

# **NET-METERING REFERENCE GUIDE FOR CONSUMERS**



**Application process and Installation of Net Metering connections  
inside Sundar Industrial Estate**

**Board of Management, Sundar Industrial Estate (BOMSIE)**

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## **INTRODUCTION:-**

This guide provides an overview of important points to consider when the consumer apply for the Net Metering inside Sundar Industrial Estate.

## **ABOUT NET METERING:-**

Net metering is an electricity policy for consumers who own Renewable Energy facilities which allows them to use electricity whenever needed while getting credit for contributing their production to the grid.

All Electricity Consumers of PIEDMC Industrial Estates can switch their electricity load to Solar energy and can slash their power bills upon contribution to PIEDMC distribution network, provides that subject to technical considerations and without discrimination and upon request by end-users, PIEDMC shall enter into net-metering agreement with qualified end users who will be installing the Solar RE system.

“Import”- means energy supplied by PIEDMC/SIE grid

“Export”- means energy delivered to PIEDMC/SIE grid

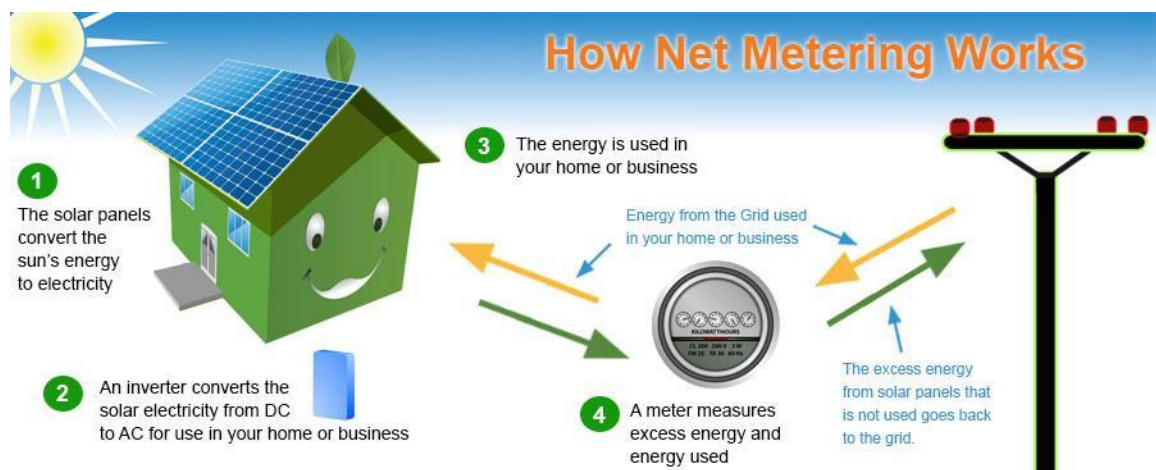


Figure 1.1 Net Metering process

## **NET METERING IN PIEDMC INDUSTRIAL ESTATES:-**

The BOD PIEDMC in its 153<sup>rd</sup> Board of Directors meeting held on 30<sup>th</sup> November, 2021 has granted approval to PIEDMC for signing an agreement with its Net-metering Consumers / Solar Generators allowing them for Net-Metering facility within PIEDMC distribution network inside its estates without disturbing DISCOs distribution network outside PIEDMC's industrial estates.

## CHECKLIST FOR FILING NET METERING APPLICATIONS

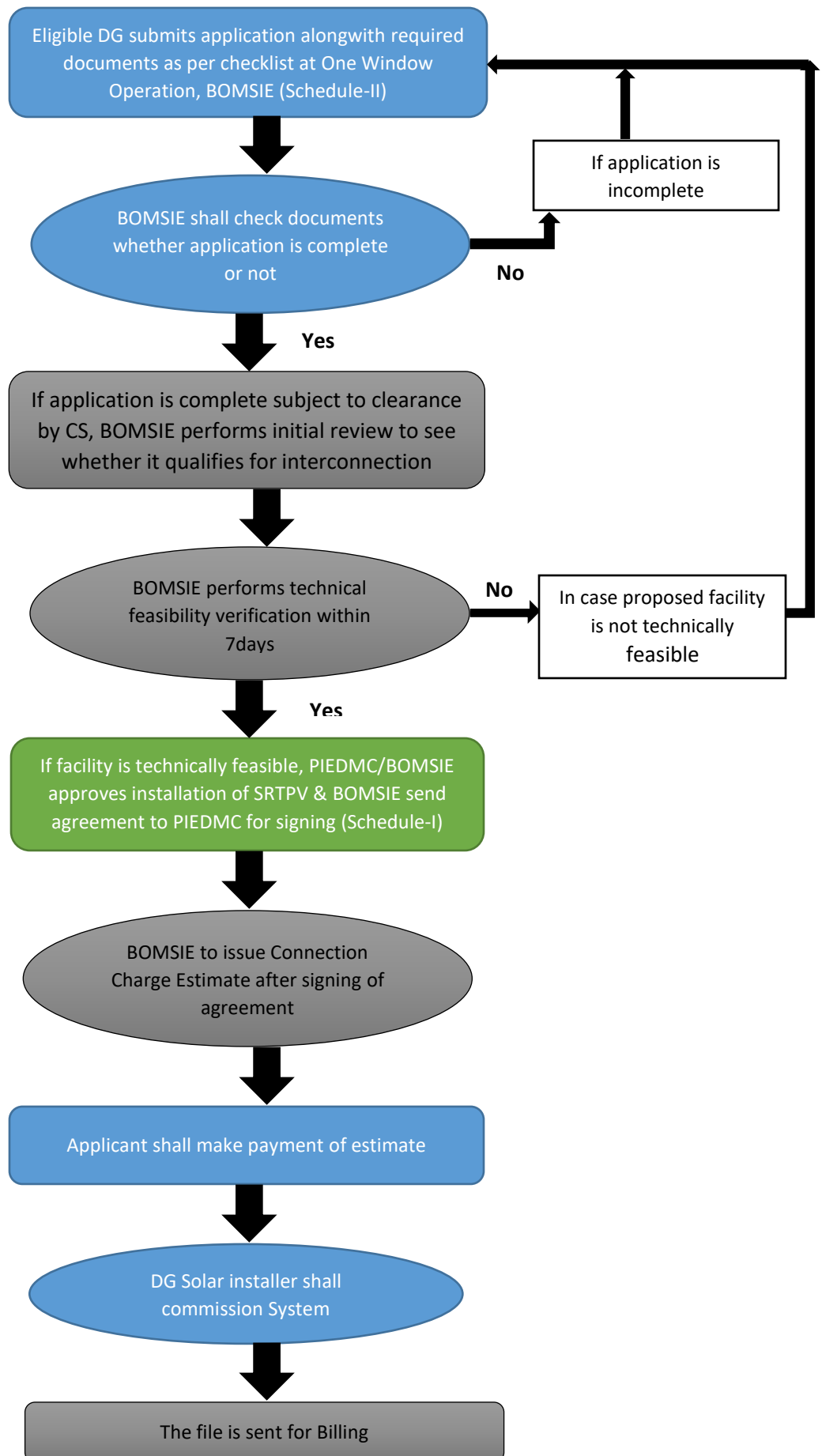
1. Copy of CNIC. (Owner / Director)
2. Copy of last paid electricity bill. (No arear certificate)
3. Distributed Generation Interconnection Agreement between Solar Generator and Punjab Industrial Estates Development and Management Company (PIEDMC) **(Schedule-I)**
4. Standard Distributed Generation Application Form **(Schedule-II)**
5. Fee Schedule **(Schedule-V)**
6. Schematic drawings, Single line diagram of the system.
7. Site plan showing location of external disconnect switch.
8. Technical Data of components including solar modules, invertors, etc.
9. Affidavit (On non-judicial paper)
10. Inspection of Electrical Installation Certificate Signed by authorized Engineer of AEDB Certified Company.

### **NOTE: -**

- a. The inverters must be of grid-tied type.
- b. Maximum capacity of Solar installation shall be as per NEPRA rules & regulations.
- c. Maximum allowed capacity for net metering facility is 1.5 times of sanctioned load.
- d. If Consumer installed solar generation exceed from permissible limit i.e. 1.5 times of sanctioned load, then consumer be required to get approval from PUE&T Committee of PIEDMC. Tariff to such solar generator shall be as per NEPRA notified Upfront tariff of solar generation.
- e. Technical Parameters including protection arrangement and earthing for interconnection of Distributed Generation Facility with SIE Distribution System shall be followed as detailed in NEPRA (Alternative & Renewable Energy) Distributed Generation and Net Metering Regulations, 2015 and described in Net-Metering Reference Guide issued by Alternative Energy Development Board.
- f. SIE Net-Metering consumer through AEDB approved Solar Installer shall ensure installation of allied equipment as required for interconnection with SIE Distribution System.
- g. Net-Metering billing shall be paid to consumers after deduction of applicable taxes etc. in-line with LESCO policy by Billing department BOMSIE.
- h. Tariff for Net metering billing will be paid at DISCO off peak B-4 tariff in SIE.
- i. National Electric Power Regulatory Authority (NEPRA), Alternative & Renewable Energy, Distributed Generation and Net Metering Regulations, 2015 (Amended time to time) and Net-Metering Reference Guide issued by Alternative Energy Development Board (AEDB) shall remain integral part.

 **Complete Application according to check list as mentioned above be submitted to One Window Cell, BOMSIE Gate No.2, Sundar Industrial Estate.**

## FLOW CHART OF INTERCONNECTION PROCESS



## Schedule-I

[See Regulation 2 (1) (b)]

### Distributed Generation Interconnection Agreement (1 kW to 1 MW) between Distributed Generator and PIEDMC

The Distributed Generation Interconnection Agreement (the "Agreement"), is made and entered into this \_\_\_\_\_ (day) of \_\_\_\_\_ (month), \_\_\_\_\_ (year) by and between **Punjab Industrial Estates Development & Management Company** hereinafter called "PIEDMC" and \_\_\_\_\_ hereinafter called the "Applicant". Applicant shall be 3 phase 400 V or 11 kV BOMSIE-PIEDMC consumer. PIEDMC and the Applicant are hereinafter collectively referred to as the "Parties" and individually as a "Party".

#### Recitals

- A. PIEDMC is the owner of the electric distribution system serving \_\_\_\_\_ [Insert legal description of property or address] "BOMSIE-PIEDMC's Distribution System"
- B. Applicant desires to install a Distributed Generator (DG) facility or energy storage device using solar energy resources with a capacity greater than 1 kW but no more than 1 MW, including related Interconnection equipment (the "DG facility") and to interconnect the DG facility to the SIE-PIEDMC's Distribution System.
- C. BOMSIE-PIEDMC has previously reviewed and approved Applicant's DG Interconnection Applicant Form dated \_\_\_\_\_, and supporting materials (the "Application"). The completed Application is attached as Exhibit 1 and incorporated into this Agreement.
- D. Applicant wishes to interconnect the DG Facility to SIE-PIEDMC's distribution system and PIEDMC is willing to permit such interconnection subject to the terms and conditions set forth: (1) the completed Application approved by PIEDMC; (2) this Agreement
- E. No agency or partnership is created with the interconnection of the applicants DG Facility.

#### Agreement

NOW THEREFORE, in consideration of the foregoing Recitals and for good and valuable consideration, the PIEDMC and Applicant agree as follows:

##### 1. Design Requirement

The DG Facility shall be installed in compliance with NEPRA (Alternative & Renewable Energy) Distributed Generation/ Net Metering Regulations 2015.

##### 2. Applicant's Representations and Warranties

Applicant represents and warrants that:

- a. The DG Facility is fully and accurately described in the Application;
- b. All information in the Application is true and correct;
- c. The DG Facility shall be installed to Applicant's satisfaction;
- d. Applicant has been given warranty information and an operation manual for the DG Facility;
- e. Applicant has been adequately instructed in the operation and maintenance of the DG Facility.

### **3. Interconnection Disconnect Switch**

The PIEDMC may require that the Applicant furnish and install an interconnection disconnect switch that opens, with a visual break, all underground poles of the interconnection circuit. The interconnection disconnect switch shall be rated for the voltage and fault current requirements of the DG Facility, and shall meet all the applicable IEC, IEEE Standards, as well as applicable requirements of the NEPRA Grid Code. The switch enclosure shall be properly grounded. The interconnection disconnect switch shall be accessible at all times, located for ease of access of BOMSIE-PIEDMC personnel, and shall be capable of being locked in the open position. The Applicant shall follow the BOMSIE-PIEDMC recommended switching, clearance, tagging and locking procedures.

### **4. Modifications to the DG Facility**

Applicant shall notify BOMSIE-PIEDMC of plans for any material modification to the DG Facility by providing at least forty working days of advance notice. "Material Modification" is defined as any modification that changes the maximum electrical output of the DG Facility or changes the interconnection equipment. The notification shall consist of a completed, revised Application and such supporting materials as may be reasonably requested by BOMSIE-PIEDMC. Applicant agrees not to commence installation of any material modification to the DG Facility until PIEDMC has approved the revised Application.

### **5. Insurance, Indemnification, Liability**

- 5.1 Distributed Generator shall obtain and maintain appropriate insurance for third party personal injury and general commercial liability.
- 5.2 Each party as indemnitor shall defend, hold harmless, and indemnify the other party and the directors, officers, employees, and agents of the other party against and from any and all loss, liability, damage, claim, cost, charge, demand, or expense (including any direct, indirect or consequential loss, liability, damage, claim, cost, charge, demand, or expense, including attorney's fees) for injury or death to persons, including employees of either party, and damage to property, including property of either party, arising out of or in connection with (a) the engineering, design, construction, maintenance, repair, operation, supervision, inspection, testing, protection or ownership of the indemnitor's facilities, or (b) the making of replacements, additions, betterments to, or reconstruction of the indemnitor's facilities. This indemnity shall apply notwithstanding the active or passive

negligence of the indemnitee. However, neither party shall be indemnified hereunder for its loss, liability, damage, claim, cost, charge, demand, or expense resulting from its sole negligence or willful misconduct.

5.3 The indemnitor shall, on the other party's request, defend any suit asserting a claim covered by this indemnity and shall pay for all costs, including reasonable attorney fees that may be incurred by the other party in enforcing this indemnity.

5.4 The provisions of this Section shall not be construed to relieve any insurer of its obligations to pay any insurance claims in accordance with the provisions of any valid insurance policy.

5.5 Except as otherwise provided in this section, neither party shall be liable to the other party for consequential or remote damages incurred by that party.

## **6. DG Facility Commissioning Testing**

Applicant shall notify BOMSIE-PIEDMC in writing that installation of DG Facility is complete and that the interconnection equipment is available for testing by BOMSIE-PIEDMC at least fifteen working days before Applicant interconnects the DG Facility with BOMSIE-PIEDMC's Distribution System. BOMSIE-PIEDMC shall thereupon have the right to test the DG Facility and ensure that DG facility fulfils the safety/quality standards in accordance with SOP's developed by Ministry of Energy for approval/installation of net metering application/connection/system or any other requirement provided in the relevant law as the may be. BOMSIE-PIEDMC shall also have the right to witness any testing by Applicant of the DG Facility. Any BOMSIE-PIEDMC testing of the DG Facility shall be completed within ten working days. After the testing which is to the satisfaction of both parties, the DG facility may be interconnected with the distribution system of BOMSIE-PIEDMC to be witnessed by representatives of both parties within thirty-eight days.

## **7. Access to DG Facility**

Applicant shall permit BOMSIE-PIEDMC's employees and agents to enter the property on which the DG Facility is located at any reasonable time for the purposes of inspecting and/or testing Applicant's DG Facility to ensure its continued safe and satisfactory operation and the accuracy of BOMSIE-PIEDMC meters. Such inspections shall not relieve Applicant from its obligation to maintain the DG Facility and any related equipment owned by Applicant in safe and satisfactory operating conditions.

BOMSIE-PIEDMC shall have the right to witness any testing by Applicant of the DG Facility.

## **8. Temporary Disconnection of a DG Facility**

BOMSIE-PIEDMC may limit the operation and/or disconnect or require the disconnection of a DG Facility from BOMSIE-PIEDMC's Distribution System at any time, with or without notice, in the event of fault. BOMSIE-PIEDMC may also limit the operation and/or disconnect or require the disconnection of DG Facility from BOMSIE-PIEDMC's Distribution System upon the provision of 30

days written notice for the conditions to allow for routine maintenance, repairs or modifications to BOMSIE-PIEDMC's Distribution System.

## **9. Disputes; Right to Appeal to Authority**

Nothing in this Agreement prevents Applicant from filing a petition with the Authority to appeal any requirement imposed by BOMSIE-PIEDMC as a condition to interconnection of DG Facility that applicant alleges is unreasonable. In case of a dispute, the decision of the Authority i.e. PIEDMC shall be final and binding on both the parties.

## **10. Amendments; Non-Waiver**

Any amendment or modification to this Agreement must be in writing and executed by Applicant and PIEDMC. The failure of Applicant or PIEDMC to insist on performance by the other party of any provision of this Agreement shall not waive the right of the Party who failed to insist on performance to enforce the same provision at a later time.

## **11. Term and Termination of Agreement**

The term of Agreement between Distributed Generator and PIEDMC shall be seven years with effect from the date of commissioning of DG facility. At the expiry of initial term, the Agreement may be automatically renewed between Distributed Generator and PIEDMC for another term of seven years and so on unless the Parties terminate the Agreement in accordance with the Regulations.

- a. PIEDMC may limit the operation and/or disconnect or require the disconnection of a DG Facility from BOMSIE-PIEDMC's Distribution System at any time, with or without notice, in the event of fault. PIEDMC may also limit the operation and/or disconnect or require the disconnection of DG Facility from BOMSIE-PIEDMC's Distribution System upon the provision of thirty days written notice for the conditions which including as follows:
  - To allow for routine maintenance, repairs or modifications to BOMSIE-PIEDMC's Distribution System
  - Upon PIEDMC's determination that DG Facility is not in compliance with these Rules - Upon termination of the Agreement
- b. This Agreement may be terminated in accordance with these Regulations
- c. The Distributed Generator may terminate the Agreement upon thirty days written notice if the Distributed Generator determines to discontinue the sale of electricity to the BOMSIE-PIEDMC
- d. The DISCO shall not terminate the Agreement in any event without prior approval of the Authority.
- e. All rights and obligations accrued up to termination shall continue in force upon termination



## **12. Successors and Assigns**

- a. Assignment by Applicant: Applicant shall not assign its rights and obligations under this Agreement in whole or in part without the prior written consent of PIEDMC, which consent shall not be unreasonably withheld or unduly delayed. PIEDMC may withhold its consent to any proposed assignment if the proposed assignee fails to assume the obligations of Applicant under this Agreement in writing.
- b. Assignment by PIEDMC: The PIEDMC shall have the right to assign this agreement in whole upon written notification to the Applicant.
- c. Successors: This Agreement shall be binding upon the personal representatives, heirs, successors and permitted assigns of the respective Parties.

**13. Applicant and PIEDMC Signature and Seal**

IN WITNESS WHEREOF, Applicant and PIEDMC have executed this Agreement as of the year and date first set forth above.

**Applicant Signature & Date**

**PIEDMC's Signature with Seal & Date**

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**Title**

**Title**

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**Witness No. 1 (Name & Signature)**

**Witness No. 1 (Name & Signature)**

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**Witness No. 2 (Name & Signature)**

**Witness No. 2 (Name & Signature)**

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**Schedule-II**  
**[See Regulation 3(1)]**  
**Standard Distributed Generation Application Form for BOMSIE / PIEDMC**

Name & Address of PIEDMC's Industrial Estate	
Board of Management, Sundar Industrial Estate (BOMSIE), Raiwind Road, Lahore.	Punjab Industrial Estates Development and Management Company (PIEDMC)

Contact Information—The applicant is the person that is legally responsible for the generation system
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Applicant's Last Name	First Name
CNIC of Applicant/CUIN in case of Company (copy to be attached)	
Applicant's Mailing Address	
Applicant's Phone Number & Email Address	
<b>Office:-</b>	<b>Fax:-</b>
<b>Cell:-</b>	<b>Email:-</b>
Emergency Contact Numbers	

Location of Generation System
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Address at which Proposed DG facility is located
Latitude-Longitude (i.e.49o 32" N 91o 64' 18" optional)

Applicant/Consumer Reference No./Plot No.
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Applicant's Ownership Interest in the Generation System
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<input type="checkbox"/> Owner <input type="checkbox"/> Co-owner <input type="checkbox"/> Lease <input type="checkbox"/> Other _____
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**Primary Intent of the Generation System**

Onsite Use of Power       Net Energy Billing

**Electricity Use, Production and Purchases**

(a) Anticipated annual electricity consumption of the facility or site: (kWh)/yr.

(b) Anticipated annual electricity production of the generation system: (kWh)/yr.

(c) Anticipated annual electricity purchases (i.e., (a) minus (b)) (kWh)/yr.

"Value will be negative if there are net sales to the BOMSIE/PIEDMC."

**Installing Contractor Information (If Applicable)**

Contractor's Last Name

First Name

Name of Firm

Contractor's Phone Number

Email Address

Mailing Address

**Requested In-Service Date**

**Provide One-Line Schematic Diagram of the System**

Schematic is attached

Number of Pages

**Generator/Invertor Information**

Manufacturer

Model No

Version No.

Serial No.

Generation Type (Check one)

Generation Type (Check one)

Three Phase       Single Phase

Inverter       Other \_\_\_\_\_

Name Plate AC Ratings (Check one)

\_\_\_\_\_ kW       \_\_\_\_\_ kVA       \_\_\_\_\_ volts

Primary Energy Source

**Note:- If there is more than one inverters, attach an additional sheet describing each**

**Site Plan Showing Location of the External Disconnect Switch (attach additional sheets as needed)**

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**Other Comments, Specification and Exceptions (attach additional sheets if needed)**

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**Applicant and Installer Signature**

To the best of my knowledge, all the information provided in this application form is Completed and correct.

**Applicant Signature**

**Date**

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**Installer Signature**

**Date**

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## **Schedule –V**

**[See Regulation 4(2) (c)]**

### **Fee Schedule**

A Distributed Generator shall be bound to pay the onetime fee of one thousand rupees per kilowatt (Rs.1000/kW) through pay order in favor of BOMSIE ELECTRIC.