

Annexure – 1: Check list for Application Form

S.No.	DOCUMENTS	REQUIRED	SUBMITTED
1	Application Form must be signed by “Registered Consumer” on each page with stamp	Yes	
2	Occupancy Proof along with roof rights (Registered Sale Deed / Registered GPA / Registered Lease Deed/ Allotment Letter).	Yes	
3	Signature ID Proof (Pan Card/Passport/Driving License/Aadhaar) of applicant.	Yes	
4	Photocopy of Latest Paid Electricity bill	Yes	
5	If applicant is tenant/co-owner : NOC of the owner/co-owner must be submitted with application along with Self attested signature ID Proof of owner/co-owner. Note : NOC must be on Rs.10/- non judicial stamp paper, duly signed by owner and attested by Notary public on each page	Yes	
6	Declaration /undertaking on Rs.10/- non judicial stamp paper, duly attested by Notary public signed by “Registered Consumer” on each page with stamp	Yes	
7	Written request for Net Metering by Registered consumer. Note-In case of Company/ Society/Trust/ Partnership Firm/ Proprietorship Firm Request should be on Letter head	Yes	
8	Photograph of the applicant	Yes	
9	Project under CFA/Non CFA Note: CFA projects only for residential category)	Yes	

Annexure – 2: Application for Intent to seek connectivity for Renewable Energy System

I intend to install grid connected Renewable Energy System, in compliance of Delhi Electricity Regulatory Commission (Net Metering for Renewable Energy) Regulations, 2014.

1	Name of Registered Consumer				
2	Address of Registered Consumer				
3	CA No				
4	E-Mail ID of Consumer(In Capital letters)				
5	Email ID of Installer (In Capital letters)				
6	Telephone No(Installer)			Mob:	
7	Telephone No(Consumer)	Res		Mob:	
8	Category (Please tick)	Domestic	Non domestic	Industrial	Any other:
9	BRPL Supply voltage level (Please tick)	230V	415V	11KV & above	
10	Sanctioned load as per latest electricity bill				
11	Type of Renewable Energy System proposed (Solar, wind, etc.)				
12	Capacity of Renewable Energy System proposed to be connected (in kWp)				
13	Supply voltage of Renewable Energy System proposed to be connected (Please tick)	230V (1-Phase)		415V (3-Phase)	
14	Location of Proposed Renewable Energy System (Please tick)	Roof Top		Ground Mounted	
15	Project under CFA/Non CFA (Please tick) Note: CFA projects only for residential category)	CFA		Non CFA	

Enclosure: Documents as per “Checklist of application form” (Annexure -1)

Place:

Date:

Signature of Registered Consumer with stamp

Annexure – 3: No Objection Certificate

(On Non Judicial Stamp Paper of Rs.10/-, Duly attested by Notary public)

NO OBJECTION CERTIFICATE

I/We, s/o..... Address..... do hereby solemnly affirm and

Declare as under:-

1. That I/We am/are the lawful Owner/Co-owner of the above said property.
2. That Roof Rights of said property are with us and Co-Owner/Tenant has installed Solar system at roof top with our consent.
3. That I/We have no objection to install the renewable Energy system Electric Meter in the name of Co-Owner/Tenant in the above said premises by BRPL Delhi.

(DEPONENT)

VERIFICATION:-

Verified at Delhi on this that the contents of this affidavit are true and correct to the best of my knowledge and belief.

(DEPONENT)

Annexure – 4: Declaration/Undertaking

(On Rs.10/- non judicial stamp paper, duly attested by Notary public)

Declaration/Undertaking for seeking Grid connectivity of Renewable Energy System and installation of Net Meter

I/We.....Son/daughter/wife/authorized signatory of.....having electricity connection bearing CA No..... at address do hereby solemnly affirm and declare as under:

1. That I/We am/Are the owner of / co-owner of / legal heir of / Occupant of the premises has/have permission to use rooftop of (address)for installation of solar plant of capacity ofkW.
2. I/We understand that once this application is approved, the same is valid for 30 days, within which I/we will submit the Registration form.
3. I/We agree to Auto debit all applicable charges through my/our electricity bill, as per the Delhi Electricity Regulatory Commission (Net Metering for Renewable Energy) Regulations, 2014.
4. I/We agree that BRPL has permission to access the Renewable energy system installed at my/our premises.
5. I/We undertake that ownership of the roof/land where solar PV system is installed is with me.
6. I/We am/are responsible for any objection raised by the residents living vertically below the said property.
7. The Renewable energy system installed at my premises will be in synchronization with BRPL supply voltage level at my premises and rated Frequency (50 hz +-5%), in compliance to Delhi Electricity Regulatory Commission (Net Metering for Renewable Energy) Regulations, 2014.

I/We have clearly understand that if the above statement is found to be false or incorrect or on receipt of any objection from the concerned competent land owing/Law enforcing agency, the Net metering system can be disconnected and the meter/service line can be removed by BRPL without any further notice to me.

Annexure – 5: Check list for Registration form

S. No.	DOCUMENTS	REQUIRED	SUBMITTED
1	Registration form signed by Registered consumer on each page with stamp	Yes	
2	Detailed SLD of solar plant signed by Registered Consumer and Solar Plant Installer with stamp	Yes	
3	Certificates of system such as IEC 61727, IEC 62116, etc. for Inverter, IEC 61215, IEC 61730, etc. for PV modules signed by Registered Consumer and Solar Plant Installer with stamp	Yes	
4	Detailed list of components to be used in Renewable Energy System signed by Registered Consumer and Solar Plant Installer with stamp	Yes	
5	Net Metering Connection Agreement on Rs.100/- non judicial stamp paper, duly attested by Notary public signed by Registered Consumer on each page with stamp	Yes	
6	Solar Plant Installation Certificate signed by Registered Consumer and Solar Plant Installer with stamp, post installation of plant	Yes	
7	Data sheet of Inverter and Module	Yes	
8	Undertaking for DCR content(On the letter head of Installer) in case of CFA project	Yes	

Annexure – 6: Application for Registration of the Scheme for Renewable Energy System

Intend to register for the scheme for Renewable Energy System, in compliance of Delhi Electricity Regulatory Commission (Net Metering for Renewable Energy) Regulations, 2014.

1	Name of Registered Consumer			
2	Address of Registered Consumer			
3	CA No		Sanctioned load as per latest Electricity Bill	
4	Net-metering Application No.	NM-	Supply voltage (230V, 415V, 11kV, 33kV, 66kV)	
5	Mobile No. of Consumer:		Mobile No. of Installer:	
6	E-Mail ID of Consumer (In Capital letters)			
7	E-Mail ID of Installer (in Capital letters)			
8	Renewable Energy Source type	(solar / wind / other)	Capacity of Renewable Energy System	
9	Name of solar plant Installer		Proposed date of completion of the installation	

I (Name of Consumer) undertake that ownership of the roof/land where solar PV system is installed is with me. I shall comply with the terms and condition of Model Connection Agreement .I agree to pay the Registration charges (details as provided below) as stipulated under Delhi Electricity Regulatory Commission (Net Metering for Renewable Energy) Regulations, 2014 once this application for registration is approved. Also, I agree to pay registration charges & all other applicable charges raised by the DISCOM through my electricity bill.

S No.	Capacity (kWp)	Charges (Rs)	Please tick any one as per your plant capacity
1	1 to ≤ 10	1000/-	
2	>10 to ≤ 50	3000/-	
3	> 50 to ≤ 100	6000/-	
4	>100 to ≤ 300	9000/-	
5	>300 to ≤ 500	12000/-	
6	>500	15000/-	

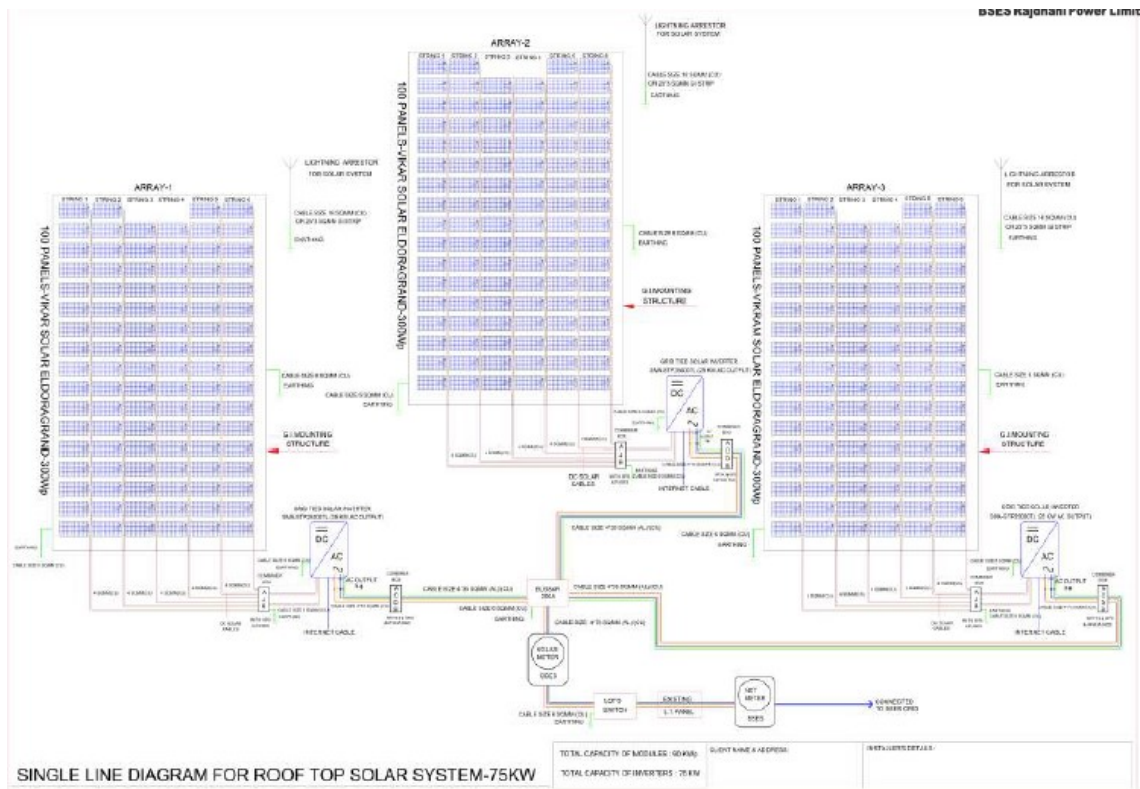
Enclosure: Documents as per “Checklist of registration form” (Annexure -5)

Place:

Date:

Signature of Registered Consumer with stamp

Annexure – 7: Sample SLD of RTSPV



Annexure – 8: Detail list of components to be used in Renewable Energy System (Sample)

Sr no	Name of equipment	Make	Model no	Serial no	Capacity/ Size	Quantity	Standards / Certification	Attachments
1	Solar Inverter	Delta	RPI-M-10A	RP1103FA0 E1000	10 KW	1 no.	IEC 61727 :2014 IEC 62116 :2008	attached
2	Solar PV modules	Renewsys	DESERV 3M6-315	–	315 Wp	32 no.	IEC 61215, 61730, 68204, 61701, 62716	attached
3	Structure	Standard	Hot Dip Galvanized	–	–	500 Kg	–	–
4	Solar cable	Polycab	–	–	1R*4 Sqmm (Cu)	100 mtr	BS EN 50618	–
5	AC cables	Polycab/ KEI	–	–	4C*6 Sqmm (Cu)/(Al)	50 mtr	IS 1554	–
6	Switches/ Circuit Breakers/ Connectors	Schnieder/L &T	MCB-A9N4P63D	–	63 Amp	2 nos	IEC 60947-2	–
7	Earthing	JMV	CBE-403	–	3 meter copper rod	3 nos.	IEC 62561-1 IEC 63561-2 IEC 62561-7	–
8	Connector & Conduits	Multiconnect/Stellar	–	–	As per Design	–	IEC60947 Part I,II,III	–
9	Junction Boxes/ Enclosures for Charge Controllers/ Luminaries	Ensto/Hense I	–	–	As per Design	–	IP65	–

I/We(Name of Consumer) shall comply with the terms and condition of Model Connection Agreement. I/We also undertake to comply with any subsequent amendment to these standards of Technical Compliance as notified by competent authority and any other technical standards relevant for compliance in respect to solar plant to be connected to BRPL distribution system.

Signature of Installer with stamp

Signature of Registered consumer with stamp

Annexure – 9: Detail list of components to be used in Renewable Energy System

S. no	Name of equipment	Make	Model no	Serial no	Capacity/ Size	Quantity	Standards / Certification	Attachments
1	Solar Inverter							
2	Solar PV modules							
3	Structure							
4	Solar cable							
5	AC cables							
6	Switches/ Circuit Breakers/ Connectors							
7	Earthing							
8	Connector & Conduits							
9	Junction Boxes/ Enclosures for Charge Controllers/ Luminaries							

I/We(Name of Consumer) shall comply with the terms and condition of Model Connection Agreement. I/We also undertake to comply with any subsequent amendment to these standards of Technical Compliance as notified by competent authority and any other technical standards relevant for compliance in respect to solar plant to be connected to BRPL distribution system.

Signature of Installer with stamp

Signature of Registered consumer with stamp

Annexure – 10: Net Metering Model Connection Agreement For Renewable Energy

(On Rs.100/- non judicial stamp paper, duly attested by Notary public)

This Agreement is made and entered into at New Delhi on date _____ between the Registered consumer name _____ CA no _____ & applied solar capacity _____ (in kWp) solar capacity found at site _____ (kWp) residing at _____ as first party and BSES Rajdhani Power Ltd. (herein after called as Discom) and having its registered office at BSES Bhawan, Nehru place, New Delhi, 110019 as second party of the agreement.

1. Eligibility

1.1 Eligible consumer is required to be aware, in advance, of the standards and conditions his system has to meet for being integrated into grid/distribution system.

1.2 Eligible consumer agrees that connection of Photovoltaic system to Discom's distribution system shall be bound by requirements of state Distribution Code and/or Discom's conditions of service and Delhi Electricity Regulatory Commission (Net Metering for Renewable Energy) Regulations, 2014. The grid shall continue to perform 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 he has installed or will install, prior to connection of Photovoltaic system to Discom's distribution system, an isolation device (both automatic and inbuilt within inverter and external manual relays) and agrees for the Discom to have access to and operation of this, if required, for repair and maintenance of the distribution system.

2.2 Eligible consumer agrees that in case of a power outage on Discom's system, photovoltaic system will shut down, unless special transfer and isolating capabilities have been installed on photovoltaic system.

2.3 Technical specification of net meter and renewable energy meter should be in compliance to Discom.

2.4 All the equipment connected to distribution system must be compliant with relevant

International (IEEE/IEC) or Indian standards (BIS) and installations of electrical equipment must comply with Indian Electricity Rules, 1956 and Central Electricity Authority (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013.

2.5 Eligible consumer agrees that Discom will specify the interface/inter-connection point and metering point.

2.6 Eligible consumer agrees to adhere to following power quality measures as per International or Indian standards and/or other such measures provided by Commission / Discom.

A. Harmonic current: Harmonic current injections from a generating station shall not exceed the limits specified in IEEE 519.

B. Synchronization: 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.

C. Voltage: 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 seconds, the Photovoltaic system must isolate itself from the grid.

D. Flicker: Operation of Photovoltaic system shouldn't cause voltage flicker in excess of the limits stated in the relevant sections of IEC 61000 standards or other equivalent Indian standards, if any.

E. Frequency: When the Distribution system frequency deviates outside the specified conditions (50.5 Hz on upper side and 47.5 Hz on lower side), the Photovoltaic system must isolate itself from the grid beyond a clearing time of 0.2 seconds.

F. DC Injection: 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.

G. Power Factor: While the output of the inverter is greater than 50%, a lagging power factor of greater than 0.9 should operate.

H. Islanding and Disconnection: The Photovoltaic system in the event of voltage or frequency variations must island/disconnect itself within the stipulated Period as per applicable IEC standards / Central Electricity Authority (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013.

I. Reconnection: The photovoltaic (PV) system shall be equipped with a voltage and frequency sensing and time-delay function to prevent the PV system from energizing a de-energized circuit and to prevent the PV system from reconnecting with electricity system unless voltage and frequency is within the prescribed limits and are stable for at least sixty seconds.

J. Overload and Overheat: The inverter should have the facility to automatically switch off in case of overload or overheating and should restart when normal conditions are restored.

K. Paralleling device: Paralleling device of Photovoltaic system shall be capable of withstanding 220% of the nominal voltage at the interconnection point.

2.7 As per Central Electricity Authority (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations, 2013, measurement of Harmonic current injection, Direct Current injection and flicker shall be done with calibrated meters before the Commissioning of the project and once in a year in presence of the parties concerned.

2.8 Eligible consumer agrees to furnish all the data such as voltage, frequency, and breaker, isolator position in his system, as and when required by the Discom. He shall also 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 Discom's distribution system.

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

3.4 Consumer agrees that any change in the system post Net metering shall be prior informed to the Discom along with necessary Test Certificate

4. Clearances and Approvals

4.1 The eligible consumer agrees to attain 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 Discom shall have access to metering equipment and disconnecting means of photovoltaic system, both automatic and manual, at all times.

5.2 In emergency or outage situation, where there is no access to a disconnecting means, both automatic and manual, such as a switch or breaker, Discom may disconnect service to the premise.

6. Liabilities

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

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

6.3 Discom 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

7.1 All the commercial settlement under this agreement shall follow the Net metering regulations of Delhi Electricity Regulatory Commission (Net Metering for Renewable Energy) Regulations, 2014.

8. Conditions For System Connectivity

8.1 The parties shall abide by the Central Electricity Regulatory Commission Regulations in respect of procedure of grant of Connectivity. The consumer shall submit the following documents to discom for the grant of connectivity:

- Synchronization Circuit Details
- Safety Report
- Protection Circuit Details
- Test Certificates of System
- Schematic diagram of Renewable Energy system

9. Connection Costs

9.1 The eligible consumer shall bear all costs related to setting up of photo-voltaic system including metering and interconnection costs as per estimate by BRPL. The eligible consumer agrees to pay the actual cost of modifications and upgrades to the distribution facilities required to connect photo-voltaic system in case it is required.

9.2 Cost for interconnection equipment including the isolators, meters etc. are also to be borne by the eligible consumer.

10. Termination

10.1 The eligible consumer can terminate agreement at any time by providing Discom with 90 days prior notice.

10.2 Discom has the right to terminate Agreement on 30 days prior written notice, If eligible consumer breaches a term of this Agreement and does not remedy the breach within 30 days of receiving written notice from Discom of the breach.

10.3 Eligible consumer agrees that upon termination of this Agreement, he must disconnect the photovoltaic system from Discom's distribution system in a timely manner and to Discom's satisfaction.

In the witness, where of Mr. _____ for and on behalf of _____ (Registered consumer) and Mr _____ for and on behalf of BSES Rajdhani Power Limited agree to this agreement.

Date:

Name & Signature of
Registered Consumer

Signature of Head (Renewable)
BSES Rajdhani Power Limited

Annexure – 11: Solar Plant Installation Certificate

All Pages to be Printed on Letter Head of Installer and signed by installer with stamp & consumer with stamp (if applicable)

Solar Plant Installation Certificate

Registered Consumer Name			
Address			
BRPL CA Number		Net Metering Application No	
BRPL Sanction Load		Solar Capacity	
BRPL Supply Voltage		Solar Plant Connecting Voltage	
Consumer Mobile No		Solar Plant Installation Date	
Consumer Email ID		Warranty Period	
Installer Email ID		Installer Mobile No	
Total Cost of solar plant Installation (Rs.)		Financial model (CAPEX/ RESCO)	

The system has been installed with equivalent standards which correspond to the required technical & interconnectivity specifications as per **Annexure III (important clauses related to the technical & interconnection requirements) of Guidelines under DERC (Net Metering for Renewable Energy) Regulations, 2014** as under:

Parameter	Reference	Requirement	Installer Remarks
Overall conditions of Service	State Distribution/Supply Code	Reference to State Distribution Code	
Overall Grid Standards	Central Electricity Authority (Grid Standard) Regulations 2010	Reference to regulations	

Equipment	BIS / IEC / IEEE	Reference to standards	
Meters	Central Electricity authority (Installation & operation of meters) Regulation 2006	Reference to regulations and additional conditions issued by the Commission.	
Safety and Supply	Central Electricity Authority (Measures of Safety & Electricity Supply) Regulations, 2010	Reference to regulations	
Harmonic Current	IEEE 519 CEA (Technical Standards for connectivity of the DG Resources) Regulations, 2013	Harmonic current injections from a generating station shall not exceed the limits specified in IEEE 519	
Synchronization	IEEE 519 CEA (Technical Standards for connectivity of the DG Resources) Regulations, 2013	Renewable Energy 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 DG 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 Renewable Energy system must isolate itself from the grid.	
Flicker	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	Operation of Renewable Energy 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	When the Distribution system frequency deviates outside the specified conditions (50.5 Hz on upper side and 47.5 Hz on	

	for Connectivity of the Distributed Generation Resources) Regulations 2013	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 DG Resources) Regulations, 2013	Renewable Energy 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 DG Resources) Regulations, 2013	While the output of the inverter is greater than 50%, a lagging power factor of ≥ 0.9 operates.	
Islanding and Disconnection	IEEE 519 CEA (Technical Standards for connectivity of the DG Resources) Regulations, 2013	The Renewable Energy 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 DG Resources) Regulations, 2013	Inverter has the facility to automatically switch off in case of overload or overheating and restarts when normal conditions are restored.	
Paralleling Device	IEEE 519 CEA (Technical Standards for connectivity of the DG Resources) Regulations, 2013	Paralleling device of Renewable Energy System is capable of withstanding 220% of the normal voltage at interconnection point.	

The system has been installed and tested for grid stability, grid protection and specified environmental influences and is found to have equivalent standards which correspond to the required technical & interconnectivity specifications as per **Annexure III (important clauses related to the technical & interconnection requirements) of Guidelines under DERC (Net Metering for Renewable Energy) Regulations, 2014** as under:

Solar Installer Name, Signature with stamp

Consumer Name, Signature with stamp (if applicable)

Annexure – 12: Check list I: Single Line Diagram (SLD)

S. No.	PARAMETERS	REMARKS
1.	Inverter Datasheet	Inverter with reactive Power Control
2.	Hybrid Inverter	Inverter with smart Multi-function meter (MFD) with revenue grade NABL attested and communicable
3.	PV Module Datasheet	
4.	SPD Datasheet	
5.	Circuit Breaker Datasheet	
6.	DC Solar Cable Datasheet	
7.	AC Cable Datasheet	
8.	Array Configuration (as per MPPT range) – No. of modules per string and no. of strings Sample Calculation in Appendix I	
9.	Certified with applicable IEC standards	
a)	Design Qualification and Type Approval for Crystalline Silicon Terrestrial Photovoltaic (PV) Modules IEC 61215/ IS 14286	
b)	Design Qualification and Type Approval for Thin-Film Terrestrial Photovoltaic (PV) Modules IEC 61646/ IS 16077	
c)	Photovoltaic (PV) module performance testing and energy rating – Irradiance and temperature performance measurements, and power rating IEC 61853: Part 1/ IS 16170 : Part 1	
d)	Photovoltaic (PV) module safety qualification - Part 1: Requirements for construction IEC 61730-1:2016	
e)	Safety of power converters for use in photovoltaic power systems Safety compliance IEC 62109-1, IEC 62109-2	
f)	Utility-interconnected photovoltaic inverters - Test procedure of islanding prevention measures IEC 62116	
g)	Photovoltaic (PV) systems - Characteristics of the utility interface IEC 61727	
10.	Inverter Sizing	
a)	Upto 2.5 kW -Single Phase Inverter	In case of existing 3-phase supply
b)	2.5 to 5.0 kW - Two single Phase inverters with no greater than 2.5 kW imbalance between any two Phases or one balanced two Phase inverter.	In case of existing 3-phase supply

c)	Above 10 kW- Three Phase inverter	In case of existing 3-phase supply
11.	AJB Circuit Diagram	
a)	SPDs in AJB	
b)	Reverse Blocking Diodes in AJB	
c)	Fuses in AJB	
1	Suitable rated Fuses and SPDs as per relevant IEC	
2	60364-5-53/IS 15086-5 (SPD)	
.		
13.	DC Cable Sizing Marking	
14.	AC Cable Sizing Marking	For 3-phase inveter, four-core 4C cable
15.	Manual Isolation Switch (LOTO) at Solar Meter Output	
16.	UV resistant for outdoor installation with UV Resistant conduit (from Datasheet S.No.5 & 6)	
17.	Lightning Arrestor	
18.	Array structure grounded/earthed IS : 3043-1987	
19.	Provision made for shorting /grounding of ARRAY at the time of maintenance work	
20.	LA Earth Pit	nos
21.	LA Earth conductor Size	16 Sqmm (cu)
Earth Pits (Upto 50kW)		
22.	DC Earth Pits (min. 2)	_____ nos
23.	Conductor /Strip size	
24.	AC Earth Pit (min 1)	_____ nos
25.	Conductor /Strip size	_____ nos
Earth Pits (above 50kW)		
26.	DC Earth Pits (min. 2)	_____ nos
27.	Conductor /Strip size	
28.	AC Earth Pit (min. 2)	_____ nos
29.	Conductor /Strip size	
30.	Earth Resistance (Less than 5 Ohms) Report along with Plant Installation certificate	
31.	Solar Meter	
a)	Single Phase	
b)	Three Phase	
32.	Net Meter	
a)	Single Phase	
b)	Three Phase	
33.	HT Panel, CB, Transformer with rating (if applicable)	
34.	Plant Capacity Rating (DC)	
35.	Plant Capacity Rating (AC)	
36.	Plant Layout required for (50kW and above installed capacity)	
37.	No. of String and parallel	
38.	Symbols used with description	

39.	Company seal with signature	
40.	Consumer Signature	
41.	List of Signage	
42.	SLD in A3 or above paper size is required if more than 3 inverters	
43.	Data Acquisition System/Monitoring and Communication System for plants above installed capacity 1kWp	

Annexure – 13: Checklist for Site Inspection

PV Array

PARAMETERS	REMARKS
Visual Inspection (Quality – scratches, hot spots, alignment)	
Module Make (As per SLD)	
Module Wattage (As per SLD)	
Conductors are not loosely connected and not touching the roof surface.	
RFID tag	
Module Count (as per SLD)	
No.of Strings Count	
In case of RCC Roof, Minimum clearance of the structure from the roof level should be 300 mm.	

Mounting Structures

PARAMETERS	REMARKS
GI (galvanized structure) IS 2062/IS 4759 or Anodized Aluminium	
Certification for Design Wind Speed and Galvanization	
Passage to be provided along the Solar modules for access	
Debris/Damage on Roof found	
Loose Panels which can be moved easily on the module rack found	
Installation as per Layout	

Array Junction Box/ DCDB

PARAMETERS	REMARKS
Min. IP 65 for outdoor units and IP 54 for indoor units	
SPDs in AJB	
Reverse Blocking Diodes in AJB	
Fuses in AJB	

Inverter

PARAMETERS	REMARKS
Min. IP 65 for outdoor units and IP 54 for indoor units	
Installed at accessible location, mounted correctly with proper ventilation	
Strings input to the inverter are tightened and sealed properly	
No. of Strings into MPPT (as per SLD)	
Real time Monitoring (Handshake with BRPL CMS) above 10kWp	
Should not be directly exposed to sunlight	

AC Combiner Box/ACDB

PARAMETERS	REMARKS
Min. IP 65 for outdoor units and IP 54 for indoor units	
Installed at accessible location and mounted correctly	
Conduit penetrations are properly sealed	
Suitable rated Fuses and SPDs as per SLD	

Manual Isolation Switch (LOTO) at Solar Meter output

PARAMETERS	REMARKS
(a) allow visible verification that separation has been accomplished;	
(b) include indicators to clearly show open and closed positions;	
(c) be capable of being reached quickly and conveniently twenty four hours a day by licensee's personnel without requiring clearance from the applicant;	
(d) be capable of being locked in the open position;	
(e) may not be rated for load break nor may have feature of over-current protection; and	
(f) be located at a height of at least 2.44 m above the ground level.	

Cables

PARAMETERS	REMARKS
UV resistant for outdoor installation with UV Resistant conduit	

Earthing & Lightning

PARAMETERS	REMARKS
Earth pit as per SLD	
Lightning Arrester	

Functional Testing

PARAMETERS	REMARKS
Anti-islanding test as per CEA Regulations	
AC Main Switch (manual isolating switch) test – should be lockable at open position	

Signage

PARAMETERS	REMARKS
DC conduit with label “PV POWER SOURCE”	
Cables/Conduits with label “POWER SOURCE”	
Inverter with label “CAPABLE OF RAPID SHUTDOWN ”	
Main Switch/LT Panel with label “DUAL SUPPLY”	
Roof with label “SOLAR PLANT INSTALLED – ONLY TRAINED PERSONNEL SHOULD TOUCH EQUIPMENT”	
Basic Safety DOS’ and DONT’S chart	
Shutdown Procedure Chart	
Signage board or sticker with 10cm width and 7cm height with text clearly printed	
Sign board at meter reading terminal, with label “THIS SERVICE IS FITTED WITH a LT GRID CONNECTED SPV PLANT”	
Solar PV plant caution at consumer main switch, LT poles, LT feeder pillars	

Note:

1. Cleaning arrangement must be provided by installer/consumer.
2. Solar PV plant must be at approachable position.
3. Slide passage way must be provided by installer in case of super/semi super structure for cleaning/ maintenance purpose.

Annexure – 14: Undertaking/Self- Declaration for domestic content requirement fulfillment

(On Letter Head of Installer)

This is to certify that M/S.....[Company Name] has installedKW
[Capacity] Grid Connected Rooftop Solar PV Power Plant
for..... [Consumer Name] at
.....[Address] under sanction
number.....dated.....[sanction date] issued
by.....[DISCOM Name].

2. It is hereby undertaken that the PV modules installed for the above-mentioned project are domestically manufactured using domestic manufactured solar cells. The details of installed PV Modules are follows:

1. PV Module Capacity:
2. Number of PV Modules:
3. Sr No of PV Module
4. PV Module Make:
5. Purchase Order Number:
6. Purchase Order Date:
7. Cell manufacturer's name
8. Cell GST invoice No

3. The above undertaking is based on the certificate issued by PV Module manufacturer/supplier while supplying the above mentioned order.

4. I,on behalf of M/S.....[Company Name] further declare that the information given above is true and correct and nothing has been concealed therein. If anything is found incorrect at any stage then the due Central Financial Assistance (CFA) that I have not charged from the consumer can be withheld and appropriate action may be taken against me and my company for wrong declaration. Supporting documents and proof of the above information will be provided as and when requested by MNRE.

(Signature With official Seal)

For M/S.....