਸ ਵਿਭਾਗ, ਪੰਜਾਬ ਜੀ ਦੀ ਪ੍ਰਧਾਨਗੀ ਹੇਠ ਹੋਈ ਵੀਡੀਓ ਕਾਨਫਰੰਸ ਦੀ

ਕਾਰਵਾਈ ਆਪ ਨੂੰ ਸੁਚਨਾ ਅਤੇ ਅਗਲੇਰੀ ਕਾਰਵਾਈ ਹਿਤ ਭੇਜੀ ਜਾਂਦੀ ਹੈ।

ਿਸਿਸ ਵਧੀਕ ਮੁੱਖ ਪ੍ਰਸ਼ਾਸਕ, ਪੁੱਡਾ/ਪੀਡੀਏ, ਪਟਿਆਲਾ। Sub:

Proceeding of the Video Conference held on 10.07.2017 under the chairpersonship of Additional Chief Secretary (HUD).

A video conference was held on 10.07.2017 under the Chairmanship of Additional Chief Secretary (HUD). The following matters were discussed and decided:-

- Chief Administrator, PUDA told that the headquarter has issued a need based policy regarding changes in the LIG or other Houses/Flats and in this policy prices/rates have been fixed for increasing the area. The CA's and ACA's were requested to implement the policy wherever needed.(Estate Officer PUDA/PDA, Patiala will take necessary action in this regard and send the report to Additional Chief Administrator, PUDA/PDA, Patiala within 15 days.)
- 2. Chief Administrator, PUDA requested all the CA's/ACA's to send the report about unauthorized Colonies/Marriage Palaces. The report must be sent on monthly basis with the certificate that no illegal colony has been developed in the last month. It was also emphasized that strict action including demolition may be taken against the illegal colonies developed after the policy.(Nodal Officer (Regulatory), PUDA/PDA, Patiala will obtain every month detailed certificate from all SDE's/JE's that no illegal colony has been found they will also report about the action taken in this regard. The certificate will be signed and countersigned by Nodal Officer (Regulatory), PUDA/PDA, Patiala and Additional Chief Administration, PUDA/PDA, Patiala will be sent to the Head Office upto 7th of every month.)



The rates of Water Supply and Sewerage may be reviewed at the earliest. (Divisional Engineer (PH), PUDA/PDA, Patiala will put up a detailed proposal for enhancing the rates of Water Supply & Sewerage charges by comparing the rates with the rates of M.C. Patiala and actual maintenance expenditure undertaken annually.)

 E-auctions may be held with the sponsorship of banks. (ASM, PUDA/PDA, Patiala will take the necessary action in this regard and send his report to Accounts Officer, PUDA/PDA, Patiala who will be Nodal Officer for this purpose.)

- Rain harvesting wells and Seed plantation may be encouraged. (Divisional Engineer (PH), PUDA/PDA, Patiala will take the necessary action in this regard.)
- 6. Energy saving lights i.e. LED Lights may be installed in the area of the authority.(Divisional Engineer (E), PUDA/PDA, Patiala will take the necessary action and send their report describing total points in the Urban Estate with Wattage. He will also put up a comparative statement showing how much bill is being paid and how much amount will be saved and the way forward.)
- 7. Steps may be taken to identify land (Panchayat Land/Government Land) for the construction of LIG/EWS houses for homeless people and for slumps development. (Administrative Branch will issue letter to the Deputy Commissioner, Additional Deputy Commissioner, Development, District Development & Panchayat Officer and all the department Heads in Patiala regarding Government/Panchayat land available with them. Law Officer, PUDA/PDA, Patiala and Accounts Officer, PUDA/PDA, Patiala jointly look after this matter.)
- 8. The necessary action to resume the properties in which the allottee is not depositing the dues for more than 4 years, may be taken at the earliest.(Estate Officer, PUDA/PDA, Patiala will send the list of defaulters i.e. plots/scheme wise and will report about action taken against the defaulters.)
- 9. It was discussed that the two sites namely Fountain Chowk and PWD Rest House are under consideration to be dropped under OUVGL scheme, being their heritage status. It was directed by Hon'ble ACS(HUD) to send the agenda for the meeting of empowered committee.(Estate Officer, PUDA/PDA, Patiala will put up a proposal to adjust/shift the allottees of Fountain Chowk Scheme in some other Commercial Pocket, If the allottees could not be adjusted the proposal to refund the amount deposited by allottees without interest and with Bank interest of 8% per annum.)

Efforts may be made to install the system of solar energy in the PDA.
 (Divisional Engineer (E), PUDA/PDA, Patiala will put up a proposal within 10 days in this regard.)

- 11. There are some sites namely Old Ticket Printing Press, Mehmankhana Site, 1.67 acre PRTC site and 0.62 acre PWD site near M.C. Patiala. Efforts have been made to sell these sites on chunk basis. However, these sites could not be sold. Therefore, there is need to review the use/method of sale of these sites on case to case basis.(Superintending Engineer, PUDA/PDA, Patiala will send the report regarding the estimated expenditure of development if the sites are sold after planning Estate Officer, PUDA/PDA, Patiala will review the saleable area, total sale price and recovery from the sites.)
- 12. Efforts may be made for re-planning Irrigation site in consultation with STP/DTP Patiala taking in consideration the land demanded by P.P.C.B. and M.C. Patiala for OHSR.(A meeting will be held with District Town Planner, Patiala and Estate Officer, PUDA/PDA, Patiala in this regard.)
- There are some institutional sites in the PDA. The institute of 13. Chartered Accountants of India has requested PDA to allot land measuring 3500 sq. Yards for holding the educational activities of the institute i.e. for the study of their students. As present policy the 35% of the prevailing highest rate for the Urban Estate is to be charged from the institute. The prevailing market rate is Rs. 15000.00 per sq. Yard for draw of plots and the average price for last auction is approximately is Rs. 18000.00 per sq. yard. The matter was discussed length regarding rates to be charged. Additional Chief Administrator was of the view that since the institute will hold its commercial activities in the building. Therefore, the land should be allotted to them on the prevailing market rate instead of concessional rate of 35% of the prevailing rate. Additional Chief Administrator, BDA, Crow of Bathinda submitted his views that the plot sold in the auction is smaller areas i.e. 200 sq. yards or 250 sq. yards and the bid amount is higher in the case of smaller plots, therefore the rate of smaller plot cannot be applied on 3500-4000 or higher plots. The Additional Chief

Administrator, PUDA/PDA, Patiala asserted that the organizations whether central or state who are demanding land are earning profits from their activities and will earn profits in future also. Therefore, land may be allotted to these_institutions at a concessional rate but the quantum of concession should be less i.e. they should not be charged only 35% of the prevailing rate rather it should be increased to 75%.

It was decided that meeting will be held at the level of ACS to review the policy and final decision will be taken, which will be applicable to all authorities

The meeting ended with vote of thanks to the chair.

Additional Chief Administ

PATIALA URBAN PLANNING & DEVELOPMENTAUTHORITY(PDA) Delegations of powers regarding works are hereby given to the officers of PDA to facilitate day to day work of PDA. SECTION 1-B(GENERAL)

Sr N o	Nature of Powers	Officer to whom Power is delegated	Extent of Powers Delegated
1	2	3	4
A	Capital Assets	provided in the same	enditure under the Head Purchase of notice of notice of notice of the second state of
1	To sanction	i) CA	Full Power
	expenditure on purchase of vehicles such as Cars, Jeeps, Pick-up Vans, Ucks, Buses		Full powers for purchase of vehicles only for replacement of old vehicles.
2	To sanction	i) CA	Full Power
	expenditure on purchase of (i) Furniture & fixture	ii) ACA	Rs. 1,00,000.00 in a year
	(ii) Office	(i) CA	Full Power
	equipment such as fax machine,	(ii) ACA	Rs. 1,00,000.00 in a year
	duplicators, typewriters, Photostat machines and cycles.		
	(iii) Computer and Related	(iii)CA (iv) ACA	Full Powers Rs. 2,00,000.00 in a year
)	To sanction	(i) CA	Full Powers
	expenditure on purchase of air	(ii) ACA	Rs. 1,00,000/- for AC in a year Rs.50,000/- for the rest in a year
	conditioners, water coolers, air-coolers and electric al fans		, and to contra year
· •		i) CA	Full Power
	expenditure on purchase of books and maps	ii) ACA	Up to Rs. 15,000/- in an individual case of non-recurring expenditure maximum Rs. 20,000.00 in a year.
		iii) CE/SE	Up to Rs. 10,000/- in an individual case of non-recurring expenditure.
	To sanction	i) CA	Full Power
I	expenditure on installment of telephone & internal telephone system.	ii) ACA	Rs. 50,000/- for in a year

		ii) Committee	Up to Rs. 1,00,000/-
ł		consisting of ACA, SE, SAO/AO and E.O.	
29	To sanction payment of municipal taxes of the Authority which have been assessed by the Competent Authority	CA	Full Powers
30	To sanction the	CA	Full Powers
	payment of rates or taxes levied by a statute or by local rules or orders (as for instance terminal tax or octroi levied on the Authority).	ACA	Full Powers subject to assessment by the Competent Authority.
19 ⁻	Fo approve the undertaking of defence of the employees in criminal proceedings at the expense of the Authority.	CA	Full Powers
31 A	To issue certificate of residential proof to the officers/officials of PDA.	ACA	Full Powers
32	To reimburse an employee whose conduct has been the subject matter of enquiry for l spenditure on account of defence witness.	CA	Full Powers
33	To sanction	CA	Full Powers
	expenditure upon items specified in	ACA	up to Rs. 25000.00 per item subject to Rs. 1,00,000.00 in a year
	detail in the sanctioned budget estimates under contingencies not otherwise provided for in these regulations.	CE/SE	up to Rs. 5,000.00 per item subject to Rs. 25,000.00 in a year
		EO	up to Rs. 5000.00 per item subject to Rs. 25,000.00 in a year
34	To sanction expenditure upon items not specified under contingencies and not otherwise provided for in these regulations.	CA	Full Powers

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(SECTION II WORKS)

	Powers	Authority of Officer to whom power is delegated	Propos	ed Delegations
	To accord Administrative approval to proposals for works		5.11 D	
	a) For original	i) CA	Full Po	Rs. 25.00 lacs
	works or project			s. 5.00 lacs
10	b) For extension of executed works, new works, maintenance or repairs.	ACA		
2	To accord	i) CE/SE	Full Po	
ζ.	technical sanction to the detailed estimates of works.	ii) SE	Up to :	25.00 lacs
3	To accept tenders for execution or works	Committee consisting of i) CA CE,SE, ACA, Sr. AO & DE		owers
		iii) ACA	tende next l	Rs. 1.00 Crore except for single r where it will be submitted to higher authority.
10		iv)CE/SE	tende	Rs. 50.00 lacs except for single er where it will be submitted to higher authority.
		iii) SE	tende	Rs. 25.00 lacs except for single er where it will be submitted to higher authority.
		iv) DE	tend	Rs. 2.00 lacs except for single er where it will be submitted to higher authority.
-		Higher Purchase	Comm	ittee
4	To purchase stores for sanctioned works	i) Committee cons of CA, ACA, CE/SE Sr.A.O.	sisting	Full powers
		i) Committee con of a) ACA b) SE c) D.E. concerne d) Accounts offic	sisting d	ittee To incur expenditure on the purchase of building materia upto Rs. 20.00 lacs at a time or one item subject to the ceiling o Rs. 50.00 lacs on each item during the financial year

ii) To clear the	ACA	Full Power
files regarding		
release of		
advertisements,		
Court notice,		
public notice,		
tender notice,		n
notification,		State in the second
service matters,		
corrigendum		
through the		
media of radio		
and press		
through the	÷	2
empanel		
agency and	and the second second	
would carry out		The second se
the3 selection	Contraction of the	and the second sec
, of agencies for		
design works in		
such cases	1	
strictly by		
rotation among		the state of the second
agencies.		
Where the		
rotation is to be		
disturbed, he		
may seek the		
sanction of		· · · · · · · · · · · · · · · · · · ·
ACA excluding		
the		
advertisements		and the second s
pertaining to		
the disposal of		and the second
property or		Ph. 7 - Collection is a second second
major scheme. IOTE:-		

- 1) The quorum in the meeting of the Committees, constituted in these regulations shall be as under :-
- a) For the committee consisting of three members, two members shall form quorum
- b) For the committee consisting of more than three members, three members shall from quorum
 c) In respect of the financial matters not specifically stated in the second state of the second
- c) In respect of the financial matters not specifically stated in these regulations the provisions of the Financial Hand Book No. 3 of the Department of Finance. Government of Punjab shall be applicable and references to the Executive Engineer in the aforesaid Hand Book shall be constructed as a reference to the Divisional Engineer of the Authority.

Dated: -

Administrator,

For:Chief Administrator, PDA, Patiala

Endst No. PDA/PTA/Admr/ 4745

Date 0 (-03-13

A Copy of the above is forwarded to All the Head of Offices /Branch Heads for necessary action.

2. EO 3. DE CC-I, C-2, PH = E) 4. LO I + LO 5. AO I + AO 2

Dated: -

Administrator, For:Chief Administrator, PDA, Patiala