

Bangalore Electricity Supply Company Limited

(wholly owned Government of Karnataka undertaking)

Telephone: 080-2234 0816

Email ID : gmdsm@bescom.co.in, gmdsm.work@gmail.com : BESCOM/BC-51/GM(DSM)/2024-25/645-23

Encl

Office of the

General Manager (Ele)., DSM, Corporate Office, BESCOM, K.R. Circle, Bangalore-560 001.

Date: 09-07-2024

CIRCULAR

Standard Operating Procedure for BESCOM, HESCOM, Sub: GESCOM, CESC & MESCOM for implementation of Solar Rooftop Projects.

Ref:

- 1. G.O No: ENERGY/346/VSC/2023 Bengaluru dated 11.01.2024Government.
- 2. Letter No: BESCOM/DSM/GM/DGM/AGM-5/2023-24 dated 04.05.2024
- 3. G.O No: ENERGY 346 VSC 2023 BENGALURU, Dated 24.05.2024

PREAMBLE:

As per the directions of Hon'ble Energy Minister, GoK, the Expert Committee under the Chairmanship of Hon'ble MD, BESCOM was formed for effective implementation of Solar Rooftop projects, vide Government Order cited under ref-1.

The Expert Committee, after conducting meetings on 16.01.2024 and 04.04.2024, submitted its report to the Government on 04.05.2024 and based on the recommendations of the Expert Committee, the Energy Department, GoK has issued directives for implementation of solar rooftop schemes vide G.O cited under ref-3.

As per the directions of the G.O dated 24.05.2024, "BESCOM to develop the procedure and standard operating Procedure (SoPs) for SRTPV implementation and circulate to all other ESCOMs, who in turn should follow without any deviation."

Hence this Circular;

For implementation of Solar Rooftop Projects in the Karnataka State, all the ESCOMs of Karnataka i.e. BESCOM, HESCOM, MESCOM, GESCOM & CESC shall follow the Common Standard Operating Procedure enclosed with this Circular without any deviation.

Approved by MD, BESCOM

General Manager (DSM BESCOM, Bangalore

Copy submitted for kind information to:

1. The Chief Engineer (Operations), Corporate Office, GESCOM, Kalburgi with a request to issue necessary directions for implementation as per this circular.

Copy submitted to:

1. The General Manager (Projects), Corporate Office, CESC, Mysore with a request to implement the circular.

2. The General Manager (Tech), Corporate Office, HESCOM, Hubballi with a

request to implement the circular.

3. The Superintending Engineer (Comml), Corporate Office, MESCOM, Mangalore with a request to implement the circular.

Copy for kind information to

- 4. PS to MD/D(T), BESCOM with a request to place it before the Chair.
- 5. PS to MD/D(T), HESCOM with a request to place it before the Chair.
- 6. PS to MD/D(T), MESCOM with a request to place it before the Chair.
- 7. PS to MD/D(T), GESCOM with a request to place it before the Chair.
- 8. PS to MD/D(T), CESC with a request to place it before the Chair.











Common Standard Operating
Procedure for BESCOM,
HESCOM, GESCOM, CESC &
MESCOM for implementation
of Solar Rooftop Projects

COMMON STANDARD OPERTATING PROCEDURE FOR IMPLEMENTATION OF SOLAR ROOFTOP PROJECTS

No: BESCOM/BC-51/GM(DSM)/ CYS- 24

Date -> 04-07-2024

Ref: G.O No: ENERGY 346 VSC 2023 BENGALURU, Dated 24.05.2024

Index:

SI. No.	Particulars	Page No.	
1	Preamble & reference Orders	1-2	
11	The Gist Of Frequently Referred KERC Orders	3-9	
III	Procedure for Installation of Solar Rooftop Plants	10-23	
IV	Accounting & Billing	24-25	
٧	Timelines	26	
VI	Illustration of Procedure	27-42	

I. PREAMBLE:

The Energy Department, Government of Karnataka, has issued directives for implementation of Solar Rooftop Projects in the Karnataka State vide Government Order cited under ref.

As per the directives, "BESCOM to develop the procedure and standard operating Procedure (SoPs) for SRTPV implementation and circulate to all other ESCOMs, who in turn should follow without any deviation."

Hence, in accordance with directions issued by the Energy Department, Government of Karnataka to BESCOM, the following procedure is defined for implementation of solar rooftop projects and the same has to be adopted by all ESCOMs.

The procedure and SOP defined below are in accordance with following Regulation and Orders;

SI. No	Issued By	Reference & Date
1	Karnataka Electricity Regulatory Commission	The KERC (Implementation of Solar Rooftop Photovoltaic Power Plants), Regulations 2016 dated 15.12.2016.
2	Karnataka Electricity Regulatory Commission	Modifications to the order dated 2 nd May 2016 in respect of Determination of tariff and other norms for Solar Rooftop and small Photovoltaic power plants dated 19.09.2016.

SI. No	Issued By	Reference & Date
3	Energy Department	Notification No: EN 106 EBS 2018, Bengaluru dated 19.07.2018 regarding tax on self-consumption.
4	Karnataka Electricity Regulatory Commission	Net metering arrangement for eligible consumers of Solar Rooftop Photovoltaic (SRTPV) plant dated 18.07.2022.
5	Ministry of New & Renewable Energy, Gol.	Guidelines for simplified procedure dated 10.06.2022
6	Ministry of New & Renewable Energy, Gol.	OM for empanelment of Vendors dated 17.05.2023
7	Karnataka Electricity Regulatory Commission	Evacuation / Utilization of Solar Energy Generation at LT/HT Voltage and connect to their LT/HT system dated 02.03.2023.
8	Energy Department	GO No: ENERGY/ 346/VSC/2023 Bengaluru dated 11.01.2024- Formation of Expert Committee.
9	Energy Department	Report of the Expert Committee No: BESCOM/DSM/GM/DGM/AGM-5/284 dated 04.05.2024
10	Karnataka Electricity Regulatory Commission	Determination of tariff for SRTPV plants fort FY-2025 dated 11.06.2024

II. THE GIST OF FREQUENTLY REFERRED KERC ORDERS DURING IMPLEMENTATION OF SOLAR ROOFTOP PROJECTS ARE AS DETAILED BELOW;

1. Allowed area for installation of Solar Rooftop Plant:

The Consumers are allowed to install solar rooftop plants on the roof of the building constructed as per building norms. For all non-residential category Consumers and installations of Apartment owner associations, the solar panels installed on the carport will be considered as part of solar rooftop plant.

2. Definition of Solar Rooftop Plant Capacity:

Solar rooftop plant capacity is the DC capacity i.e. Arithmetic sum (total wattage) of Maximum Power Rating of all the solar modules/panels.

3. Minimum Plant Capacity:

The minimum permitted capacity of solar rooftop plant is 1kW and the solar rooftop plant capacity should be equal to or less than sanctioned load of the Consumer installation.

Note: If the sanctioned load is in KVA, the same shall be converted to KW by multiplying the KVA by 0.85 and If the sanctioned load is in HP, the same shall be converted to KW by multiplying it by 0.746.

4. Hybrid Systems:

The Consumers are allowed to install solar rooftop plant using hybrid inverters with battery storage system.

5. Application & Facilitation Fees:

The application and facilitation to be paid by Consumer are as tabulated below;

SI. No	Capacity of the proposed SRTPV system	Registration Fee	Facilitation Fee	Total Amount
1	From 1kWp Upto and inclusive of 5kWp	Rs.500/-	Rs.1000/-	Rs.1,500/- plus applicable GST
2	Above 5kWp Upto and inclusive of 50kWp	Rs.2000/-	Rs.3000/-	Rs.5,000/- plus applicable GST
3	Above 50kWp and Upto 1000kWp	Rs.5000/-	Rs.10000/-	Rs.15,000/- plus applicable GST
4	Above 1000kWp and Upto 2000kWp	Rs.5000/-	Rs.25000/-	Rs.30,000/- plus applicable GST

6. Subsidy Option for Domestic Category Consumers:

The Domestic Category Consumers have option of availing the subsidy for installation of solar Rooftop plants under PM Surya Ghar Scheme. For Consumers other than domestic category, no subsidy is available. Hence the applications are broadly considered into following 02 categories;

- I. Without Subsidy (Non-Subsidy)
- II. With Subsidy (Subsidy)

7. Feasibility for LT installations:

Every SRTPV plant of less than 150 kW capacity shall be connected only to the existing distribution transformer through which the eligible consumers are being supplied electricity. In such cases, the total capacity of the existing and proposed SRTPV plants on that distribution transformer shall not exceed 80% of the rated capacity.

Note: This is applicable only for LT installations.

8. Feasibility for HT installations:

Every SRTPV plant of more than 150 kW capacity shall be connected only to the existing 11 kV distribution system. In such cases, the total capacity of the existing and proposed SRTPV plants shall be limited so that line current does not exceed 80 % of the rated current capacity of the line

Note: This is applicable only for HT installations.

9. Installation of More than 150kW plant capacity for LT Consumer:

If a LT consumer requests for installation of solar rooftop plant of capacity more than 150 kW, the consumer shall convert to HT system i.e., the billing meter shall be HT meter with metering cubicle and solar generation meter shall be 3 phase LT CT Operated meter (For net meter arrangement only).

10. Installation of More than 150kW plant capacity for HT Consumer:

If a HT consumer requests for installation of solar rooftop plant of capacity more than 150 kW, the billing meter shall be bi-directional HT meter and solar generation meter will be 3 phase LT CT Operated meter (For net meter arrangement only).

11. Power Purchase Agreement:

The duration of Power Purchase Agreement is for a period of 25 years and the Power Purchase Agreement (PPA) Execution Authority on behalf of ESCOMs are as tabulated below;

SI. No.	DDA Execution Authority	
1	From 1kWp to 500kWp	Assistant Executive Engineer(Ele), O & M Sub-Division
2	Above 500kWp	Executive Engineer(Ele) O & M Division

12. PPAs for additional capacity installation

If a Consumer requests for installation of additional solar capacity, the present PPA shall be canceled and new PPA shall be executed for 25 years with new PPA rate being 90% of PPA tariff or present tariff, whichever is lower,

Note: In case of additional SRTPV capacity, for deciding the PPA authority, the total of already commissioned and proposed plant capacity shall be considered.

13. Metering arrangement:

The Metering arrangement shall be as tabulated below;

SI. No.	Type of Metering	Eligible Consumers			
	Gross Metering	Domestic Category consumers, Hospital and Educational institutions consumers.			
1	& Net Metering	Note: Commission vide order dated 19.09.2016 has allowed one time irrevocable option of either Gross of Net metering for consumers at the time of signing of PPA.			
2	Net Metering	Industrial, Commercial and all categories of consumers other than Domestic consumers.			

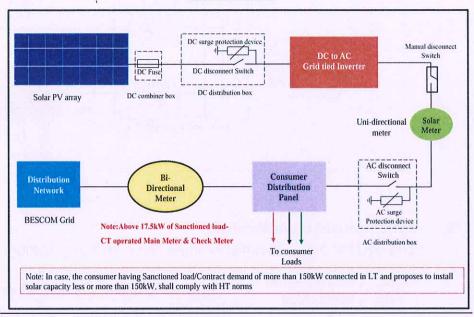
14. For any change in the sanctioned load of the connected Consumer installation or any change in the tariff category of the connected Consumer installation, the existing PPA shall be cancelled and new PPA shall be entered with Consumer at a tariff of 90% of the PPA rate or present tariff whichever is lower for balance duration of PPA term.

15. Schematic Diagrams:

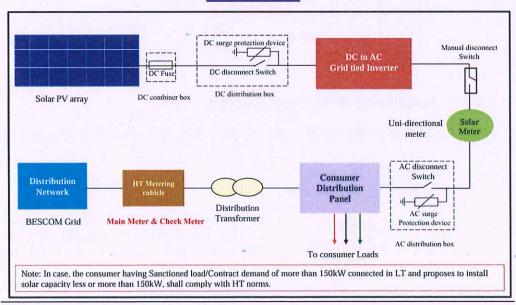
The Schematic Diagram for Net & Gross Metering arrangement is as below and same arrangement shall be ensured at the time of synchronization.

A. Net Metering Diagrams:

<u>Single Line Diagram of Rooftop Facility for Net Metering Interconnection</u>
(LT consumers)

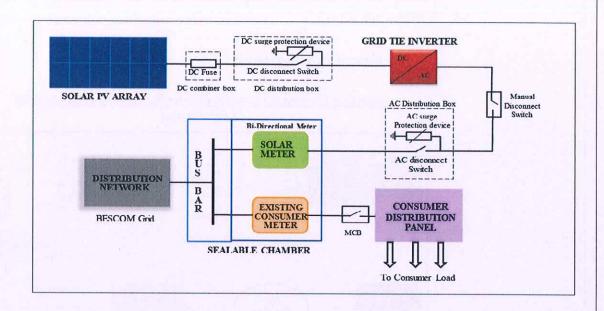


Single Line Diagram of Rooftop Facility for Net Metering Interconnection
(HT consumers)



B. Gross Metering Arrangement:

Schematic Diagram of Rooftop Facility for Gross Metering Interconnection



16. Synchronization Authority:

The SRTPV plant Commissioning & Synchronizing Authority:

SI. No.	SRTPV Plant Capacities	ESCOM Officers authorized for synchronization
1	1kW to 17.5kWp	Assistant Executive Engineer(Ele), O & M Sub-Division and MT staff not required.
2	Above 17.5kW to upto 500kWp	Assistant Executive Engineer(Ele), O & M Sub-Division in co-ordination with Meter Testing (MT) staff.
3	Above 500kWp	Executive Engineer(Ele) O & M Division in Co-ordination with Meter Testing (MT) staff

17. Installation of Multiple Rooftop Plants:

As per KERC tariff order for FY-2025, the following are allowed;

SI. No.	Type Consumer	SRTPV installation	Allowed Metering arrangement	
4	Single Registered Consumer with multiple	Allowed for Installation of multiple rooftop plants with capacity limited to sanctioned load of individual installation.	Net	
1	installations in a same premise with or without existing SRTPV.	Allowed for Installation of single rooftop plant for combined capacity i.e. upto a capacity equal to sum of sanctioned load of all installations.	Gross	

SI. No.	Type Consumer		SRTPV installation	Allowed Metering arrangement
	Multiple Registered Consumers with multiple	а	Allowed for Installation of multiple rooftop plants with capacity limited to sanctioned load of individual installation.	Net
installations in same prem with or with	installations in a same premise with or without existing SRTPV.	b	Allowed to install additional SRTPV unit.	Gross

Note:

The Commission has allowed the single or multiple registered Consumers to opt for installing SRPV plant /plants with respect to each RR No. separately, under net metering or gross metering as per Commission's order dated 19.09.2016.

18. Metering arrangement for Open Access Consumers:

As per KERC order dated 18.07.2022, the facility of Net Metering in respect of SRTPV plants shall not be available to the Consumer availing power supply from other sources / captive sources through open access mechanism. The Consumers may opt for Gross Metering arrangement or may opt for establishing Captive Plant for self-consumption.

19. Option for installation of multiple generation Meters for HT Consumers:

The KERC vide order dated 02.03.2023 has issued order for Evacuation / Utilization of Solar Energy Generation at LT/HT Voltage and connect to their LT/HT system.

Through this order, the Commission has approved Net Metering arrangement in respect of SRTPV installed on the rooftop of several buildings with different capacities within the same premises, having HT connection with distribution licensees and to evacuate the solar generated energy connecting to the LT voltage bus of each building. This is optional for HT Consumers and is not compulsory.

20. Third Party Investment Models:

The Commission has allowed net or gross metering arrangements irrespective of type of investment.

21. Procurement of Bi-directional Meters:

Provision has been made for Empanelment of Vendors for supply of bi-directional meters. The Consumer has the option purchasing meters from any of the empaneled meter vendors. The Consumer can get bi-directional meter tested at any one of the ESCOM MT labs and same shall be accepted by all ESCOMs.

22. Provision of Check Meter:

The check meter shall be provided for SRTPV systems of capacity of more than 17.5 kW.

23. Procurement of CTs, PTs & Metering Cubicle:

CT's, PT's and Metering Cubicle shall be procured from ESCOM approved Vendors only.

24. Applicable Tariff:

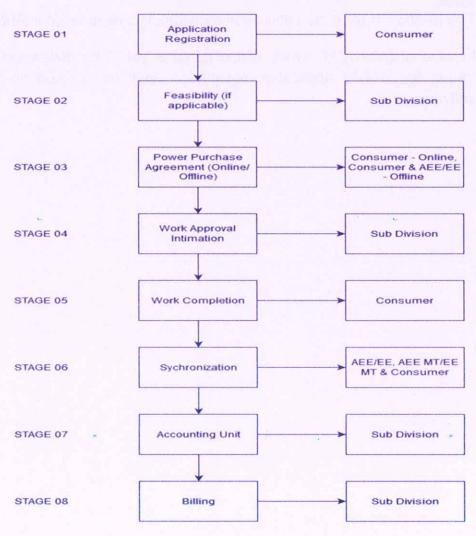
The PPAs shall be executed as per the Generic Tariff Orders issued by KERC from time to time for every FY / Control Period.

III. PROCEDURE FOR INSTALLATION OF SOLAR ROOFTOP PLANTS

The general work flow to be followed for SRTPV application consists of following stages:

- 1. Application Registration
- 2. Providing Feasibility (If applicable)
- 3. Execution of Power Purchase Agrement
- 4. Work Approval Intimation
- 5. Work Completion Intimation
- 6. Synchronization
- 7. Accounting & Billing

The flow char for the work flow for processing of SRTPV applications and detailed procedure to be followed at each step is as below;



STAGE -01: APPLICATION REGISTRATION

Responsibility: Consumer

Documents Required: Electricity Bill (Scanned copy)

- a. The Consumer shall be provided with option to raise request for installation of Solar Rooftop Plant through online mode only by applying through online SRTPV Portal.
- b. Only Account ID and Mobile Number of the Consumer are required for application registration.
- c. The capacity of proposed Solar Rooftop Plant shall not be less than 1kW and should be equal to or less than the sanctioned load of the installation.
- d. Solar rooftop plant capacity is the DC capacity i.e. Arithmetic sum (total wattage) of maximum Power Rating of all the solar modules/panels.

Note:

The Illustration of online application registration is as detailed in Annexure-1

In case of MESCOM, where online portal is yet to be developed, the following format for SRTPV application registration shall be adopted till deployment of software;



BANGALORE ELECTRICTY SUPPLY COMPANY LIMITED

Wholly owned Govt. of Karnataka Undertaking

Summary of SRTPV Application No. 1000254011

Applicant contact details			
Email Id			
Mobile Number			

Payment Details				
Transaction ID	YHMP1701329094			
Transaction Date	28-Jan-2023 11:25:15 PM			
Transaction Reference Number	347047577953			
Amount Paid	1770.0 (inclusive of taxes)			
Taxes (CGST & SGST)	270.0			
Payment Mode	Credit Card			
Status	Success			
Remarks	PGS10001-Success			
GSTIN	29AACCB1412G1Z5			
GST Service Account Code Number	998631			

Application details				
Application No	1000254011			
Type of scheme	Own investment			
Type of Grid connectivity	Net Metering			
Solar Proposed in kWp	3.0			
Minimum Shadow free area in Sq. mtr	250.0			
Type of connection	3 Phase LT			
PAN				
Aadhar Number				
Pin code	560034			
Latitude	12.87894885995952			
Longitude	77.71362984429399			
MNRE Subsidy sanctioned or not?	No			

Account details				
Account ID	4894240559			
Applicant Name				
Applicant address	er w linkston			
City				
Pincode				
Subdivision code	140019			
Subdivision Name	S11 Subdivision			
RR Number	S11DL89909			
Sanctioned Load	7.0 kW			
Connection Type	THREE Phase			
Tariff category Domestic - LT2A				

STAGE -02: FEASIBILITY

Responsibility: Sub division

The Category of Consumers for feasibility approval is as below;

• Category -I: Deemed Feasible Applications

Category – II: Non- Deemed Applications

Category-I:

All SRTPV applications with proposed capacity upto 150kW are considered deemed feasible and it is not required to provide feasibility for these applications.

Category-II:

- a) Feasibility shall be provided by sub divisions for all SRTPV applications of capacity more than 150 kW.
- b) For providing the feasibility, the designated officer shall visit the proposed SRTPV installation premises and verify technical details and shall issue feasibility report.
- c) The technical feasibility shall be provided in accordance with the following;
 - i. Every SRTPV plant of less than 150 kW capacity shall be connected only to the existing distribution transformer through which the eligible consumers are being supplied electricity. In such cases, the total capacity of the existing and proposed SRTPV plants on that distribution transformer shall not exceed 80% of the rated capacity. This applicable only for LT installations.

Note: If a LT consumer requests for installation of solar rooftop plant of capacity more than 150 kW, the consumer shall convert to HT system i.e., the billing meter shall be HT meter with metering cubicle and solar generation meter will be 3 phase LT CT Operated meter (For net meter arrangement only).

ii. Every SRTPV plant of more than 150 kW shall be connected only to the existing 11 kV distribution system. In such cases, the total capacity of the existing and proposed SRTPV plants shall be limited so that line current does not exceed 80 % of the rated current capacity of the line. This applicable only for HT installations

Note: If a HT consumer requests for installation of solar rooftop plant of capacity more than 150 kW, the billing meter shall be bi-directional HT meter and solar generation meter will be 3 phase LT CT Operated meter (For net meter arrangement only).

- **iii.** If the application is not technically feasible, the SDO shall cancel the Application and intimate the same to the Applicant.
- d) If a LT consumer requests for installation of solar rooftop plant of capacity more than 150 kW, the consumer shall convert to HT system i.e, the billing meter shall be HT meter with metering cubicle and solar generation meter will be 3 phase LT CT Operated meter. (For net meter arrangement only).
- e) If a HT consumer requests for installation of solar rooftop plant of capacity more than 150 kW, the billing meter shall be bi-directional HT meter and solar generation meter will be 3 phase LT CT Operated meter. (For net meter arrangement only).
- f) For HT installations, if the existing metering system is 3 phase 3 wire, it shall be converted to 3 phase 4 wire.
- g) Metering cubicle replacement and meter replacement to be indicated in feasibility report. It shall form a part of feasibility report. The existing meter shall be checked and suitable meter change shall be recorded in feasibility report in accordance with following table;

SI. No	Sanctioned Load	Bi-directional Meter (Billing Meter)	Solar Rooftop Plant Capacity	Uni-directional Meter (Solar Generation Meter)	Inverter Type
1	1kW to 5kW	1 Phase or 3 phase	1kWp to 5kWp	1 Phase or 3 phase	1 Phase or 3 phase
2	More than 5kW & upto 17.5 kW	3 Phase, whole current	More than 5kW & upto 17.5 kW	3 Phase, whole current	3 phase
3	More than 17.5 kW & upto 150 kW	3 phase LT CT Operated meter	More than 17.5 kWp & upto 150 kWp	3 phase LT CT Operated meter	3 phase
4	More than 150kW	3 phase CT PT Operated HT meter	More than 150 kWp	3 phase LT CT Operated meter	3 phase

MESCOM shall adopt the following feasibility approval format till deployment of software;



BANGALORE ELECTRICTY SUPPLY COMPANY LIMITED

Wholly owned Govt. of Karnataka Undertaking

Ref:

Asst. Executive Engineer (Ele.,)(Com. O&M),BESCOM, SLN Complex, Bus Stand, Kengeri, Bangalore-560060

Feasibility Report for SRTPV Application No. 1000052853

Proposed solar capacity: 3.0

This application is registered under SOURA GRUHA YOJANE (SGY) - 2019-2020

DT Information				
VBHCS LAYOUT-6				
111060401 063				
250.0				
179.0				
0.0				
0.0				

Feeder Information				
Substation Name	RAJARAJESHWARINAGAR_66			
Feeder Name	F07-BEML-LAYOUT			
Feeder MDM code	1140204901010301			
Feeder conductor size in sq. mm	400.0			
Rated current carrying capacity in Amps	286.0			
SRTPV capacity already connected in Amps	113.0			
SRTPV capacity under progress in Amps	0.0			
SRTPV capacity proposed in Amps	13.0			

Feas	ibility	
Proposed Application is	Feasible	
Allowable SRTPV Capacity	3.0	
Remarks	ITS FEASIBLE	

Note:

The Illustration of online feasibility process is as detailed in Annexure-1

<u>STAGE -03 – EXECUTION OF POWER PURCHASE AGREEMENT</u> (PPA)

Responsibility: Consumer & & O&M AEE /EE

The Power Purchase Agreement has to executed in either of the following ways;

- a) Online PPA
- b) Offline PPA

a) Online PPA:

The online PPA shall be executed by the Consumer for all the SRTPV applications which are considered as deemed feasible i.e. for all applications upto 150kW capacity. The online PPA shall be executed in online mode by the Consumer.

b) Offline PPA:

- The offline PPAs shall be executed for SRTPV applications of more than 150kW capacity. The PPAs are to be executed on Rs. 500 value non-judicial stamp paper in Commission approved format.
- The Consumer shall co-ordinate with designated ESCOM officer for PPA execution.
- The PPAs shall be uploaded in the online SRTPV portal by designated officers for auto generation of work approval letter.

The Power Purchase Agreement (PPA) Execution Authorities on behalf of ESCOMs for SRTPV installations are as tabulated below;

SI. No.	SRTPV plant Capacity	PPA Execution Authority
1	From 1kWp to 500kWp	Assistant Executive Engineer(Ele) , O & M Sub-Division
2	Above 500kWp	Executive Engineer(Ele), O & M Division

PPA Approval Authority:

- I. For capacities upto 500kWp, Assistant Executive Engineer(Ele) of O & M Sub-Division is the PPA approval authority.
- II. For capacities above 500kWp and upto & inclusive of 1000kWp, PPAs shall be approved by Corporate Office of the respective ESCOMs.

- III. The approval of the KERC shall be obtained for all PPAs of SRTPV applications with capacities of above 1000kW.
- IV. In case of any deviation from the standard format of PPA, the approval for the same shall be obtained from KERC.

PPAs for additional capacity installation

If a Consumer requests for installation of additional solar capacity, the present PPA shall be canceled and new PPA shall be executed for 25 years with PPA rate being 90% of PPA tariff or present tariff, whichever is lower,

<u>Note:</u> In case of additional SRTPV capacity, for deciding the PPA authority, the total of already commissioned and proposed plant capacity shall be considered.

Intimation for change of HT Metering Cubicle:

In case, if the change of HT Metering Cubicle is required, the sub division officers shall prepare estimate and intimate to the Consumer the supervision charges to be paid, within 07 days of PPA execution.

Note:

The Illustration of PPA execution process is as detailed in Annexure-1

STAGE -04 - WORK APPROVAL INTIMATION

Responsibility: Sub division

- a. Work approval intimation shall be auto generated and emailed to registered email after online execution of PPA/Uploading of PPA document in case of off-line PPA.
- b. The work approval intimation shall also include intimation for change of meter and if required change of HT metering cubicle.

MESCOM shall adopt the following format for work approval intimation till deployment of software:



BANGALORE ELECTRICTY SUPPLY COMPANY LIMITED

Wholly owned Govt. of Karnataka Undertaking

Ref:

Date: 13.06.2024

To, PUTTAMADAIAH M#51 5TH CROSSOPPOSITE GURUKUL SCHOOLAVALAHALLI

Madam/Sir, Sub: Approval for the PPA and start of SRTPV work - regRef:

- 1. Application Reg No. 1000410848 dated 17.04.2024
- 2. PPA executed date:13.06.2024

With reference to your SRTPV application, Approval is herewith accorded for installation work of SRTPV, as per fallowing conditions:

- As per CEA guide lines, you are responsible for planning, design, construction, reliability, protection and safe operation of all the equipment's subject to the regulations for construction, operation maintenance, connectivity and other statutory provisions.
- You can select a reputed system installer of your choice, who have experience in design, supply, installation and commissioning of " + SRTPV system.
- 3. Only BESCOM empaneled meter shall be used. The empaneled list of meters are available in BESCOM website.
- Upgradation of infrastructure, if required, (service main, meter with CT, upgrade) upto the grid connectivity point is to be done at your cost.
- 5. All the other components of Solar RTPV system such as PV modules, grid tied inverter shall comply with applicable IS/IEC standards. The Technical specification of each equipment's is available in BESCOM website.
- 6. The work of grid connectivity shall be carried out in accordance with the Net- metering / Gross metering schematic diagram available in BESCOM website
- 7. Bi-directional meter (whole current/ CT operated) shall be provided before the point of interconnection and the existing meter shall be shifted to the generation side of SRTPV plant to measure solar power generation.
- 8. Both the meters shall be within the same proximity and easily accessible for taking monthly reading by the meter reader.

- 9. The Applicant shall provide Bi-directional check meter in series with the proposed Bi-directional meter (Main meter) when the SRTPV system capacity is more than 17.5kWp.
- 10. You should complete the SRTPV installation work before dd/mm/yyyy
- 11. After completion of the work in all respects, you have to submit the work completion report along with fallowing documents
- a. To submit consent letter in the SRTPV online portal obtained from system installer stating theequipments installed comply with safety and necessary technical standards.
- b. First sheet of Bank pass book containing details of Name of the Bank, Type of account, Account No, Name of the Branch, IFSC code etc.
- 12. If for any reason the date of commissioning is delayed beyond the date of commissioning agreed, the tariff payable by the BESCOM shall be lower of the:
- I. Tariff agreed to in this agreementOR
- II. Any revised tariff, determined by the Commission, prevailing on the date of commissioning OR
 III. 90% of the tariff agreed to in this agreement.

Please note that BESCOM will not be held responsible for any legal disputes between the applicant and SRTPV system installer arising out of the contract.

Yours Faithfully
sd/Assistant Executive
Engineer(Ele)

Note:

The Illustration of work approval intimation is as detailed in Annexure-1

STAGE -05 - WORK COMPLETION INTIMATION

Responsibility: Consumer

- a) The Consumer shall upload the Work Completion details in online SRTPV portal for enabling the sub division offices to process the application for synchronization.
- b) Along with solar panel and inverter details, the Consumer shall also enter Bank details and upload copy of the PAN card and cancelled cheque in online portal.
- c) The Supplementary PPA (SPPA) shall be executed if the installed capacity is different from PPA capacity and is within the sanctioned load of the Consumer installation.
 - > In case deemed feasible applications, online SPPA has to be done.
 - In case of other applications, the SPPA has to be executed in offline mode.

The MESCOM will facilitate Consumers to entry work completion details in following format till deployment of software:

Work Execution details of of SRTPV Application No. 1000410848

Solar PV Module

SI No	Make	Туре	Capacity of each module in kVvp	No of Modules	SI No of Modules (Comma separated)	Total capacity of this make, type & capacity
1	Innovative	Poly	0.32	9	2024-2549,2024-2553,2024-2544,2024- 2552,2024 iz Wana 2550,2024 2548,2024 -2547,2024 iz Wana 2551,2024-2546	2.88

Inverter

SI No	Make	Турв	Capacity of Inverter (VA)	No. of Inverters	SI. No of Inverters (Comma separated)	Total capacity of this make, type & capacity
1	Coodwe	String	0.003	1	53000SSX22CW4128	0.003

Bidirectional Main Meter

Make	M/s Genus Power Infrastructures Limited
Туре	ELECTRO STATIC METER
Serial No	922280
Phase	Single Phase
CT Ratio	1.0
PT Ratio	1.0
Date of Test by MT division	10 Apr 2024

System Installer Firm Name	Espec Solear Pvt Ltd
System Installer Firm License Number	29AABCE2543A1Z5

Certified that the above said SRPTV system was installed by me and the equipment's used comply the Technical and Safety standards issued by BESCOM.

Report submitted on : 13 Jun 2024 01:08:27 PM

This is a system generated letter and doesn't require signature

Note:

The Illustration of uploading work completion details is as detailed in Annexure-1

STAGE -06 - SYNCHRONIZATION:

Responsibility: Consumer & ESCOM O&M AEE/EE and MT staff.

For Synchronization purpose, the Consumers are divided into following 02 categories;

- Category-1: From 1kW to 17.5kW solar capacity
- Category-2: Above 17.5 kW solar capacity

Category 1: (From 1kW to 17.5kW solar capacity)

- The O&M AEE shall visit the SRTPV installation, ensure all technical compliance as per norms and synchronize the solar rooftop plant with ESCOM grid and duly record the meter details and readings.
- The synchronization certificate shall be generated by sub division officers in the online portal.

Category 2: (Above 17.5 kW solar capacity)

- The O&M AEE shall initiate action for synchronization and shall intimate the concerned MT official for conducting PC test.
- The Consumer shall co-ordinate with O&M AEE for synchronization of the SRTPV plant.
- The MT officers shall conduct PC test, record the relevant parameters and provide the report to the concerned sub division and shall upload the details in online portal.
- The check meter shall be provided for SRTPV systems capacity of more than 17.5 kW.
- The O&M AEE shall synchronize the SRTPV plant and generate synchronization certificate in the online portal.

The SRTPV plant Commissioning & Synchronizing Authority:

SI. No.	Capacities	ESCOM Officers authorized for synchronization			
1	1kW to 17.5kWp	Assistant Executive Engineer(Ele), O & M subdivision.			
2	Above 17.5kW to upto 500kWp	Assistant Executive Engineer(Ele), O & M Subdivision in co-ordination with Meter Testing (MT) staff.			
3	Above 500kWp	Executive Engineer(Ele), O & M Division in Co-ordination with Meter Testing (MT) staff			

The MESCOM officers shall issue synchronization certificate in following format till deployment of software:



BANGALORE ELECTRICTY SUPPLY COMPANY LIMITED

Wholly owned Govt, of Kamataka Undertaking

Foot

Asst Executive Engineer (Ele...)(Com. O&M).BESCOM. 14th Cross, 1st Phase, Jayaprakash Narayan nagar Bengataru- 590078 Date: 05.05.2024

To.

A S SHASHICHARA NO 26 YALENAHALLISEGUR HOBLI

Madam Sr.

Subs: Conflicted of synchronication of your SMITPY system. Ref: Application Reg No. 1000077621 dated 12:03:2024

Synchronization text of Solar Rooftop PV system of 4.0 KHz, transled on the roof of your translation bearing RR Flo.: 510H35456 has been conducted and year SR TPV system successfully synchronized with the BESCOM \$64 at 230 voltage level on 39.54 2024.

Your Fastury
selv
Assistant Executive
Englisher(Es)
S10 Supply S01, BESCOVI

Note:

The Illustration of entering the synchronization details and generating the synchronization letter is as detailed in Annexure-1

IV. ACCOUNTING & BILLING

Responsibility: AEE, AE (Technical) & AAO of the sub division

- a. In case of execution of offline PPA, the AE(T) of the sub division, after generating the synchronization certificate, shall hand over the PPA to accounting unit (AAO).
- b. The AAO of the sub division shall ensure that all the SRTPV installations synchronized in a calendar month are read and billed in the next calendar month without fail by verifying the details in online portal.
- c. No hard copies of the documents, except for PPA in case of offline PPA, shall be collected from Consumer / Installer. If required, documents shall be downloaded by AE(T)/AAO using their login credentials.

The format for billing of SRTPV installations is as below and all the ESCOMs shall bill the SRTPV installations in the same format.

SRTPV Bill Description with TOD billing

1	RR No	23	Cost of Purchase (PPA Rates)
2	Account ID/Connection ID	24	Availing of Subsidy (Yes/No)
3	Name & Address	25	Gross Amount Payable (Net Export *PPA Rate)
4	Meter Reader Code	26	A) Demand Charges B) MD Penalty (If any)
5	Retail Tariff Applicable	28-31	Slab Wise Import Bill (If Column Number 17 is Net Import)
6	Sanction Load KVA	32	FAC for the Net Imported Units.
7	Solar Installed KWP	34	Electricity Tax at 9% for the Energy Charges (28+29+30+31)*9%
8	Billing Period	35	20 Paisa Captive Tax on Self Consumption (Above 425 KWP)
9	Reading Date	36	Electricity Tax at 9% on TOD Charges
10	Main Meter/ Check meter serial No	37	Rebates TOD Charges
11	A) Present Reading Bi-Directional meter Import & Export	38	Power Factor Penalty (Rs 3 Ps for HT Consumers) (Rs 2 Ps for LT consumers,
11	B) Previous Reading Bi-Directional meter Import & Export		Max 30 Ps) (To be levied on the total units imported from BESCOM Grid)
12	Difference Present & Previous	41	Total Deductions
13	Metering Constant	42	Amount payable to consumer after deductions (Gross Bill-Deductions)
14	Gross Export & Gross Import (12*13)	43	TDS 194Q
15	Sub Meter/Wheeling/Consumption Short Claims	44	Amount Credited to Consumer after TDS
16	Total Export & Total Import (14-15)	45	Due Dates
17	Net Export/Net Import (As the Case May Be)		
18	MD Recorded (Displayed in the meter) Both import & Export MD	Note:	TOD rebate/ Penalty shall be levied on actual zone wise consumption before
19	MD (18*13)	ivote;	setting off Import & Export
20	Conversation from KVA to HP/KW for LT Installations		
21	Power Factor		
22	Generation Meter Details		

	CORPOR	ATE OFFICE SOLA	Bill Format ನು ವಿದ್ಯುತ್ ಸರಬರಾಜು R ROOF TOP CENTRALE ering SRTPV Bill For the M	ZED BI	ನಿಯಮಿತ LLING CENTER BANGA	SRTPV Bill W	ith TOD	1	BR No	
1	eor.eor.co.d _s / RRNO		SRTPV			C CALL SHIP	A STEPHEN		Water Subsidy	With Si
2	ಆಕೇಳ್ ಜಗ್ಗಿ Account ID / Connection ID			23	ಖರೀದಿ ವರ / Cost of Purchas	e			9.56	7.2
3	ಪೇಷ ದಸ್ತ್ Evis/ Name and Address: XX	XXXXXXX XXXXXXXXXXX		24	whether the consumer has	availed MNRE :	subsidy (Yes or N	0)	N	-
4	cmer same vest / Meter-Reader Code		AEE	25	ಸ್ವಾಪಕರಿಗೆ ಕಾಪತೀರ್ಚಕಾದ ಒಬ್ಬ ವ	aw / Gross Am	ount namable, to C	oneumer		
5	test / Tardf		HT2A(II)	23	ಗಾಹಕರು ಬೆವಿಕಂಗೆ ಪಾವತಿಸಬೇಕಾದ				846	003
8	messaca ವಿದ್ಯ≢ ಪ್ರಮಾ. / Sanctioned Load in KVA		800 KVA	A	The state of the s	uss, robep.		S BBMP/CMC/ULB		
7	ವೌರ ಸ್ಥಾಪಿಸಲಾಗಿದೆ ಸಮರ್ಪ್ಯ್ / Solar Installed capacity in KWP		1000 KWP	-	Fixed/Demand Charges	KVA		Rs.	Char	ges
8	court was Billing Period 01.04.2024	TO	30 04 2024	_				chayath in Rs		
9	miss Lord Smor / Reading Date		01-May-24	1	Slab1	800.00	100000000000000000000000000000000000000	0.00	27200	0.00
0	ಟ್ಟೆ- ಕೈಶ್ವಕರ್ ಮಾರ್ಪಕ್ಷಮ ಸಂಖ್ಯೆ Bi-Directional Meter SI No (Main/	Check)	Y0234565/66	i	Stab2	0.00		THE RESERVE TO THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TW		
11	ಸಿದ್ಧಾ≢ ಚಾನೀಕಗಳು / Energy Recorded	(A) tage toward / Energy Import	(B) ನಿಮ್ಮ ಶ ಮೊರವಾದ್ರ / Energy Export	26A		0.00 0.00			272000.00	
1	robs rimes / Present Reading	73.743	545.405	26B	req that his mq / MD Pe ((MD Recorded - Sanct		Excess MD Recorded	Rate		
3	Lebs recent Previous Reading	72.747	529.660	27	ದಿದ್ದಾರ್ ಪಟ್ಟ / Energy Charges [Units X Rate]		7752	0.00		
2	ವ್ರಸ್ಟ್ / Difference (11-12)	1.00	15.75	22	Slab1	0	YES			
3	monte romos / Meter Constant	1	6000	29	Slab2	0	6.90		0.0	
4	೬ಟ್ಟ್ ವಿದ್ಯುಕ್ ಒಳಸಗಿದ್ದ / ಸೊರಸಗಿದ್ದ /	10000		30	Slab3	0	0.00		0.0	
	Energy Import / Export (12X13)	5976	94470	31	Slab4	0	0.00		0.0	
5	Sub Meter Consumption	0	0		FAC	0	0.16		0.0	
8	Total Consumption (14-15)	5976	94470	33	Total E	nergy charges(i			0.0	-
7	ನಿವೃಳ ಬಳಕೆ/ಉತ್ತಾಪಕೆ / Net Import /Export :	0	88494	34	Electricity Tax @ 9 % for th	e Energy Charg	es	0.00	0.0	10
8	ಮಾರ್ಪಿ ಚೇಕಿಕ / Recorded MD	0.1524	0.1079	35	#ort / Tax 0 20 on Self Cor	sumption	-	2845.20	569	00
	Total Load In KVA	914.40	647.4	36	Electricity Tax @ 9 % for T	OD charges	The state of the s	2045.20	-127	
0	Total Load In KW (in Case of LT installations)	NA	NA		nometra, thin entries / Ref		ges		-1410	
1	ಜವರ್ ಪ್ರಾಕೃತ್ / Power Factor	0.85		38	ಜವರ ಕ್ರಾಸ್ತರ ಪಂಡ ಪ್ರೂ / Powe	r Factor Penalty			896	-
2	SRTPV Meter Details						Charges/ Penalt	v/Recovery	100	10000
	SRTPV Meter SINO		3124739	40	ista / Arrears / Short Claims / Late Payment Charges/ Penally/Recovery ಜರೆ . ಜೋರ್ಪಚಿಕ್ಕಳು / Credits, Adjustments/Round off ady		0.4	-		
1	Present Reading		24785.20	41	ng and doesn maked and aday day / Net Amount to be paid by Consumer (26A+26B+28+29+30+31+32+34+35+36+37+38+39-40)		34954	2.00		
	Previous Reading		24481 09	42	Consumer (20x7202720720730731732734-35+35+35+35-40) (8846 mg avoid mask stiena hat day day / Net Amount to be paid to by BESCOM 2341		49646	1.00		
	Difference (II-III) Meter Constant		304.11	43	TDS (0.1% on Cummalativ	e Payments ab		FY)	0.0	0
			320	44	Amount Paid To Consume	r 42-43			49646	1.00
			97313	1 45			T. T.		30-Ma	y-24
VI.	Total (4*5)		320 97315 Assistant (44 45	manf set omes / Due Da Rupees F	te for Payment	Six Thousand Fou	ir Hundred SixtyOn Counter Signed	30-Ma	

	Import Time Zone	Present Reading	Previous Reading	Def	к	Consumption		TOD EC PER UNIT	TOD TAX
	Time Zone 1 06 to 10	3.116	3.077	0.04	6000	234.00	0	0.00	0
9	Time Zone 2 10 to 18	12 628	12 497	0.13	6000	786 00	0	0.00	0
	Time Zone 3 18 to 22	22 962	22 667	0.29	6000	1770.00	1	1770.00	159.3
	Time Zone 4 22 to 06	35 037	34 506	0.53	6000	3196.00		-3186.00	-286.74
	Total	73.743	72.747	1.00		5976.00		-1416.00	-127.00
				NHUW CALL OF SECTION	THE PARTY OF THE P	811			
	Export Time Zone	Present Reading	Previous Reading	Diff	IKI	Consumption	1		
	Time Zone 1 06 to 10	Present Reading 145,150	Previous Reading	Drff 2.00	K 6000	Consumption 12000 00			
				2.00	6000	12000.00			
10	Time Zone 1 06 to 10	145.150	143,150	200	6000 6000	12000.00 82350.00			
10	Time Zone 1 06 to 10 Time Zone 2 10 to 18	145.150 397.135	143,150 383,410	2.00	6000	12000.00			

	Mair	Meter	Check Meter		
Energy Recorded	Energy Import	Energy Export	Energy Import	Energy Expor	
Present Reading	73.743	545.405	73.762	535 307	
Previous Reading	72.747	529.660	72.764	529 567	
Difference	0.996	15.745	0.998	5,740	
Meter Constant	6000 000		6000		
Total Energy Import / Export	5976.000	94470.000	5988.000	34440.000	
Net Import (Consumption) /Export	0.000	88494.000	0.000	28452.000	

42) JV Details					
Debit	Credit	Debit	Credit		
70.520 7	1	846003.00			
DON'T - I	23.261 7		349100.00		
-00-111-11-11	46.300 7		442.00		
	46.109 7		0.00		
	46.924 7		496461.00		
To	otal	846003.00	846003.00		

		HEAD OF ACCOU	INT-70 5207		at voicement		LOCATIO	N CODE:75
		PASSED FOR						A-1/1 - (4-17)
	SRTI	V CENTRALIZED BILLING CENT		DESCOM				
	511.1	Enfacen		DESCOIN				
		Original/Do						
Account Head	70.5207	Originayor	phicate			E-Transfer		
	Figures:-		Second Se	846003.00				
Bill Passed for Rupees	Words:-		Rupees Eight Lai		ousand Three ()nlv		
		Paid through RTGS / NEFT	Tropodo Eight Edi	- Conyon II	Deduc			
	Name of the Consumer	Account Number	Gross Bill Amount	Others	Arrears+ Int	Electricity Tax	Demand Charges + MD Penalty	Payable Amount
Please Pay towards	xxxxxx	A/c No XXXXXXXX IFSC HDFC0000523 HDFC BANK Bangalore	846003.00	-520.00	100.00	442.00	349520.00	496461.0
		AL	846003.00	-520.00	100.00	442.00	349520.00	496461.0
		d Four Hundred	SixtyOne Only					
CERTIFICATE	Certified that the bill have been pre Certified that this Bill for the month							
Manager(CBC)		Assistant General I					nt General Mana	

V. TIMELINES:

Process	Responsibility	Time line
Application Registration & Payment of application fees.		
Application Registration & Payment of application and facilitation fees & online PPA execution in case of deemed applications	Consumer	Zero date
Feasibility – For other than deemed applications	Sub division Office	Within 10 days of application registration.
Offline Power Purchase Agreement	Consumer & AEE/EE	Within 05 days of Feasibility.
Work approval intimation	Sub division Office	Within 07 days of from date of execution of PPA.
Installation of SRTPV plant & Intimation of work Completion	Consumer	Within 150 days from Work Approval Intimation letter.
		Within 05 days from intimation of work approval by Consumer.
Synchronization of SRTPV plant	Consumer & O&M AEE/ MT AEE	Note: If SRTPV plant is not synchronized within 05 days from date of work completion report, the concerned officer shall be liable to pay penalty of Rs. 1000 per day till the date of commissioning, to the applicant.
	Cronich Colisions I	After five days of work completion, in case the plant is not commissioned, the consumers are entitled to deemed generation benefits:
Billing	Sub division Office	Next billing cycle after date of synchronization

VI. ILLUSTRATION OF PROCEDURE

ILLUSTRATION FOR NON-SUBSIDY APPLICATIONS

Stage -01: Application Registration

Responsibility: Consumer

Documents Required: Electricity Bill (Scanned copy)

Registration Procedure:

The Consumer has to follow the below listed procedure for registration of application;

a. Click the link of the online portal of the ESCOM . The links are as tabulated below;

ESCOM	Portal link
BESCOM	https://bescom.karnataka.gov.in
GESCOM	https://gescomsrtpv.in
HESCOM	https://hescom.karnataka.gov.in
CESC	https://cescmysore.karnataka.gov.in
MESCOM	Portal yet to be developed but shall follow procedure as per this guidelines.

- **b.** Enter the account id which is printed in the electricity bill. The billing data will be fetched automatically and enter the remaining fields such as proposed solar capacity, type of metering Net or Gross etc.:
- c. The Consumer will be verified through OTP sent to registered mobile number.
- **d.** Pay the application fees online using any one of the payment methods displayed on the screen.
- e. Application is considered as registered after payment of application fees.



Applicati	on details
Application No	1000254011
Type of scheme	Own investment
Type of Grid connectivity	Net Metering
Solar Proposed in kWp	3.0
Minimum Shadow free area in Sq. mtr	250.0
Type of connection	3 Phase LT
PAN	
Aadhar Number	
Pin code	560034
Latitude	12.87894885995952
Longitude	77.71362984429399
MNRE Subsidy sanctioned or not?	No

Acc	ount details
Account ID	4894240559
Applicant Name	
Applicant address	
City	
Pincode	
Subdivision code	140019
Subdivision Name	S11 Subdivision
RR Number	S11DL89909
Sanctioned Load	" 7.0 kW
Connection Type	THREE Phase
Tariff category	Domestic - LT2A

Stage -02: Feasibility

Responsibility: Sub division

As per KERC order dated 22.01.2024, all the solar rooftop applications upto capacity of 150kW are considered as deemed feasible and hence providing feasibility for these applications is not required.

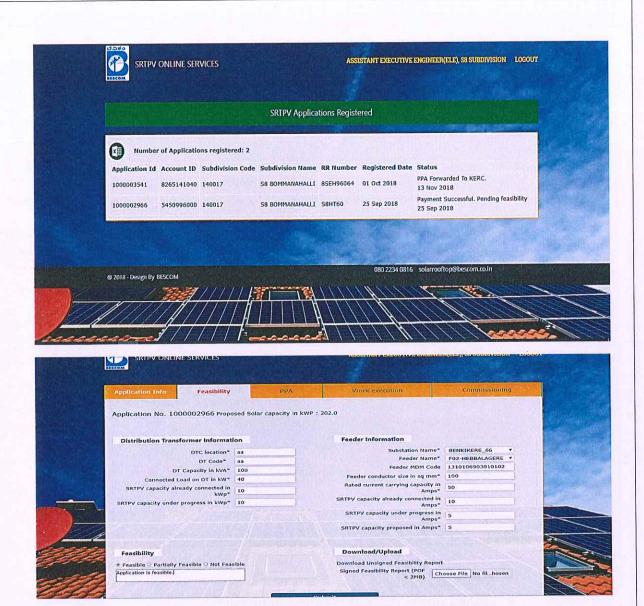
For all other applications, the procedure for providing feasibility is as below;

- a. The Sub Division office has to login to the online portal using their login credentials.
- **b.** The list of applications for which feasibility is to be provided will be displayed.
- **c.** Select one application at a time, open the feasibility tab and enter the required details.
- **d.** After entry of required data in the portal, Feasibility report will be generated automatically.
- e. Download the feasibility report, sign it and upload it.

Facilitation fees:

- a. In case deemed applications, facilitation fees has to paid along with or after registration of application. No feasibility is required.
- b. For all other applications, Consumer has to pay the facilitation fees after feasibility approval.







BANGALORE ELECTRICTY SUPPLY COMPANY LIMITED

Wholly owned Govt. of Karnataka Undertaking

Ref:

Asst. Executive Engineer (Ele.,)(Com. O&M),BESCOM, SLN Complex, Bus Stand, Kengeri, Bangalore-560060

Feasibility Report for SRTPV Application No. 1000052853

Proposed solar capacity: 3.0

This application is registered under SOURA GRUHA YOJANE (SGY) - 2019-2020

DT Info	DT Information			
DTC Location	VBHCS LAYOUT-6			
DT Code	111060401 063			
DT Capacity in kVA	250.0			
Connected Load on DT in kW	179.0			
SRTPV Capacity already connected in kWP	0.0			
SRTPV Capacity under progress in kWP	0.0			

Feede	r Information
Substation Name	RAJARAJESHWARINAGAR_66
Feeder Name	F07-BEML-LAYOUT
Feeder MDM code	1140204901010301
Feeder conductor size in sq. mm	400.0
Rated current carrying capacity in Amps	286.0
SRTPV capacity already connected in Amps	113.0
SRTPV capacity under progress in Amps	0.0
SRTPV capacity proposed in Amps	13.0

Feas	ibility
Proposed Application is	Feasible
Allowable SRTPV Capacity	3.0
Remarks	ITS FEASIBLE

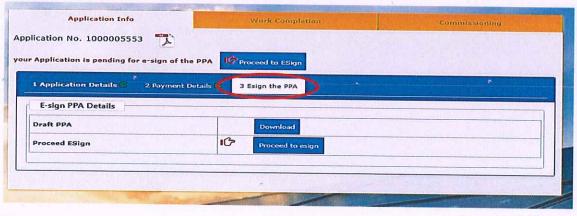
Stage -03 - Execution of Power Purchase Agreement

Responsibility:

- Consumer in case of deemed applications.
- Consumer & O&M AEE /EE for all other applications.

For Deemed Applications:

- a. The online signing of PPA will enabled after payment of facilitation fees.
- **b.** The Consumer has to Digitally sign the online PPA using Adhar Number and the phone number linked to Adhar (For OTP).



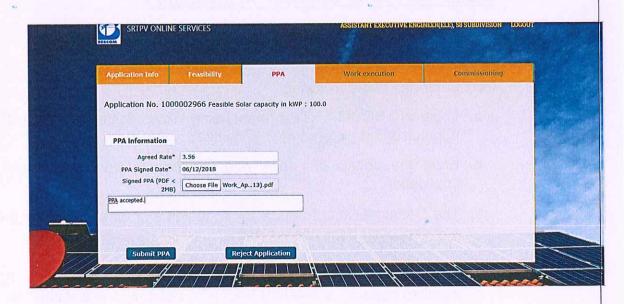
For other applications:

- a. PPAs to be executed on offline mode on Rs. 500 value non-judicial stamp paper. The PPA has to be executed between Consumer and designated ESCOM official, who shall sign the PPA on behalf of ESCOMs.
- **b.** For capacities upto 500kWp, the PPAs shall be executed by the Assistant Executive Engineer(Ele) of O & M Sub-Division and above 500kWp capacities, the PPAs shall be executed by the Executive Engineers of O&M divisions.
- c. The Assistant Executive Engineer(Ele) of O & M Sub-Division is PPA approval authority upto 500kWp capacities of SRTPV plants and for SRTPV plants of capacities more than 500kWp and upto 1000kWp, the Corporate Office of respective ESCOM is the approval authority.
- **d.** The approval of the KERC shall be obtained for capacities of more than 1000kWp and for any deviation from standard format.

If a Consumer requests for installation of additional solar capacity, the present PPA shall be canceled and new PPA shall be executed for 25 years with PPA rate being 90% of PPA tariff or present tariff, whichever is lower,

The Sub division / Division office shall issue OM for cancellation of present PPA.

Note: In case of additional SRTPV capacity, for deciding the PPA authority, the total of already commissioned and proposed plant capacity shall be considered.





Stage -04 – Work Approval Intimation

Responsibility: Sub division

- a. Work approval intimation letter is automatically generated and emailed to registered email after online execution of PPA/Uploading of PPA document in case of off-line PPA.
- b. The work approval intimation shall also include intimation for change of meter and if required change of HT metering cubicle.

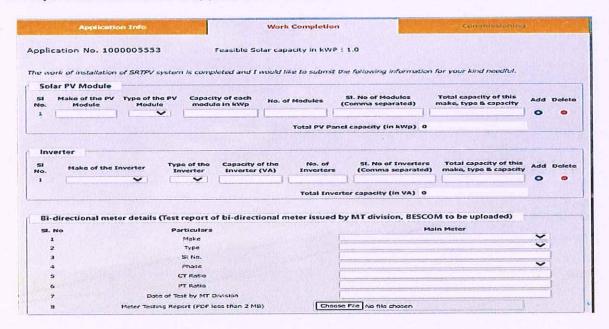
Stage -05 - Work Completion Intimation

Responsibility: Consumer

Consumer has to the following;

- **a.** Login to ESCOM SRTPV portal using "Track Status" option with application number and registered mobile number.
- **b.** Enter the details of panels and inverters in work completion tab of the application.
- c. The Consumer has to enter Bank details and upload copy of the PAN card and cancelled bank cheque copy.
- **d.** After work completion, the Consumer will be prompted for SPPA, if the installed capacity is different from PPA capacity and is within the sanctioned load of the Consumer.

- In case deemed feasible application, online SPPA has to be done.
- ➤ In case of other applications, the sub division has to raise ticket through portal for capacity correction.
- > Status of application has to be reverted to feasibility stage by the IT team, once the ticket is raised from sub division.
- > The revised feasibility has to be provided for installed capacity.
- Offline SPPA has to be executed once revised feasibility is provided.
- e. Submit the details through OTP verification.
- **f.** As KERC tariff orders, the Consumer has to complete the work within 150 days from date of work approval intimation.



Work Execution details of of SRTPV Application No. 1000028266

Solar PV Module

SI No	Make		Capacity of each module in kWp	No. of Modules	St. No of Modules (Comma separated)	Total capacity of this make, type & capacity
1	WAAREE	Mono	370.0	94	ATTACHED	34780.0

Invertor

SI No	Make		Capacity of Inverter (VA)	No. of Inverters		Total capacity of this make, type & capacity
	M's Solar Edge Tech Ltd., Israel	String	27.6	1	SJ\$118-07E155378-5E	27.5

DC Cables

SI No	Make SIECHEM	Type	Size
1	SIECHEM	COPPER	4.0

AC Wiring

SI No	Make		Size
SI No	FINOLEX	COPPER	16.0

DC Distribution Box

SI	Make	St no. of DC Distribution	DC Surge Protection	MCB/Isolator	MCB/Isolator
No		Box	Device	capacity	quantity
1	HENSEL	00	CITEL	0.0	0

Contract of the Contract of th

SI	Make	Si no. of AC Distribution	DC Surge Protection	MCB/Isolator	MCB/Isolator
No		Box	Device	capacity	quantity
1	HENSEL	00	CITEL	63.0	2

Earthing details

Earth Resistance (Less than 50 ohms)	3.1
Size of the Earth flat (3 x 70 sq.mm galvanic iron flat)	25.0
Modules & DC Surge arrester	YES
Inverter & AC Surge arrester	YES
Lightning Arrester	YES

Bidirectional Main Meter

Make	AVs Secure meters
Type	ELECTRO TRIVECTOR METER
Serial No	XE470909
Phase	Three Phase
CT Ratio	1.0
PT Ratio	1.0
Date of Test by AfT division	24 Sep 2019

Bidirectional Check Meter

Make	MVs Secure meters
Туре	ELECTRO TRIVECTOR METER
Serial No	XE470911
Phase	Three Phase
CT Rate	1.0
PT Ratio	1.0
Date of Test by MT division	24 Sep 2019

Caution Signs

Panels	YES
Inverters	YES
DC/AC distribution box	vee

Switch

Provision of manual and automatic switch | Year

System installer details

System Installer Firm Name	ECOSOCH SOLAR PVT LTD
System Instater Firm Ucense Number	0000

Certified that the above said SRPTV system was installed by me and the equipment's used comply the Technical and Safety standards issued by BESCOM.

Report submitted on: 16 Mar 2021 07:04:20 PM

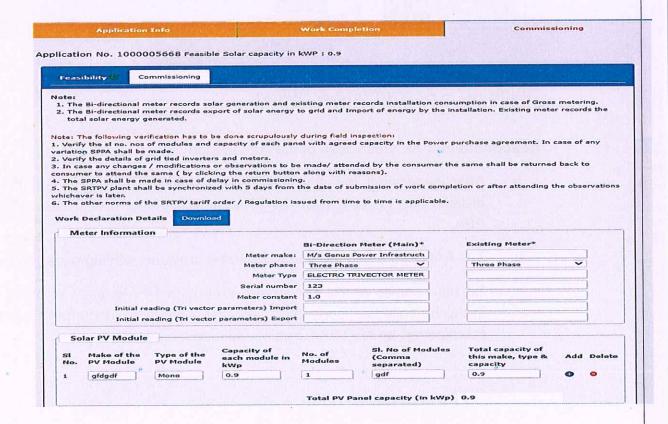
This is a system generated letter and doesn't require signature

Stage -06 - Synchronization:

Responsibility: Consumer & ESCOM O&M AEE/EE and MT official.

- a. The sub division/division is required to loging to portal, verify the work completion details entered by Consumer and generate the synchronization certificate.
- **b.** In case of SRTPV applications of more than 17.5kW, the Pre-Commissioning test has to be done by MT Officers and they have to enter Meter details in the portal using their credentials.
- c. The SRTPV plant Commissioning & Synchronizing Authority:

SI. No.	Capacities	ESCOM Officers authorized for synchronization
1	1kW to 17.5kWp	Assistant Executive Engineer(Ele), O & M Sub-Division
2	Above 17.5kW to upto 500kWp	Assistant Executive Engineer(Ele), O & M Sub-Division in co-ordination with Meter Testing (MT) staff
3	Above 500kWp	Executive Engineer(Ele), O & M Division in Co-ordination with Meter Testing (MT) staff.



SI No.	Make of the Inverter	Type of the Inverter	Input voltage (volts)	Output voltage (volts)	Capacity of the Inverter (VA)	No. of Inverters	SI. No of Inverters (Comma separated)	Total capacity of this make, type & capacity	Add	Delete
1	fgfd	Micro			1.0	1	dfgdf	1.0	0	•
			Total	Inverter capa	city (in VA)	1.0				
In	spection De	taile	Pel II	William William		Land American				
	spection be	tans								
				Pincode			2018/10			
				the installation		LURU URBAN				
			Latitude of the	he installation*	12.971533					
		L	ongitude of the	he installation*	-					
				Locate			Google Map			
w	hether Anti-is	landing featur	re is in worki	ng condition ?*		Use my cur	rent location			
				hing verified?*						
				hing verified?*			Mark English			
			Is LA eart	hing verified?*	O Yes O No					
			Is AC & DC	DB available?*	O Yes O No		A SHARE			
				ide available?*						
	Is Relay ope	erated automa	tic switch at	net-meter side available?*						
				e of Inspection	The state of the s					
Pho	oto of the pla	nt along with	the Prosumer	(JPEG file < 2 MB)		e No file chos	en			
		Date of sync	hronizing with	n BESCOM grid						
		Sy	nchronization	Voltage Level						
mark	s not exceeding	g 1000 charact	ers							
_					2712					

Stage -07 - Accounting & Billing

Responsibility: AE (Technical) of the sub division

- a. After generating the synchronization certificate, the AE(T) of the sub division has to hand over the PPA to accounting unit in case of offline PPA.
- b. The AAO of the sub division will also be provided with login credentials.
- c. No hard copies of the documents except for PPA in case of offline PPA are to be collected Consumer / Installer. If required, documents are to be downloaded by AE(T)/AAO using their login credentials.

Note: Billing format to be followed across all ESCOM is as below.

SRTPV Bill Description with TOD billing

	CORPORATE	OFFICE SOLAR	CORPORATE OFFICE SOLAR ROOF TOP CENTRALIZED BILLING CENTER BANGALORE NET Metering SRTPV Bill For the Month - April-2024	ZED BI	TOP CENTRALIZED BILLING CENTER BANGS TPV BIII For the Month - April:2024	LORE			BR No
				-		Pan No			Date
ಆರ್.ಆರ್.ಸಂಖ್ಯೆ / RRNO			SRTPV-	3	one of Cost of Burchase	4			Without Subsidy With Subsidy
2 ਬਣੇਮਣ ਫਲੇ/ Account ID / Connection ID				3		×			9.56 7.20
3 ಮೆಸಾ ಮತ್ತು ಬೀಸ್/ Name and Address:	XXXXX	COXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	24	whether the consumer has availed MNRE subsidy (Yes or No)	availed MNRE	subsidy (Yes or N	(0	ON
4 ಮಾಪಕ ಒದುಗರ ಸಂಖ್ಯೆ / Meter-Reader Code			AEE	25	ಸ್ತವಕರಿಗೆ ವಾವತಿಸಬೇಕಾದ ಒಣ್ಣು	tas / Gross Amo	شمع / Gross Amount payable to Consumer	Sonsumer	846003
5 zms / Tariff		w	HT2A(II)		ಗ್ರಾಹಕರು ಬೆವಿಕೆಂಗೆ ಸಾವತಿಸಬೇಕಾ	des / To be pa	aid by Consume		
6 mountain the same. / Sanctioned Load in KVA			800 KVA	4			1,20.00.00/00.00/p	ಬೃಲಿಂಗುವಾ/ಸಮ/ಸ್ಥನ್ಯು BBMP/CMC/ULB	
ಸೌರ ಸ್ಕಾಪಿಸಲಾಗಿದೆ ಸಾಮರ್ಥ್ಯ / Solar Installed capacity in KWP	KWP r		1000 KWP	-	Fixed/Demand Charges	KVA	E 0 0	in Rs. This counchs/	Charges
	01-04-2024	TO	30.04.2024	-			Village Pan	Village Panchayath in Rs.	
9 mmm hand Denoe / Reading Date			01-May-24	-	Slab1	800.00	34	340.00	272000.00
10 ಟ್ರೆ- ಡೈರಕ್ತನರ್ ಮಾಡಕ ಕ್ರಮ ಸಂಖ್ಯೆ Bi-Directional Meter SI No (Main/Check)	SI No (Main/Check	()	Y0234565/66	i III	Slab2	00:00	0	00.00	00.0
11 ವಿದ್ಯಾಕ್ ದಾಖಲಿಕೆಗಳು / Energy Recorded	(Q)	(A) ১০০ুক এগমতন্ত্র / Energy Import	(B) ವಿದ್ಯಾತ್ ಮೊರಮಾವು / Energy Export	26A		Total Fixed charges(i+ii)	rges(i+ii)		272000.00
Notice integer / Present Reading		73.743	545.405	268	/ yes not how you	MD Penalty Charges	Excess MD Recorded	Rate	
				+	If MD Recorded - Sanctioned load)	noned load)	114	089	77520 00
Loba mace / Previous Reading		72.747	529.660	27	ದಿದ್ದಾತ್ ಐಲ್ಕ್ / Energy Charges [Units A Rate]	es Units A Kate	I.		
12 ವ್ಯಾಪ್ / Difference (11-12)		1.00	15.75	28	Slab1	0	690		000
13 mere romas / Meter Constant			0009	29		0	0.00		0000
SECUE.		5976	94470	30	Slab3	0	0.00		00.0
Energy Import / Export (12X13)				31		0	00.00		00.00
15 Sub Meter Consumption		0	0	32	FAC	0	0.16		00.00
16 Total Consumption (14-15)		9269	94470	33	Total	Total Energy charges(i+ii+iii+iv) + FAC	HI + II + II + I + FAC		0.00
17 ನಿವ್ಯಳ ಬಳಕ/ಬುತ್ತವನೆ / Net Import /Export :		0	88494	发	Electricity Tax @ 9 % for the Energy Charges (28+29+30+31)*9%	e Energy Charge	sa	00.00	00.0
18 mass area / Recorded MD		0.1524	0.1079	35	sort / Tax 0.20 on Self Consumption	nontion		2845.20	569.00
19 Total Load In KVA		914.40	647.4	36		OD charges		,	-127.00
20 Total Load In KW (in Case of LT installations)	*	NA	NA	37	ರಂಪಾಯಿತಿ, ಟಿಓಡಿ ಶುದ್ಯಗಳು / Rebates, TOD Charges	oates, TOD Char	ges		-1416.00
21 ਸਜ਼ਤ ਵਾਪੂਤ / Power Factor		0.85		88	ವವರ್ ಕ್ಯಾಸ್ತರ್ ಮನ ಮಲ್ಕೆ / Power Factor Penalty	r Factor Penalty			896.40
22 SRTPV Meter Details				33	±24 / Arrears / Short Claims / Late Payment Charges/ Penalty/Recovery	s / Late Payment	t Charges/ Penalt	y/Recovery	100.00
SRTPV Meter SI NO			3124739	40	ಜಮೆ , ಜೊಂದಾಚಿಕೆಗಳು / Credits, Adjustments/Round off ady	, Adjustments/Ro	und off ady		0.40
II Present Reading			24785.20	14	ಗ್ರಹಕರು ಚರಿಕಂಗೆ ಪಾವತಿಸ್ತಾರಣದ ನಿವ್ಯಳ ಮತ್ತು / Net Amount to be paid by Consumer (26A+26B+28+29+30+31+32+34+35+36+37+38+39-40)	ನಿವೃಳ ಮೊತ್ತ / Net 29+30+31+32+3	Amount to be pa	aid by +39-40)	349542.00
III Previous Reading			24481.09	45	ಬೆವಿಕಂ ಗ್ರಾಹಕರಿಗೆ ಪಾವತಿಸಬೇಕಾದ ವಿವ್ಯಕ್ತ ಮೊತ್ತು / Net Amount to be paid to by BESCOM 2341	ಗಿವ್ಮಳ ಜೊತ್ತ / by BESCOM 23	141		496461.00
Difference (II-III) *			304.11	43	TDS (0.1% on Cummalative Payments above 50 Lakhs in FY)	re Payments abo	ove 50 Lakhs in	FY)	0.00
V meter constant VI Total (4*5)			97315	4 3	Amount Paid To	te for Payment			30-May-24
Average Generation Per Day	3.24				Rupees F	our Lakh NinetyS	six Thousand Fou	Rupees Four Lakh NinetySix Thousand Four Hundred SixtyOne Only Counter Signed	-

Time Zone 1 (6 to 10 Time Zone 2 (10 to 18 Time Zone 2 10 to 18 Time Zone 4 22 to 06 Time Zone 4 22 to 06 Time Zone 5 (201)	Present Reading 3.116 12.628 22.962 35.037 73.143	Prevous Reading 3.077 12.497 22.667 34.506 72.147	0.03 6000 0.13 6000 0.29 6000 0.53 6000	Consumption 234.00 224.00 00 1770.00 00 3186.00 00 5976.00	0 0 + +	100 EC PER UNIT 0.00 0.00 1770.00 -3186.00	100 TAX 0 0 1593 -286.74 -127.00		
Export Time Zone Time Zone 1 06 to 10 Time Zone 2 10 to 18 Time Zone 2 10 to 18 Time Zone 4 2 to 06 Time Zone 4 22 to 06	Present Reading 145,150 397,135 3.120 0.000 545,405	Previous Reading 143.150 383.410 3.100 0.000 529.660	Deff K 2.00 6000 13.73 6000 0.00 6000 15.75	Consumption 12000 00 82350 00 12000 00 120 00 90 120 00 94470.00					
	Mai	Main Meter	Check Meter	Meter			42) JV Details	aris	
Energy Recorded	Energy import	Energy Export	Energy Import	Energy Export		Debit	Credit	Debit	Credit
Present Reading	73.743	545,405	73.762	535.307		70 520 7	7 400 00	846003.00	240400 00
Previous Reading	72.747	529.660	72.764	529.567			23.261 /		349100.00
Difference	0.996	15.745	0.998	5.740			46.3007		0000
Meter Constant	9	000 0009	000.0009				46 924 7		496461.00
Total Energy Import / Export	5976.000	94470.000	5988.000	34440.000		1	Total	846003.00	846003.00
Net Import (Consumption) /Export							jur	LOCATIC	LOCATION CODE:759
			HEAD OF ACC	HEAD OF ACCOUNT: 70.5207					
Account Head	70.5207		Original/	Original/Duplicate					
Account Head	Figures				846003.00				
Bill Passed for Rupees	Words:-		TJONG SOLD	Rupees Eight Lakh FourtySix Thousand Three Only	kh FourtySix Th	nousand Three Only Deductions	Only		
	Name	Name of the Consumer	Account Number	Gross Bill Amount	Others	Arrears+ Int	Electricity Tax	Demand Charges + MD Penalty	Payable Amount
Please Pay towards		××××××	Aic No XXXXXXXX IFSC HDFC0000523 HDFC BANK Bangalore	846003.00	-520.00	100.00	442.00	349520.00	496461.00
		TOTAL	-	846003.00	-520.00	100.00	442.00	349520.00	496461.00
				Rupees Four Lakh NinetySix Thousand Four Hundred SixtyOne Only	tySix Thousan	d Four Hundre	d SixtyOne Only		
CERTIFICATE	1) Certified tha 2) Certified tha	the bill have been prep this Bill for the month o	 Certified that the bill have been prepared as per reading furnished by AEE (C,O&M) sub division. Certified that this Bill for the month of AUGUST 2023 Has Not Been Paid at SRTPV CBC earlier. 	/ AEE (C,O&M) sub division. Paid at SRTPV CBC earlier.					
							Assista	Assistant General Manager (I/A)	ager (I/A)

ILLUSTRATION OF PROCEDURE FOR SUBSIDY APPLICATIONS

Stage -01: Application Registration

Responsibilty: Consumer

- a. At present subsidy is availble only for domestic category Consumers who are willing to install solar rooftop plants under PM Surya Ghar Scheme.
- b. For installation of solar rooftop plants under PM Surya Ghar Scheme, the Consumers are required to register their application and apply through National Portal using the link: https://www.pmsuryaghar.gov.in/
- c. Consumer are required to register under theh PM Surya Ghar scheme by following the instructions on the website. After registration, Consumers are required to apply for installation of solar rooftop plant.
- d. Once the application registration process is complete in PM Surya Ghar portal, the Consumers should note down the Registration Reference number generated by the portal for continuing application process in ESCOMs portal.
- e. For continuing application process in ESCOMs portal, the Consumers are required to click the link displayed at ESCOMs website and enter the Registration Reference number generated by the PM Surya Ghar portal.
- f. Once, the Registration Reference number is entered in ESCOMs portal, the data from PM Surya Ghar portal will be fetched automatically and Consumers will be verified by ESCOMs portal through OTP sent to registered mobile number.
- **g.** After verification, the Consumers are required to pay application fees online through ESCOMs portal for further processing the application.

Stage -02: Feasibility

- a. The feasibilty process in ESCOMs portal is same as that in case of Non-subsidy applications. The same procedure shall be followed.
- **b.** Feasibilty in MNRE portal will be updated once the Power Purchase Agreement is executed.

Stage -03 – Execution of Power Purchase Agreement

- **a.** The execution of Power Purchase Agreement procedure is same as that in case of Non Subsidy application.
- **b.** PM Surya Ghar Portal portal does not have provision for PPA uploading and hence PPA shall be executed online / offline PPA shall be uploaded in ESCOMs portal only.

Stage -04 - Work Approval Intimation

- **a.** The Work Approval Intimation procedure is same as that in case of Non Subsidy application.
- **b.** No separate work approval intimation will be communicated through PM Surya Ghar Portal.

Stage -05 - Work Completion Intimation

- **a.** The Consumer has to entry work completion details such as panel wattage and inverter details in PM Surya Ghar Portal using tgheir login credentials.
- **b.** After entering work completion details in PM Surya Ghar Portal, Consumera required to Login to ESCOM SRTPV portal using "Track Status" option with application number and registered mobile number.
- **c.** Enter the Registration Reference code in Work completion tab and the details will be fetched automatically from PM Surya Ghar Portal.
- **d.** Enter the additional information as in case of Non-subsidy application and submit the work completion detilas and confirm the same through OTP verification.

Stage -06 - Synchronization:

The Work Synchronization procedure is same as that in case of Non Subsidy application.

Stage -07 - Handing over the documents to accounting unit:

The Work Synchronization procedure to be followed is same as that in case of Non Subsidy application.

Stage -08 - Billing:

The Billing procedure to be followed is same as that in case of Non Subsidy application.

General Manager (Ele.) 4 P DSM, Corporate Office, K.R. Circle, Bengaluru-01.

Page 42 of 42

and now a training of the contract of the first and the state of the contract of the contract