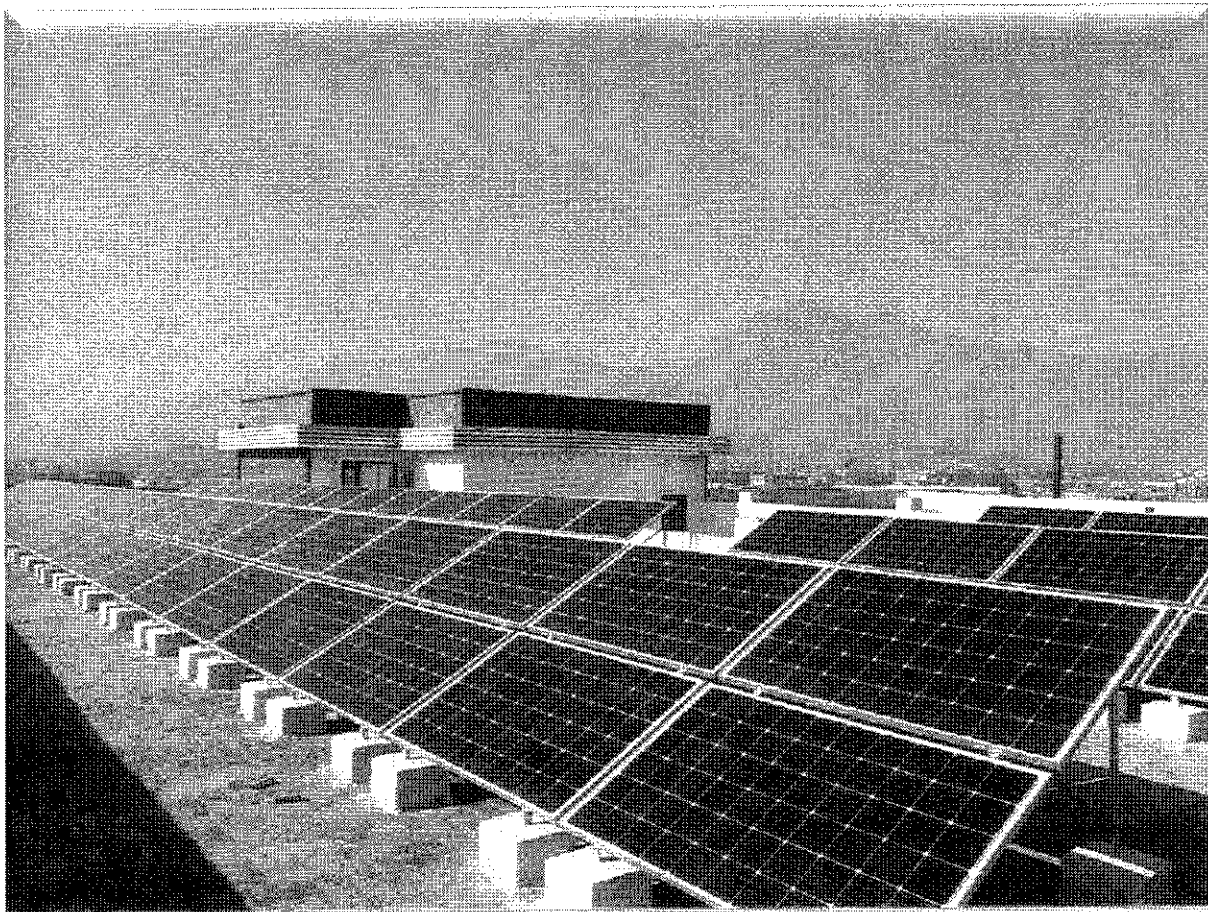


## **Standard Operating Procedures for Processing Distributed Generation Application**



**PESHAWAR ELECTRIC SUPPLY COMPANY**

## **Contents**

Preamble.....	Error! Bookmark not defined.
1. REGISTRATION .....	5
1.1. Submission of Application form: .....	5
1.2. Provide information and NEPRA approved documents: .....	5
1.3. Submission of application along with requisite documents in original: .....	6
1.4. Acknowledgement of application: .....	6
1.5. Incomplete application form:.....	6
2. EVALUATION .....	6
2.1 Application qualifies for the interconnection facility: .....	6
2.2 Site and load Feasibility: .....	7
3. INTERCONNECTION AGREEMENT AND ENERGIZATION .....	7
3.1 Signing of the agreement with DG applicant: .....	7
3.2 Issuance of the connection charge estimate to DG applicant: .....	8
3.3 Payment of connection charge estimate.....	8
3.4 Installation of the DG facility: .....	8
3.5 Review of the DG facility prior to interconnection: .....	9
3.6 Net-Meter Installation and commissioning of the interconnection facility:.....	9
4. BILLING AND OPERATIONS .....	10
4.1 Billing of Net meters .....	10
4.2 Periodical inspections.....	10
Schedule-I “Distributed Generation Interconnection Agreement (5 kW to 1MW) between Distributed Generator and Distribution Company” .....	12
Schedule-II “Standard Distributed Generation Application Form for Distribution Company” .....	17
Schedule-III “Single Line Diagram of On Grid Roof Top PV System .....	20
Schedule-IV “Application for Exemption from section 24 of the Act” .....	21
Schedule-V.....	22
Schedule-VI “Affidavit (On non-judicial paper of Rs. 5/-)” .....	23
Annexure—A “Review of the DG facility prior to interconnection” .....	24
Revised Activity Flow Chart for Net Metering (MOE) .....	25
Annexure –B “Net-Metering Technical Feasibility report” .....	26
Annexure –C “Inspection / Test Check Proforma” .....	27
Schedule-VII “Generation Approval (5kw to 25kw)” .....	28

## **Preamble**

Net Metering DG facility policy guidelines issued by the AEDB under the NEPRA Net Metering regulations 2015 and adopted by BoD PESCO in its 120<sup>th</sup> meeting Dated 30<sup>th</sup> October 2017 in the form of NM SOP as notified by Company secretary PESCO letter no 2228-29/ 120<sup>th</sup> BoD, dated 09/11/2017 was in vogue. Federal Cabinet in its meeting held on 31.08.21, NEPRA letter no. DG (Licensing)/LAN-100/41048 dated 19/11/2021 (**Annex-1**) decided that consumers with sanctioned load below 25KW were exempted from obtaining generation license from NEPRA regarding DG facility and DISCOs were authorized to process and issue license for the same on their own. Accordingly, a revised activity flow chart for net-metering was issued vide circular # B/3/2/ACWA/19-PF dated 18/01/2022 by Ministry of Energy GoP (**Annex-1a**). It is, therefore in reference to Decision taken by Federal Cabinet vide above and direction of the PESCO Management to revisit and aligned the SOP for net metering of the existing PESCO's workflow for processing of Net Metering applications from 5KW and up to 25 KW is hereby proposed for the approval of PESCO BoD.

Various amendments were issued by NEPRA through some important SRO's (Attached) from time to time have also been incorporated in this document. Roles and responsibilities of concerned sanctioning / processing authorities have also been defined in this document for various loads (5-25 KW & 26-1000 KW).

NOTE: Installation of DG facility as Net Metering connections are hereby allowed on all the feeders of 11 KV and above voltage. (PESCO BoD resolution vide 183<sup>rd</sup> PESCO BoD meeting and company secretary letter No. 1803-06 dated 26/12/2022. (Copy attached)

**List of Annexures & Documents**

Sr. #	Letter/SRO #/Date	Annex
I.	NEPRA letter no. DG (Licensing)/LAN-100/41048 dated 19/11/2021	(Annex-1)
II.	Circular # B/3/2/ACWA/19-PF dated 18/01/2022 by Ministry of Energy	(Annex-1a)
III.	AEDB Net metering Guidelines for Consumers	(Annex-2)
IV.	NEPRA # NEPRA/ADG (L)/LAN-100/8403 dated 31/05/2018	(Annex-3)
V.	DG Net metering Cases (Procedure, Roles & responsibilities) Letter No: 241-254/CEO/PESCO/DG MIRAD	(Annex-4)
VI.	NEPRA # NEPRA/DF (CAD)/TCD-10/2461-83 dated 15/01/2021	(Annex-5)
VII.	NEPRA # NEPRA/ADG(Licensing/ LAN-100/33654-68) dated 01/10/2020	(Annex-6)
VIII.	SRO No. 1261(J)/2017 dated 20 <sup>th</sup> December, 2017	(Annex-7)

**Performa -A**

Review of the DG facility prior to interconnection

**Performa –B**

Net-Metering Technical Feasibility report for load up to 25KW

**Performa –C**

Inspection / Test Check Performa

## 1. REGISTRATION

### 1.1. Submission of Application form: (Processing Time = 2 Days)

PESCO offices shall receive Net-metering applications (up to 1MW) according to the existing sanctioning powers as defined in NEPRA Consumer Service Manual-2021, on first come first serve basis.

Connection category	Voltage	Load	Tariff Category	Sanctioning Officer
Category 1	230/400 V	Up to 15 kW	A1 (Residential), A2(Commercial) & A3( General Service)	SDO/AM(O)
			All other types of connections	XEN/DM(O)
Category 2	230/400 V	Above 15 kW but not exceeding 70 kW	All other types of connections	XEN/DM(O)
Category 3	230/400 V	Above 70 kW but not exceeding 500 kW	All other types of connections	SE/Manager (O)
Category 4	11 kV or 33kV	Above 500 kW but not exceeding 5000 kW	All other types of connections	CEO
Category 5	66 kV and Above	All Loads	All other types of connections	CEO

For connections on General Transformer, Net-metering connection be granted until the grid connected solar roof top photovoltaic (SRTPV) installed capacity reaches 30% of the closest upstream general distribution transformer rated capacity on the verification by Sanctioning officer.

*Note: the installation of DG facility needs not to be installed at the time of application for the NM already clarified by NEPRA vide no. NEPRA/ADG (L)/LAN-100/8403 dated 31/05/2018 (Annex-3 & 6)*

### 1.2. Provision of information and NEPRA approved documents:

Any applicant who meets the requirement of Distributed Generation as defined in NEPRA (Alternative & Renewable Energy) Distributed Generation and Net Metering Regulations, 2015 (SRO's/clarifications issued time to time), submits their application along with all necessary documents to PESCO Sanctioning authority. Standard Application form is attached as Schedule-II.

### **1.3. Submission of application along with requisite documents in original:**

Following list of Documents are required to be submitted with application form:

S/No	Document	Status
1	Inspection of Electrical Installation Certificate Signed by authorized Engineer of AEDB Certified Company to vendor as per direction of AEDB issued vide letter No. B/3/1/Net Met/09 dated 13-02-2018	Mandatory
2	Site plan showing location of external disconnect switch.	Mandatory
3	Schematic drawings, Single line diagram of the system.	Mandatory
4	Technical Data of components including solar modules, invertors, etc.	Mandatory
5	Copy of last paid electricity bill. (Name of applicant and name mentioned on electricity bill must be same).	Mandatory
6	Attested copy of CNIC.	Mandatory
7	Agreement form as per Schedule-I.	Mandatory
8	Application form as per Schedule-II.	Mandatory
9	Application for exemption from the requirement of section 24 of the Act as specified in schedule-IV.	Mandatory
10	Ownership proof.	Mandatory
11	Inspection report by the competent authority (for below 25KW cases)	Mandatory
12	Electrical Inspector wiring test report as per AEDB guidelines (3.A.2)	Mandatory
13	Affidavit by Distributed generator as specified in Schedule-VI.	Mandatory
14	Load flow study as per AEDB guidelines (3.A.6)	Mandatory
15	AEDB copy of "DG License" of installer and vender attested by the office of load sanctioning authority (Verifiable from AEDB official website)	Mandatory
16	Any other document.	If required

### **1.4. Acknowledgement of application:**

PESCO sanctioning Office will acknowledge its receipt (with clear proper diary number and date) and inform the applicant whether the application is completed in all respect or not.

### **1.5. Incomplete application form: (Processing Time = 5 Days)**

In case the application is found incomplete as per above check list, PESCO concerned sanctioning authority will return the application and will ask the applicant to complete the application and re-submit it. The applicant will have to re-submit the application in complete form to PESCO Sanctioning Office within **2 Days**.

## **2. EVALUATION**

### **2.1 Application qualifies for the interconnection facility: (Processing Time = 18 Days)**

PESCO Sanctioning Office will perform an initial review to determine whether applicant qualifies for interconnection facility and whether requires additional requirements or not on the following grounds:

- The application is complete in all respect and all the documents are present as per above check list.
- The comparison between sanctioned load and the size of the system installed verifies that the DG facility shall not be **greater 1.5 times** the capacity of Sanctioned load otherwise the sanctioned load must be regularized as per in vogue PESCO SOPs.

- iii. The Application will not be processed if general distribution transformer is loaded over 80%.

## **2.2 Site and load Feasibility:**

PESCO Sanctioning Office will check site in the mandatory presence of Consumer and AEDB approved vendor's focal person. Proposed BOQ of DG installation, Single line diagram (as per schedule-III) etc. are to be checked.

If the existing distribution Transformer is loaded above 80% capacity, then the applicant shall install his independent transformer or augment the existing transformer on deposit work basis.

“PESCO Sanctioning Office will finalize “Net metering Technical Feasibility report” attached as **Performa-B**”

## **3. INTERCONNECTION AGREEMENT AND ENERGIZATION**

### **3.1 Signing of the agreement with DG applicant: (Processing Time = 3 Days)**

PESCO Sanctioning Office should cross check that the proposed BOQ and Single Line diagram for Site installation are at par with AEDB and NEPRA standards.

Approval of generation facility up to 25KW will be given by PESCO Sanctioning Office as per Format attached as schedule-VII. Each approving office had to maintain Approval Register.

If PESCO Sanctioning Office is satisfied that the applicant qualifies as a DG consumer, then PESCO Sanctioning Office and the applicant will enter into agreement on standard Agreement form attached as Schedule-I.

For sanctioned load above 25KW, PESCO Sanctioning Office will forward the complete case to NEPRA via office of DG MIRAD PESCO HQ for generation license.

### **DG Net metering Cases (Procedure, Roles & responsibilities).**

The Authority (CEO PESCO) has issued the following directions to all field formations vide L.NO 241-254/CEO/PESCO/DG MIRAD dated 30/04/2022 (**Annex-4**), the load sanctioning Authority (SDO/XEN/SE/CE P&E—The Authority) to ensure transparency, swift processing, and compliance with codal formalities in processing net metering applications.

#### **FOR CONNECTIONS ABOVE 25KW—1000KW**

The concerned Authority should expeditiously process the consumer application. The Authority, after completing the processing requirements, should send the entire application to PESCO MIRAD for onward submission to NEPRA. PESCO MIRAD will be the liaison office coordinating between the PESCO field offices and NEPRA. PESCO MIRAD office will also handle and resolve complaints relating to net metering connections above 25KW.

#### **FOR CONNECTIONS 5KW—25KW**

The concerned Authority for 5KW-25KW connections should send consumer applications directly to NEPRA. However, they should send a copy to Deputy Director Technical (DDT) PESCO HQ. DDT will be the liaison office for connections between 5KW-25KW and will prepare a consolidated monthly report to PESCO MIRAD. He will also handle and resolve complaints relating to net metering connections.

It is essential to mention that NEPRA vide additional Director Registrar office no. NEPRA/DG (Lic)/LAD-07-6547 dated 28.04.2022 has clarified that PESCO should not recover the processing

fee on account of overhead charges levied by PESCO for up to 25 KW. Therefore, the concerned Authority should, ensure that all the pending cases are processed according to the already issued SOP for Net Metering with no processing/NEPRA/PESCO fee for below 25KW. In this connection it is important to mention that the concerned authorities strictly adhere to the rules, laws, codal formalities, and SOPs and follow the deadlines laid down by NEPRA.

### **3.2 Issuance of the connection charge estimate to DG applicant: (Processing Time = 5 Days)**

PESCO Sanctioning Office will prepare a complete estimate of capital cost as per site requirement and security amount updating/new/extension of load. As per "Amendment(s) to the National Electric Power Regulatory Authority (Alternative & Renewable Energy) Distributed Generation and Net Metering Regulations, 2015, notified vide S.R.O. 1175 (1)2020 Schedule-V." also an additional amount of Rs.1000/KW of the DG Capacity shall be paid as NEPRA processing fee.

PESCO sanctioning office to issue following demand notices:

- 1- Capital Cost DN\*
- 2- Security DN

The DNs are to be issued on Acknowledgement post to ensure that the consumers receive it with his signatures.

**Note:** In case a new consumer applies for NM having single phase connection (below 5KW load), the concerned sanctioning authority will issue additional security amount for the load extension of the required/applied load and after the payment of security amount green net meter will be installed as NM instead of three phase meter. Same procedure will also be adopted in case of NM 25 KW and above applications. A clarification has already been issued by NEPRA vide No. NEPRA/DF (CAD)/TCD-10/2461-83 dated 15/01/2021(**Annex-5**).

If Green AMR meter is not available at PESCO Store, NOC for own/ private purchase will be obtained from SE (O) concerned as per PESCO MM SOPs for own purchase of material as temporary arrangement till Green Meters are available in PESCO store.

**\* PESCO Fee as overhead charges (Rs. 3000/KW of the DG Capacity as PESCO processing fees on account of overhead charges) SHALL NOT be charged as clarified by the NEPRA vide no. NEPRA/DG (Lic)/LAD-07/6c11 7 April 28, 2022.**

### **3.3 Payment of connection charge estimate**

After the Demand notice issued against connection charge estimate, the DG applicant will have to make payment in 5 days.

### **3.4 Installation of the DG facility: (Processing Time = 30 Days)**

After payment is made by the DG applicant, PESCO Sanctioning Office will allow in written that the applicant can go ahead with installation of the DG facility.

NEPRA amendment to the regulations through SRO 1261(I-2017) dated 20 Dec, 2017, clarified the definition of an applicant has been amended to provide for the prospective distributor generator. A consumer may apply to interconnect its proposed DG Facility and grant of license for DG. Hence DG facility need not to be installed before submitting the application for DG/ Net metering license vide clarification No: NEPRA/ADG(Licensing)/LAN-100/33654-68 dated 01<sup>st</sup>, Oct 2020) (**Annex-6**) & original amendment issued vide SRO No.1261(J)/2017 dated 20<sup>th</sup> December,2017(**Annexure-7**).

The installation must be carried out as per Single line diagram attached as schedule=III.



When the DN is paid, the PESCO Sanctioning Office will raise demand of material from PESCO MM directorate as per PESCO MM existing mechanism.

PESCO concerned field office will draw the material from store for which DN was previously issued after obtaining release of material from PESCO MM Directorate.

### **3.5 Review of the DG facility prior to interconnection: (Processing Time = 3 Days)**

PESCO Sanctioning Office and M&T Formations (of that level) will visit the site and check whether all the installations are as per NEPRA and AEDB standards. Following are some of the important technical parameters: -

- i. An inbuilt inverter relay should be installed which trips on grid failure and thus prevents any solar power injection to the Grid when there is no power in Grid (anti islanding protection shall be tested by the respective officers during the routine service connection inspections).
- ii. Applicant must install an interconnection disconnect switch rated for its voltage and fault current requirements which will cut the flow of energy back to the grid if required. That disconnect switch should be locked and must be accessible by both the applicant and the PESCO field personnel and shall meet the applicable IEC and IEEE standards.
- iii. Separate earthing for the DC equipment is required and separate earthing for AC system, not exceeding 5 Ohms.
- iv. PV mounting should be checked for strength and hazardous free.
- v. Surge protection shall be provided on DC side (SPDs) adjacent to solar grid inverter and AC side at AC distribution box separately and further connected to dedicated earth system.
- vi. The lightening arresters will be required for more than 15 meters height building.

PESCO Sanctioning Office will review the DG system and sign the review Performa of the DG facility prior to interconnection as per **Performa-C**

### **3.6 Net-Meter Installation and commissioning of the interconnection facility :( Processing Time = 10 Days)**

As net meters involve purchase of energy from consumer so in order to ensure added security of such meters, the whole current meters for net metering will also be treated under current installation PESCO SOP of CT operated meters. For sanctioned load 5KW to 25KW, the below steps be followed: -

- i. A committee comprised of Xen (O) (as convener), SDO(O) and XEN M&T as members, should be constituted by SE Concerned for commissioning the proposed interconnection facility on request of PESCO Sanctioning Office.
- ii. SDO (O) to send the green meter to XEN (M&T) for checking/testing of export and import parameters. Testing fee for private/own-purchase green meters checking/ testing is recoverable under in-vogue PESCO M&T SOPs.
- iii. SE (O) to constitute committee which must include SDO(O), XEN (O) & XEN (M&T) or AM Test Engineer (M&T) for each net metering case on request of XEN(O) or SDO (O).
- iv. Green Net meters (both CT operated & whole Current) must be installed at site by committee consisting of SDO (O), XEN (O) & XEN (M&T) or AM Test Engineer (M&T).
- v. The Committee must ensure that the meter is also tested at site and the terminals' strip is

closed properly with help of epoxy glue and MSS (signed by the three members) must be used to seal the whole current meter terminal strip.

- vi. XEN M&T to issue Test check Performa on the present pattern of Test Check Performa for CT operated meters for all net metering cases (also including whole current net metering cases). Specimen is attached as per **Performa-C**

For sanctioned load above 25KW, the in-vogue SOPs for installation of CT Operated meters be followed.

## **4. BILLING AND OPERATIONS**

### **4.1 Billing of Net meters**

PESCO Sanctioning Office who had signed the agreement of behalf of PESCO must ensure that the consumer is billed as per net metering tariff within one month from date issuance of XEN M&T Test Check Performa otherwise he will be personally held responsible for any wrong billing. PESCO Sanctioning Office to ensure the following measures: -

- i. SDO (O) to send MCO (on the basis of M&T test check Performa) of green net meters to RO/AM (CS) with a covering letter that four sets for net metering billing be created on Master file within seven days from issuance of M&T test check.
- ii. SDO (O) to ensure that proper entry of all Net-metering connections is separately made in CP-13 (Consumer Statistic Form) of sub division.
- i. RO/AM (CS) to create four sets via CP 136/137 and process the MCO on Master file via CP 138 with N code to Level 1 or Computer Centre within the **SAME** month.
- ii. DD Computer Centre to ensure that the creation of four-meter sets followed by MCO is processed on Master File within the **SAME** month.
- iii. The HHU reading of each net meter in each month will be responsibility of
  - a. SDO (O) up to 500KW sanctioned load.
  - b. XEN (O) above 500 KW sanctioned load.
- iv. RO/AM (CS) & SDO (O) to check & read each net meter bill personally before issuing to Consumer.

### **4.2 Periodical inspections**

All the bi-directional energy meters (both Whole Current and CT operated green meters) are to be tested as per schedule by M&T staff once in 6 months.

The inverter functionality of every installation is to be checked by M&T staff once in 6 months.

Periodical test reports/inspection reports shall be submitted to the concerned SDO (Operation) and XEN (Operation).

Distributed Generator will also be responsible for periodic testing of the DG facility and record of such testing be maintained.

In-case of exceeding import or export from the Sanctioned load the connection shall be immediately disconnected.

In case Net-meter gets defective, the DG facility must be disconnected immediately. The Net-meter

be immediately replaced as per policy laid down in NEPRA Consumer Service Manual and in vogue PESCO SOPs. For each private/ own purchase of green meter, NOC be obtained from SE (O) concerned as per PESCO MM SOPs. The units adjustments of the defective meter replaced will be vetted by the PESCO M&T as per the prevailing SOP.

## **5. Consumer Complaint Resolution**

### **5.1. PESCO Consumer Complaint Management System.**

PESCO has already an operational system of complaint resolution in place to provide quick relief and resolution of the complaints lodged by the consumer through the CCMS. Chief Executive PESCO vide No.241-254/CEO/PESCO/DG MIRAD dated 30/04/2022 has also issued directions to CE P&E and All SEs for Complaint handling mechanism for NM which is enclosed as annexure -4.

PESCO IT team will soon develop a web-based platform for application processing, feedback and tracking of applications for the NM to ensure transparency and facilitation to the NM applicants.

**Schedule-I “Distributed Generation Interconnection Agreement (5 kW to 1MW) between Distributed Generator and Distribution Company”**

The Distributed Generation Interconnection Agreement (the “Agreement”), is made and entered in to this \_\_\_\_\_ (day) of \_\_\_\_\_ (month),

\_\_\_\_\_ (Year) by and between **Peshawar Electric Supply Company (PESCO)**

Hereinafter called “DISCO” and \_\_\_\_\_ hereinafter Called the “Applicant”. Applicant shall be 3 phase 400 V DISCO’s consumer. DISCO and the Applicant are hereinafter collectively referred to as the “Parties” and individually as a “Party”.

**Recitals**

- A. DISCO is the owner of the electric distribution system serving \_\_\_\_\_ [Insert legal description of property or address] “DISCO’s Distribution System”
- B. Applicant desires to install a Distributed Generator (DG) facility or energy storage device using solar or wind energy resources with a capacity greater than 5 kW but no more than 1MW, including related Interconnection equipment (the “DG facility”) and to interconnect the DG facility to the DISCO’s Distribution System.
- C. DISCO 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 DISCO’s distribution system and DISCO is willing to permit such interconnection subject to the terms and conditions set forth: (1) the completed Application approved by DISCO; (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 DISCO 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 DISCO 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 DISCO personnel, and shall be capable of being locked in the open position. The Applicant shall follow the DISCO's recommended switching, clearance, tagging and locking procedures.

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

Applicant shall notify DISCO 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 DISCO. Applicant agrees not to commence installation of any material modification to the DG Facility until DISCO 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 in-seminator 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 in-seminator's facilities, or (b) the making of replacements, additions, betterments to, or reconstruction of the in-seminator's facilities. This indemnity shall apply notwithstanding the active or passive negligence of the indemnity. 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 inseminator 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 DISCO in writing that installation of DG Facility is complete, and that the interconnection equipment is available for testing by DISCO at least fifteen working before Applicant interconnects the DG Facility with DISCO's Distribution System. DISCO shall thereupon have the right to test the DG Facility and ensures that the DG facility fulfils the safety/ quantity standards in accordance with the SOPs 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 case may be. DISCO shall also have the right to witness any testing by Applicant of the DG Facility. Any DISCO 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 DISCO to be witnessed by representatives of both parties within thirty eight days.

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

Applicant shall permit DISCO'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 DISCO 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.

DISCO shall have the right to witness any testing by Applicant of the DG Facility.

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

DISCO may limit the operation and/or disconnect or require the disconnection of a DG Facility from DISCO's Distribution System at any time, with or without notice, in the event of fault. DISCO may also limit the operation and/or disconnect or require the disconnection of DG Facility from DISCO's Distribution System upon the provision of thirty days written notice for the conditions to allow for routine maintenance, repairs or modifications to DISCO'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 DISCO as a condition to interconnection of DG Facility that applicant alleges is unreasonable. In case of a dispute, the decision of the Authority 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 DISCO. The failure of Applicant or DISCO 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 DISCO 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 by the mutual understanding between Distributed Generator and DISCO for another term of seven years and so on unless the parties terminate the agreement in Accordance with the regulations.

- a. DISCO may limit the operation and/or disconnect or require the disconnection of a DG Facility from DISCO's Distribution System at any time, with or without notice, in the event of fault. DISCO may also limit the operation and/or disconnect or require the disconnection of DG Facility from DISCO'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 DISCO's Distribution System
  - Upon DISCO'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 DISCO
- 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 DISCO, which consent shall not be unreasonably withheld or unduly delayed. DISCO 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 DISCO: The DISCO 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 DISCO Signature and Seal**

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

**Applicant Signature & Date** **DISCO's Signature with Seal & Date**

--	--

Title Title

--	--

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

--	--

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

--	--



**Schedule-II “Standard Distributed Generation Application Form for Distribution Company”**

Distributed by	Approved by
-------------------	----------------

**Name & Address of DISCO**

Peshawar Electric Supply Company WAPDA House Peshawar	Peshawar Electric Supply Company (PESCO)
--	---

Contact Information—The applicant is the person that is legally responsible for the generation system
---

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

Office:-	Fax:-
Cell:-	Email:-

Emergency Contact Numbers

--	--

Location of Generation System	
-------------------------------	--

Address at which DG facility is located


Latitude-Longitude (i.e.49o 32" N 91o 64' 18" optional)

--

Applicant/Consumer Reference Number
-------------------------------------

--

Applicant's Ownership Interest in the Generation System
---

<input type="checkbox"/> Owner <input type="checkbox"/> Co-owner <input type="checkbox"/> Lease <input type="checkbox"/> Other _____
--

Primary Intent of the Generation System	
<input type="checkbox"/> Onsite Use of Power	<input type="checkbox"/> 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 DISCO."	

Installing Contractor Information (If Applicable)	
Contractor's Last Name	First Name
<div></div> <div>of Firm</div>	
Contractor's Phone Number	Email
<div></div> <div>AddressMailing Address</div>	
<div></div> <div></div> <div></div>	
Requested In-Service Date	
<div></div>	

Provide One-Line Schematic Diagram of the System	
<input type="checkbox"/> Schematic is attached	Number of Pages

Generator/Invertor Information	
Manufacturer	Model No
<div></div>	
Version No.	Serial No.
<div></div>	
Generation Type (Check one)	Generation Type (Check one)
<input type="checkbox"/> Three Phase <input type="checkbox"/> Single Phase	<input type="checkbox"/> Inverter <input type="checkbox"/> Other _____
Name Plate AC Ratings (Check one)	
<div> <input type="checkbox"/> _____ kW    <input type="checkbox"/> _____ kVA    <input type="checkbox"/> _____ volts         </div>	
Primary Energy Source	
<div></div>	

**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)

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

**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**

--

--

**Installer Signature**

**Date**

--

--

**Application Receipt by PESCO**

Applicant to Check status of application after 5 working days of receiving date.

PESCO Copy

Application Number: - \_\_\_\_\_

Receiver Signature: - \_\_\_\_\_

Receiver Name: - \_\_\_\_\_

Receiver Designation: - \_\_\_\_\_

PESCO Office diary number: - \_\_\_\_\_

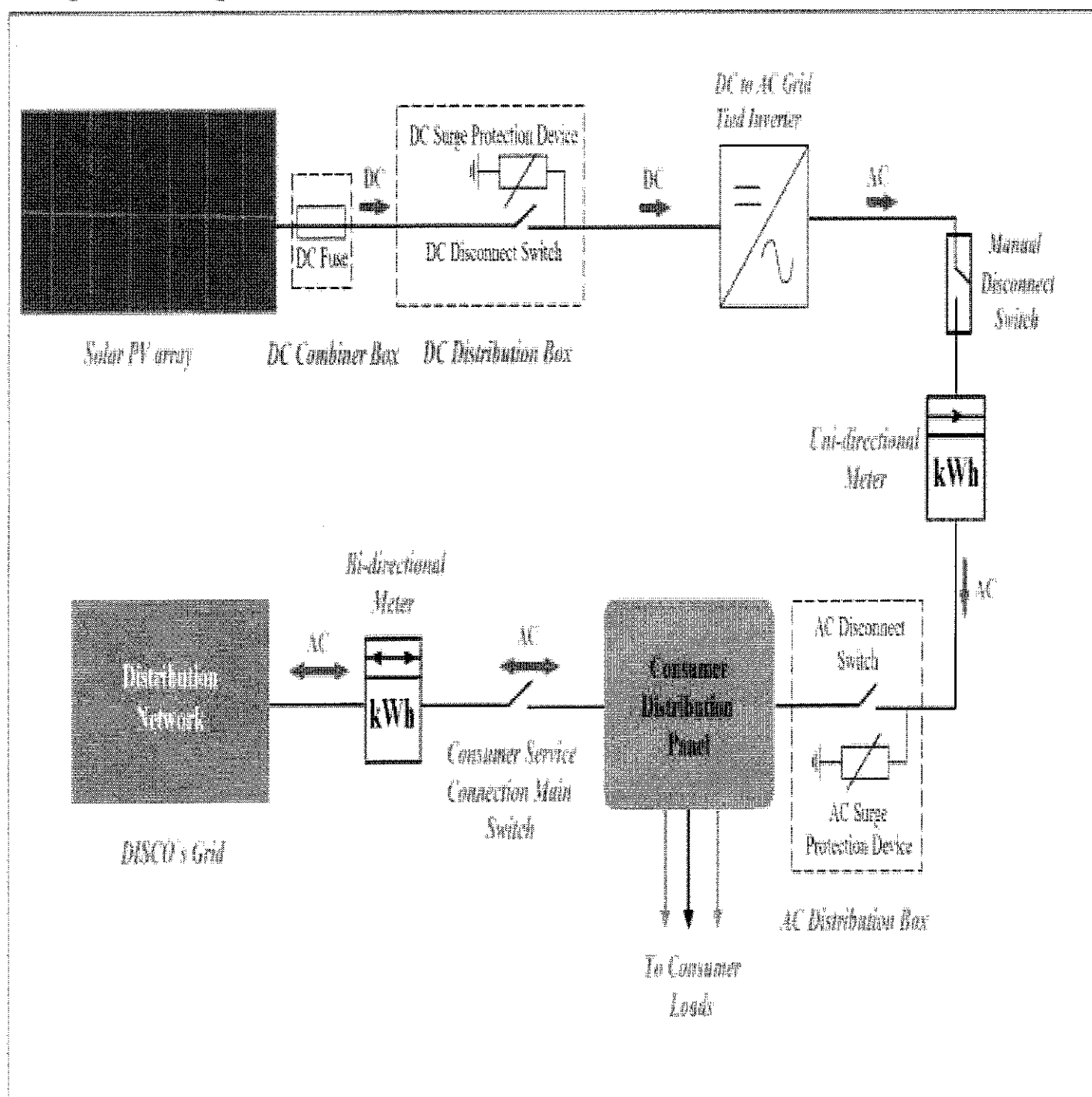
Receiving date: - \_\_\_\_\_

PESCO office Seal/Stamp

--

**Schedule-III "Single Line Diagram of On Grid Roof Top PV System"**

**Single Line Diagram of On Grid Roof Top PV System for Net Metering Interconnection**



**Schedule-IV “Application for Exemption from section 24 of the Act”**

I/we \_\_\_\_\_ for the purposes of grant of connection of Distributed Generator under NEPRA (Alternative & Renewable Energy) Distributed Generation/Net Metering Regulations 2015 hereby request the Authority for grant of exemption from the requirement of being registered as a company under the Companies Ordinance, 1984 (XLVII of 1984) under section 24 of the Act.

**Name and Address of Distributed Generator:**

---

---

---

**Signature**

---

## Schedule-V



### NATIONAL ELECTRIC POWER REGULATORY AUTHORITY

\*\*\*\*\*

Islamabad, 3rd day of November, 2020

#### NOTIFICATION

1175  
S.R.O. \_\_\_\_\_(3)/2020, In exercise of the powers conferred by Section 47 of the Regulation of Generation, Transmission and Distribution of Electricity Power Act, 1997 (XL of 1997), the National Electric Power Regulatory Authority is pleased to make the following amendment(s) to the National Electric Power Regulatory Authority (Alternative & Renewable Energy) Distributed Generation and Net Metering Regulations, 2015 notified vide S.R.O. 892(1)/2015, namely:--

In the aforesaid Regulations, Fee Schedule provided under Schedule V shall be substituted namely: --

#### Schedule -V

[see Regulation 4(2) (c)]

An application for Distributed Generation license shall be accompanied with one-time fee of one thousand rupees per kilowatt (Rs.1000/kW) paid through pay order in favour of National Electric Power Regulatory Authority (NEPRA).

  
03 X 1 20

(Syed Safer Hussain)  
Registrar



2

C

**Schedule-VI “Affidavit (On non-judicial paper of Rs. 5/-)”**  
**[See Regulation 4(2) (d)]**

I/we \_\_\_\_\_ hereby confirm that I/we have read the PESCO Approval Template and agree to abide by its Terms and Conditions and the contents of the Application are true and correct to the best of my knowledge and belief and nothing has been concealed thereof.

**Deponent**

Name: \_\_\_\_\_

NIC No \_\_\_\_\_

Date: \_\_\_\_\_

**Oath Commissioner**

---

**Performa—A “Review of the DG facility prior to interconnection”**

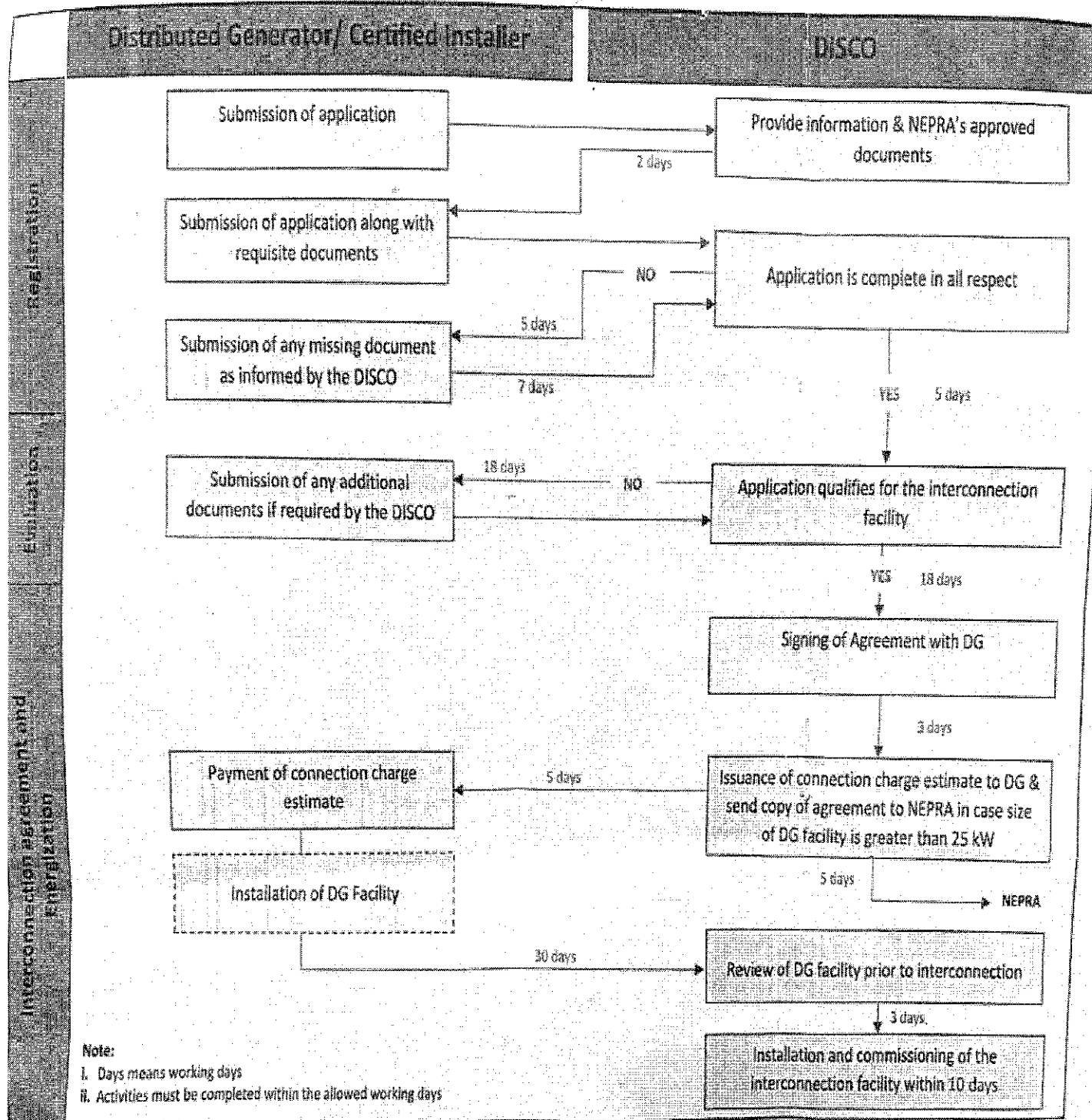
<b>S/No</b>	<b>Review Points</b>	<b>Status Yes/No</b>
<b>1</b>	An inbuilt inverter relay should be installed which trips on grid failure and thus prevents any solar power injection to the Grid when there is no power in Grid (anti islanding protection shall be tested by the respective officers during the routine service connection inspections).	
<b>2</b>	Applicant have to install an interconnection disconnect switch rated for its voltage and fault current requirements which will cut the flow of energy back to the grid if required. That disconnect switch should be locked and can be accessible by both the applicant and the PESCO personnel and shall meet the applicable IEC and IEEE standards.	
<b>3</b>	separate earthing for the DC equipment is required and separate earthing for AC system, not exceeding 5 Ohms.	
<b>4</b>	PV mounting should be checked for strength and hazardous free.	
<b>5</b>	Surge protection shall be provided on DC side (SPDs) adjacent to solar grid inverter and AC side at AC distribution box separately and further connected to dedicated earth system	
<b>6</b>	The lightening arresters will be required for more than 15 meters height building.	

---

PESCO Authority



## Revised Activity Flow Chart for Net Metering (MOE)



## **Forma-B “Net-Metering Technical Feasibility report for load up to 25KW”**

### **A. Particulars of the Applicant:**

1. Name of the Applicant:
2. Address:
3. Telephone No/Mobile No:
4. Email address:
5. Reference No. of existing connection:
6. Sanctioned Load in kW (A):
7. Applicable tariff:
8. Detail of existing energy meter:
  - a) Make and type:
  - b) Single / three phase:
  - c) Capacity in ampere:
  - d) Direct reading or CT operated:

### **B. Name of:**

- 1 Operation Sub-Division:
- 2 Feeder/code:
- 3 132/11.5 KV Grid Station:

### **C. Details of Distribution Transformer:**

1. Capacity of Distribution Transformer in KVA(B):
2. Voltage ratio of Distribution Transformer:
3. Solar PV capacity already connected to this Distribution Transformer in KW (C):
4. Proposed Solar PV capacity in KW (D):
5. Total Solar PV capacity including the proposed new capacity: ( $E = C + D$ ):

**Note: The proposed solar PV capacity addition is technically feasible if:**

- a) The total solar PV capacity (E) in kW is not more than 30% of the Distribution Transformer capacity in KVA (B) [ $E \leq B \times 30\%$ ]
- b) The proposed solar PV capacity in kW (D) does not exceed the sanctioned load of the service connection in kW (A) [ $D \leq 1.5 A$ ].

### **D. Feeder Details (Applicable for the HT consumers applied for LT connectivity).**

1. Name of the feeder/code
  2. Name of Grid Station from which the feeder is emanating with voltage ratio
-

## **Forma-C “Inspection / Test Check Forma”**

### **A. Service Connection Details:**

1. Name of the Consumer:
2. Address:
3. Telephone No/Mobile No:
4. Email address:
5. Reference No. of existing connection:
6. Applicable tariff:
7. Details of already existing (removed energy meter):
  - a. Make and type:
  - b. Meter Readings:
  - c. Serial number:
  - d. Month / year of manufacture:

### **B. Details of the Newly Installed Bidirectional Meter:**

1. Make and type:
2. Serial number:
3. Month / year of manufacture:
4. Capacity:
5. Meter constant (for CT-operated meters):
6. Import register reading (kWh):
7. Export register reading (kWh):
8. Accuracy:

### **C. Solar Generation Check:**

1. Make and type:
2. Serial number Month / year of manufacture:
3. KWH Reading:
4. Meter constant (for CT-operated meters):
5. Accuracy:

### **D. Solar Grid Inverter:**

1. Make:
2. Serial number:
3. Capacity:
4. Input DC voltage range:
5. Anti-Islanding Protection Check – If the grid fails the status of the contactor (on or off).

### **D. Solar PV modules:**

Total capacity of solar modules (KW):

---

**Schedule-VII "Generation Approval (5kw to 25kw)"**  
**PESHAWAR ELECTRIC SUPPLY COMPANY**

PESCO

Peshawar—Pakistan

**Generation Approval**

No. \_\_\_\_\_

1. PESCO hereby grants Generation Approval to Mr./Mrs./Miss/MS \_\_\_\_\_, for \_\_\_\_\_ KW photovoltaic solar based distributed generation facility, having consumer reference number \_\_\_\_\_, located at \_\_\_\_\_ under the National Electric Power Regulatory Authority (Alternative & Renewable Energy) Distributed Generation and Net Metering Regulations, 2015 (the "A&RE Regulations") for a period of seven (07) years. This License is valid up to \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.
2. The applicant shall abide by the provisions under the A&RE Regulations during the currency of the Generation Approval.
3. The technical parameters of Net Metering arrangements are shown hereunder. -
  1. Primary Energy Source
  2. Size of the Distributed Generation facility
  3. Generation inverter information
    - a) Manufacturer:
    - b) Model:
  4. Vendor / Installer
  5. Generation Type
4. This Approval may be renewed subject to A&RE regulations.  
The Approval is given under my hand on \_\_\_\_\_ day of \_\_\_\_\_ Two Thousand and Twenty Two.

PESCO Authority (SDO/XEN)



## PESHAWAR ELECTRIC SUPPLY COMPANY

Office of the \_\_\_\_\_ Officer

PESCO \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

No. \_\_\_\_\_

Dated. \_\_\_\_\_

Applicant Name \_\_\_\_\_

Address:- \_\_\_\_\_

Contact No. \_\_\_\_\_

**Subject: Distributed Generation Approval with respect to your application**

Reference your Applicant letter No. \_\_\_\_\_ (received on \_\_\_\_/\_\_\_\_/\_\_\_\_).

Enclosed please find herewith Approval of Distributed Generation having No. \_\_\_\_\_ dated \_\_\_\_\_ granted by this office of Peshawar Electric Supply Company for \_\_\_\_\_ kW photo voltaic solar based distributed generation facility located at \_\_\_\_\_, pursuant to NEPRA (Alternative & Renewable Energy) Distributed Generation and Net Metering

Regulations, 2015.

2. Please quote above mentioned Generation Approval No. \_\_\_\_\_ date: \_\_\_\_\_ for future correspondence.

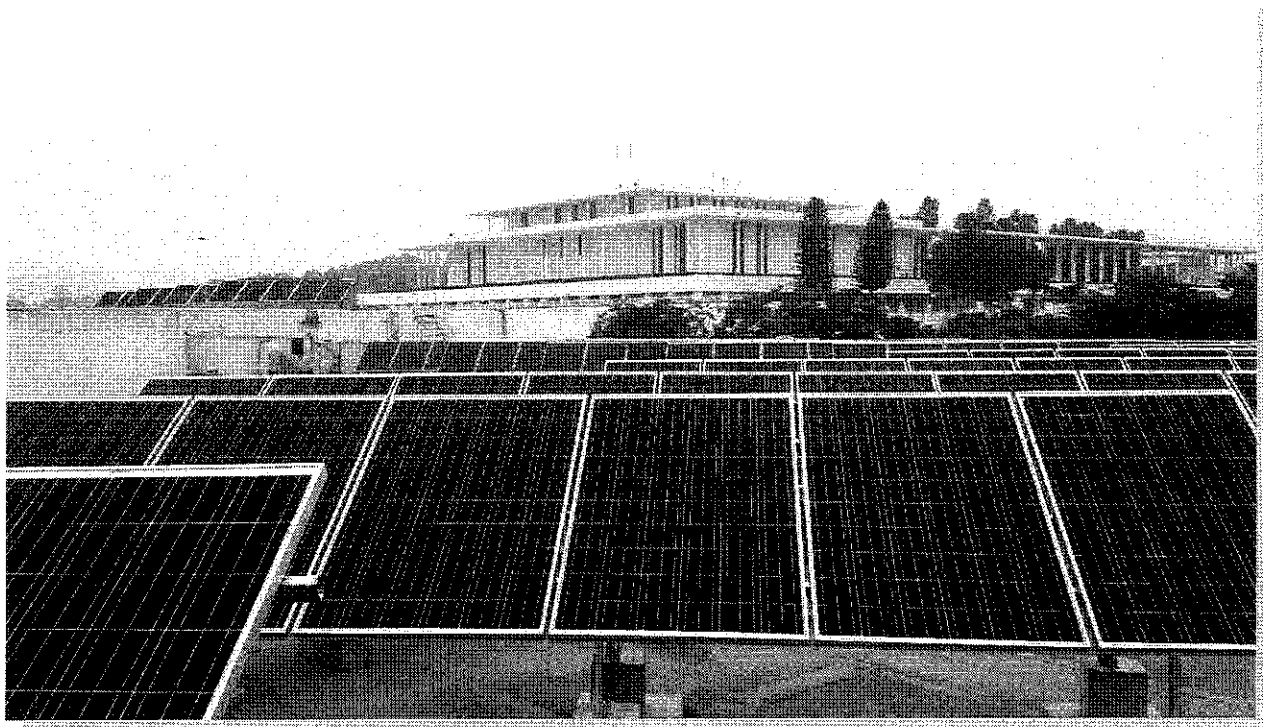
Enclosure: Generation Approval no:

PESCO Authority (SDO/XEN)

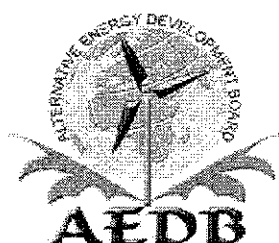
Copy to:

- I. D.G. MIRAD PESCO PESHAWAR.
- II. Xen(O)/ SE(O) PESCO \_\_\_\_\_
- III. DM (CMO) PESCO HQ.
- IV. DM Planning PESCO HQ.

# **NET-METERING REFERENCE GUIDE FOR THE DISCOs**



How the application process and the installation of Net Metering connection works



**ALTERNATIVE ENERGY DEVELOPMENT BOARD**

2<sup>nd</sup> Floor, OPF Building G-5/2 Islamabad.  
[www.aedb.org](http://www.aedb.org)

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## Table of Contents

<b>Glossary .....</b>	<b>ii</b>
<b>1. Introduction.....</b>	<b>1</b>
1.A About Net Metering.....	1
1.B Background.....	1
1.C Net Metering in Pakistan .....	2
1.D Role of Distribution Code Review Panel (DCRP).....	2
<b>2. Steps involve in Net Metering .....</b>	<b>3</b>
2.A Overview and timeline of the Procedure for Net Metering Connections.....	3
2.A.1 Application for Net Metering.....	3
2.A.2 Acknowledgement of application .....	3
2.A.3 Technical feasibility in initial review .....	4
2.A.4 Agreement.....	4
2.A.5 Generation license.....	4
2.A.6 Connection Charge Estimate.....	4
2.A.7 Payment of CCE .....	5
2.A.8 Installation of interconnection facility .....	5
<b>3. Interconnection Requirements .....</b>	<b>7</b>
3.A Initial requirements.....	7
3.A.1 Technical feasibility requirement .....	7
3.A.2 NOC by Electrical Inspector.....	7
3.A.3 Grid Interconnection Standard: Electrical Parameters .....	7
3.A.4 Inverter standards.....	9
3.A.5 Safety and EMC Standard.....	9
3.A.6 Load flow study .....	9
3.A.7 Upgrading the Transformer.....	9
3.B Mandatory requirements .....	9
3.B.1 Interconnection disconnect switch.....	9
3.B.2 Anti-islanding .....	10
3.B.3 Single line diagram .....	10
3.B.4 Earthing Protection .....	10
3.B.5 Lightning and surge protection .....	10
<b>4. Operating procedure .....</b>	<b>13</b>
4.A Billing procedure .....	13
4.B Periodical inspection.....	14
4.C General.....	14
<b>5. Useful links .....</b>	<b>15</b>
5.A National Electric Power Regulatory Authority (NEPRA) .....	15
5.B Alternative Energy Development Board (AEDB) .....	15
<b>Annexure.....</b>	<b>17</b>

## Glossary

AEDB	Alternative Energy Development Board
CCE	Connection Charge Estimate
DG	Distributed Generator
DISCO	Distribution Company
EN	European Standard
IEC	International Electro-technical Commission
IEEE	Institute of Electrical and Electronics Engineers
KW	Kilowatts
kWh	Kilowatt hour
kWp	Kilowatt peak
MW	Megawatt
NEPRA	National Electric Power Regulatory Authority
NGO	Non-governmental organization
PKR	Pakistani Rupee
PV	Photovoltaic
RE	Renewable Energy
UL	Underwriters Laboratories

## 1. Introduction

This guide provides an overview of important points to consider when then consumer apply for the Net Metering as per NEPRA (Alternative and Renewable Energy) Distributed Generation and Net Metering Regulation 2015. This guide attempts to walk the DISCO office and DISCO's personnel through the different stages beginning from the application by the consumer up to the installation of Net Metering DG facility and the

### 1.A 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.

Producing electricity partly for own consumption, and partly for sale to the DISCO, is now available in the Pakistan. Solar and Wind Energy is a long term power solution. The Solar PV Technology gives access to affordable electricity supply during system life. Residential and commercial customers can switch their electricity load to Solar/Wind energy and can slash their power bills.

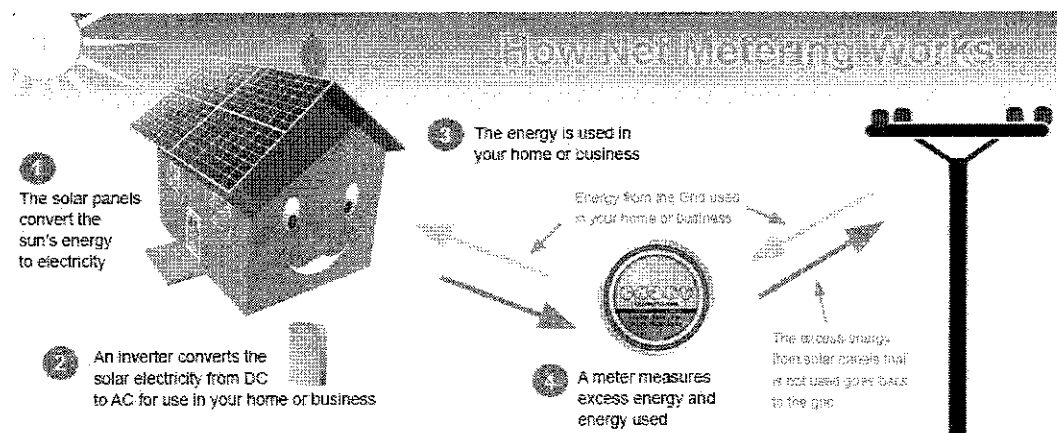


Figure 1.1 Net Metering process

This picture illustrates the flow of electricity from power generation via high voltage transmission and distribution utilities to the end-user who can now install a renewable energy facility and send the not needed electricity back to the distribution grid and earn credit for his export.

### 1.B Background

Pakistan has been facing energy crisis for the past few years as the demand and supply gap has widened. The country's current energy demand far exceeds its generation resources, and facing an energy shortfall of 4000 MW as a result load-shedding and power blackout have become severe issue.

Keeping in mind above issues The Government of Pakistan promotes investment in the generation of small scale distributed renewable energy, through the Alternative Energy Development Board (AEDB), on the basis of net-metering concept.

### 1.C Net Metering in Pakistan

The National Electric Regulatory Authority (NEPRA) announced the official Distributed Generation and Net Metering Regulations on September 1st, 2015. As per these regulations, any customer of the electric grid (three-phase connections) can avail the possibility of Net Metering for small-scale renewable energies installations.

In Pakistan, net-metering is the first policy mechanism of the Renewable Energy Act of 2006 which has been fully implemented. Section 8.4.2 of the Renewable Energy Act of 2006 provides that subject to technical considerations and without discrimination and upon request by distribution end-users, DISCOs shall enter into net-metering agreement with qualified end-users who will be installing the RE system.

NEPRA (Alternative & Renewable Energy) Distributed Generation and Net Metering Regulation 2015 is added in annexes

### 1.D Role of Distribution Code Review Panel (DCRP)

DCRP was established in October 21<sup>st</sup> 2014 for the integration RE plant to be connected with DISCOs. DCRP is a standing body to undertake the functions detailed in Distribution Code. The DISCOs are bound to follow the Distribution Code for all connections.

## 2. Steps involve in Net Metering

This chapter covers the detailed overview of the each step involved in the Net Metering procedure as per NEPRA's Regulation along with the timeline. Interconnection of consumer and DISCO and interconnection of DISCO and NEPRA covers in this section.

### 2.A Overview and timeline of the Procedure for Net Metering Connections

The Power Division, Ministry of Energy (MoE) is promoting net metering and intending to provide the services to the customers at their door step. Therefore, MoE has desired that the installers of systems for net metering (DG installers) as shortlisted by AEDB will be required to process the application for net metering on behalf of consumers applying for net metering connections up to 250 kW capacity. NEPRA has improved/shortened the timeperiod for processing net metering applications. Moreover, MoE has asked DISCOs to get applications approved and connections energized within one month of receipt of application from the consumers.

The Flow of steps involve in Net Metering Process along with the timeline for net metering connections are as follows.

#### 2.A.1 Application for Net Metering

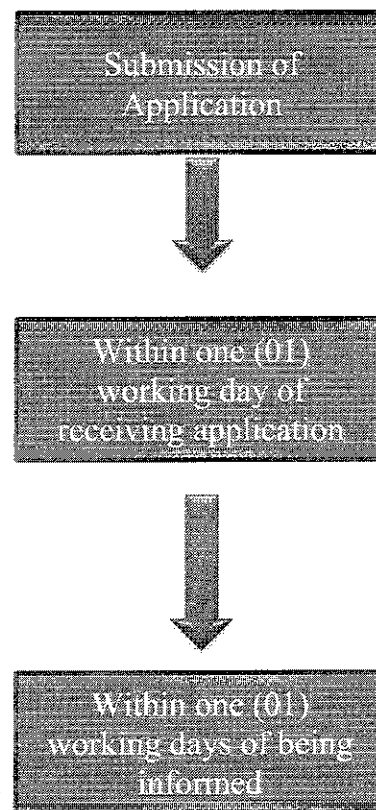
Any applicant who meets the requirement of DG as defined in NEPRA's regulation, submits their application along with the necessary documents to the focal person of the DISCO. Application form is attached at the Annexure and can also be downloaded from NEPRA's website.

#### 2.A.2 Acknowledgement of application

The DISCO will acknowledge its receipt and inform the applicant whether the application is completed in all respect or not. For the purpose of net metering connections up to 250 kW capacity, NEPRA has relaxed requirement of inspection from Electric Inspector.

Incomplete application form

In case the application found incomplete, the DISCO will return the application the same day and will ask the applicant to complete the application and re-submit it. The applicant will have to submit the application in



complete form to the DISCO office.

#### Initial review

Upon being satisfied that the applicant is complete in all respect, The DISCO office will perform an initial review to determine whether applicant qualifies for interconnection facility and required additional requirements, like comparison between sanctioned load and the size of the system installed.

#### 2.A.3 Technical feasibility in initial review

As per DISCOs, for connections up to 250 kW, no technical feasibility study is needed. Power Division, Ministry of Energy has directed the DISCOs to carry out technical studies and approve the connections at the Sub-Division level. In case the initial review reveals that the proposed facility is not technically feasible, the DISCO will return the application and communicate the reason to the applicant.

#### 2.A.4 Agreement

If the DISCO office is satisfied that the applicant qualifies as a DG, then the DISCO and the applicant will enter into agreement. Agreement form (Schedule-I) is added in the annexure.

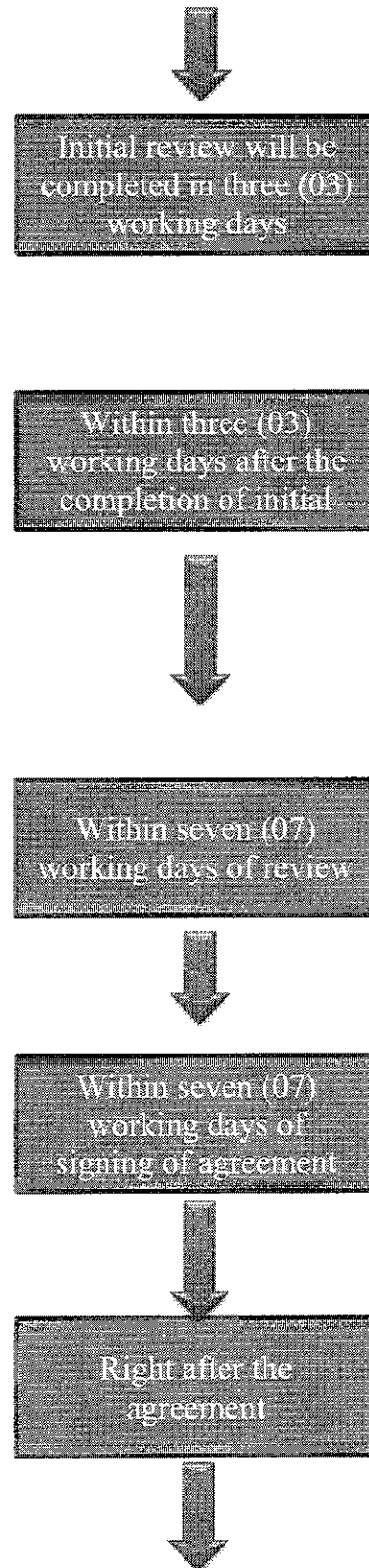
#### 2.A.5 Generation license

The DISCO office will send the copy of the agreement between the applicant and the DISCO to the NEPRA along with the application for the issuance of Generation license. NEPRA will issue the Generation Licence within seven working days after receipt of requisite documents by DISCOs.

#### 2.A.6 Connection Charge Estimate

After the agreement DISCO office will issue the Connection Charge Estimate (CCE), if any, to the applicant for the proposed interconnection facility up to the interconnection point including metering installation.

The applicant have the choice either it obtains the bi-



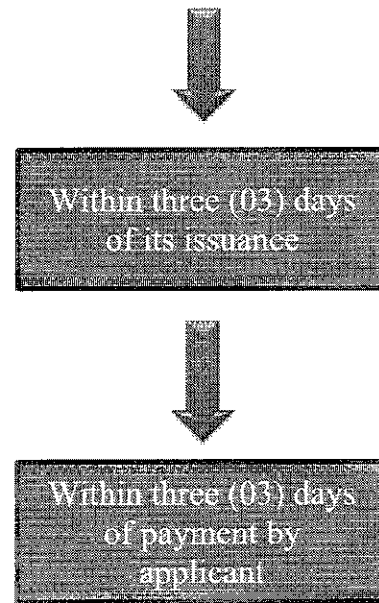
directional meter from DISCO or purchased it from private sector manufacturers and get it certified from the concerned DISCO as per technical requirements notified by NTDC.

#### 2.A.7 Payment of CCE

If applicant choose to obtain the meter from concerned DISCO and DISCO has given the notice to the applicant to make the payment of Connection Charge Estimate (CCE), the applicant will pay the same and notify the DISCO office.

#### 2.A.8 Installation of interconnection facility

When the charges will be paid the DISCO office will install and commission the proposed interconnection facility after the confirmation of Generation License to the DG by NEPRA.





---

### 3. Interconnection Requirements

This chapter will cover the requirements that are needed to be checked by the DISCO office in proposed DG facility by the consumer.

#### 3.A Initial requirements

At the beginning of application procedure DISCO office has to make sure that these initial requirements are to be fulfilled by the applicant.

##### 3.A.1 Technical feasibility requirement

After receiving an application for the interconnection facility, technical feasibility report is to be prepared by the inspection committee keeping in view the following checks:

- The capacity / load on the transformer should be within the technical limits.
- Whether the proposed interconnection would require upgrading the capacity of existing distribution network.
- Ensure phase balancing to avoid unbalancing of the load in secondary circuit of distribution line.

##### 3.A.2 NOC by Electrical Inspector

As per amendments proposed by MoE to NEPRA, the requirement of NOC by Electric Inspector for net metering connections up to 250 kW is omitted. NOC by Electrical inspector should be provided by those applicants along with their application form that are installing net metering connections above 250 kW.

Scope of the NOC includes grounding tests, insulation tests, wiring size suitability and general safety of complete internal wiring.

##### 3.A.3 Grid Interconnection Standard: Electrical Parameters

The DG shall operate and inject power when the network is within the parameters mentioned hereafter. DG system shall disconnect itself from the utility network when the electrical parameter of the network falls out of the specified range.

###### 3.A.3.1 *Range of Operation: Voltage*

The under voltage and over voltage levels and the corresponding triptimes shall be in accordance with IEC 61727 **or better**.

Voltage	Maximum Trip Time(Seconds)
$V < 50\%$	0.1
$50\% \leq V < 85\%$	2.0
$85\% \leq V < 110\%$	Continuous Operation
$110\% \leq V < 135\%$	2.0
$135\% \leq V$	0.05

#### 3.4.3.2 Range of Operation: Power Factor

The power factor must comply with requirements as per IEC 61727. The DG system shall have power factor greater than 0.9 when the output is greater than 50% of System rating. The Power Factor requirements set for respective consumer type by the utility company will be will remain applicable and larger DG (such as industrial connections) may be required to install additional systems for power factor correction.

#### 3.4.3.3 Range of Operation: Frequency

The under frequency and over frequency levels and the corresponding trip times shall be as follows:

Frequency Range (Hz)	Maximum Trip Time (Seconds)
$f_{nominal} < 47.5$	0.1
$47.5 \leq f_{nominal} \leq 51.5$	Continuous Operation
$51.5 < f_{nominal}$	0.1

#### 3.4.3.4 Harmonics

The inverter shall meet the Harmonic current injections in accordance with IEC 61727. The total harmonic distortion shall be less than 5% at 100% rated power of the inverter. Distortion limits for Even Harmonics and odd Harmonics are listed below:

Odd Harmonics	Distortion Limit
3 <sup>rd</sup> through 9 <sup>th</sup>	Less than 4.0%
11 <sup>th</sup> through 15 <sup>th</sup>	Less than 2.0%
17 <sup>th</sup> through 21 <sup>st</sup>	Less than 1.5%
23 <sup>rd</sup> through 33 <sup>rd</sup>	Less than 0.6%
33 <sup>rd</sup> +	Less than 0.3%

Even Harmonics in these ranges shall be less than 25% of the odd harmonics listed. THD should be less than 5%

#### 3.4.3.5 DC Current Injection

The DC Current injection must be in accordance with IEC 61727. The PV system shall not inject DC current greater than 1% of the rated inverter output current into the utility interface.

#### 3.4.3.6 Islanding Protection

Islanding protection shall be in accordance with IEC 61727. A PV system that ceases to energize the utility line in case of a voltage and frequency situation outside of the ranges stated in IEC 61727 within the timeframes set in the IEC 61727 is considered to be sufficiently protected against islanding.

#### 3.4.3.7 Reconnection to the network

In case of utility line outage, fault or out of range, the inverter shall remain disconnected and

provide Islanding Protection. The inverter shall not energize the utility line for at least 1 minute after the service voltage and frequency have recovered to the continuous operations range parameters as defined above.

#### 3.A.4 Inverter standards

As per Regulation by NEPRA, the grid connected inverters shall comply with UL 1741 standard which addresses the electrical interconnection design of various form of generating equipment. Other standards that the DG facility should adopt to are:

- a. IEEE 1547 2003 (standard of interconnecting distributed resources with electric power system).
- b. IEC 61215 for crystalline PV modules
- c. IEC 61646 for thin film PV modules

#### 3.A.5 Safety and EMC Standard

For system greater than 10kW, the inverter needs to comply with additional certifications and meet additional Electromagnetic compatibility and Safety Standards such as:

- 1) IEC EN 61000-6
- 2) UL1741
- 3) EN 62109-1/2
- 4) IEEE1547

#### 3.A.6 Load flow study

For the Distributed Generators having an installed capacity of more than 500 kW, load flow study (on PSSE software) is compulsory and for the DG facility having capacity less then 500K load flow study can be achieved by FDRANA

Load flow study for the facility having capacity up to 250 kW is not required.

#### 3.A.7 Upgrading the Transformer

In case if the load capacity due to already installed DG facilities at any transformer reaches 80%, the DISCO shall not grant approval for any new DG facility at that transformer unless the new DG Facility operator agrees and pay for the cost of augmenting the transformer capacity.

### 3.B Mandatory requirements

According to NEPRA Regulation, DISCO and applicant have to comply with some safety requirements as stated below:

#### 3.B.1 Interconnection disconnect switch

DISCO personnel has to make sure that the applicant has installed an interconnection disconnect switch rated for its voltage and fault current requirements which will cut the flow of energy back to the grid if required. That disconnect switch should be locked and can be accessible by both DG and the DISCO personnel and shall meet the applicable IEC and IEEE

standards.

### 3.B.2 Anti-islanding

Anti-islanding is an in built feature in inverter which trips the flow of energy to the grid on grid failure. During the connection inspection, anti-islanding feature must be tested by the respective officers of the DISCO. The inspection authority shall ensure the anti-islanding and any other protection requirement before commissioning.

### 3.B.3 Single line diagram

The protection and control single line diagrams for the interconnection of the Distributed Generator is to be approved by the DISCO prior to the commissioning of the system.

### 3.B.4 Earthing Protection

A minimum of two separate dedicated and interconnected earth electrodes must be used for the earthing of the solar PV system support structure with a total earth resistance not exceeding 5 ohms as below:

- a. Equipment earth (DC)
- b. System earth (AC)

Both equipment earth (DC) and system earth (AC) shall be checked for proper earthing.

**Equipment earth (DC):** All metallic parts of DG Facility such as PV modules, DCDB, generator, iron clad Switches will be connected to earth with two separate and distinct earth connections to Avoid any loss of property or Human being.

### 3.B.5 Lightning and surge protection

DISCO officials also have to make sure that the DG facility is separately grounded and the lightning arrestors are provided with the DG facility. The circuit breakers of rated voltage are also installed at the facility. Surge protection shall be provided on the DC and AC sides of DG facility.

#### **Surge Protection:**

- i. Surge protection shall be provided on the DC side and the AC side of the DG facility.
  - ii. The DC surge protection devices (SPDs) shall be installed in the DC distribution box adjacent to the solar grid inverter and generator.
  - iii. The AC SPDs shall be installed in the AC distribution box adjacent to the DG facility.
  - iv. The SPDs earthing terminal shall be connected to earth through the above mentioned dedicated earthing system.
  - v. The Lightning Arresters need to be provided for the buildings which are of more than 15 meters height only.
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**NOTE:** The Single line diagram, Earthing and the lightning arrestors are all check and cleared in the NOC by the Electrical Inspector mentioned in the initial requirements.

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## 4. Operating procedure

This chapter will cover all the process involved and the requirements of the DGs and the DISCOs after the installation of Net Metering at DG's premises.

### 4.A Billing procedure

According to NEPRA's Regulation following procedure are to be adopted for the billing process:

- a. The costumer shall receive a monthly net import or net export bill indicating net import or net export to the grid.
- b. The meter reader has to capture import & export energy and other billing parameters recorded by the bi-directional meter.
- c. In case of net import bill, the Distributed Generator shall be billed for the net kWh in accordance with applicable tariff.
- d. In case, the export energy is more than the import, the net kWh shall be credited against Distributed Generator next billing cycle.
- e. And on next month if the exported energy is again more than the imported energy, the net kWh shall be credited against next billing cycle unless the net energy exported is more quarterly (in 3 months), the off peak net kWh shall be paid to the Distributed Generator by the DISCO
- f. NEPRA's regulations for net metering clearly state netting of electricity units on off-peak rates. Whether the consumer supplies units during off-peak or peak time, the units and rates the DISCOs will use for netting the units and electricity bill will be the off-peak time units and rates.
- g. Calculation of Sales Tax on sale of electricity is to be done on net electricity units. This is because that consumer and DISCOs are trading the electricity units. In accounting terms, both are liable for Sales Tax. One way of settling Sales Tax is that both parties may settle their Sales Tax at their own, which is cumbersome and much difficult for the consumers to handle. Easy way is that the net of electricity units be calculated and the party having supplied surplus units may charge be liable for Sales Tax settlement. In most cases (because of solar PV/micro wind system sizes and consumption of electricity by the consumers), it would be the DISCOs who would have supplied more units, and therefore would have to collect Sales Tax from the consumers, based on net electricity units. The Sales Tax would be calculated for off-peak and peak units separately, calculations for Sales Tax of only off-peak billed units will be used for netting off.
- h. Calculations of other surcharges or tariff rationalization charges etc. should be done on the basis of total electricity units supplied by the DISCO. This is because, NEPRA regulations allows netting of electricity units on off-peak rates only. Surcharges or tariff rationalization charges etc. does not fall in calculations of netting of off-peak electricity units.



#### 4.B Periodical inspection

- a. Both uni-directional and the bi-directional energy meters are to be tested once in 6 months.
- b. The inverter functionality of every installation is to be checked once in 6 months.
- c. Periodical test reports shall be made by DISCO's personnel and submitted to the respected officer

#### 4.C General

- 1) The DG Facility installed by the consumer must comply with the standards and specifications as specified by AEDB and NEPRA time to time.
  - 2) The applicant of net metering connections up to 250 kW capacity are required to install their DG Facility through the AEDB certified installers/vendors/service providers only. The applicants of net metering connections above 250 kW capacity shall ensure that the installers/vendors/service providers shall have adequate experience, expertise and knowledge in design, supply and installation of DG Facility.
  - 3) In case the installed (also read proposed) capacity of the DG Facility is higher than the sanctioned load of the consumer, which consequently requires an up-gradation in the infrastructure (service line meter with CT (if required), transformer upgrading (if required)), the consumer will have to upgrade at his / her / its own cost.
-

## 5. Useful links

### 5.A National Electric Power Regulatory Authority (NEPRA)

#### **Director Customer Affair**

Address: NEPRA Tower Attaturk Avenue (East), Sector G-5/1,  
Islamabad, Pakistan

Website: [www.nepra.org.pk](http://www.nepra.org.pk)

Tel: +92 51 2013200 Fax: +92 51 2600021

Email: [cad@nepra.org.pk](mailto:cad@nepra.org.pk)

### 5.B Alternative Energy Development Board (AEDB)

#### **Director (CDM/Solar)**

Address: 2<sup>nd</sup> Floor, OPF Building, Sector G-5/2,  
Islamabad, Pakistan

Website: [www.aedb.org](http://www.aedb.org)

Tel: +92 51 9202085 Fax: +92 51 9222364

Email: [irfanyousuf@aedb.org](mailto:irfanyousuf@aedb.org)

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TO BE PUBLISHED IN THE GAZETTE OF PAKISTAN  
EXTRAORDINARY, PART-II

**National Electric Power Regulatory Authority (NEPRA)**



**NOTIFICATION**

Islamabad, the 1<sup>st</sup> day of September, 2015

S.R.O 892 (1)/2015.— In exercise of the powers conferred by section 47 read with section 7 (1) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (XL of 1997), the National Electric Power Regulatory Authority, is pleased to make the following Regulations to establish a framework for the regulation of Distributed Generation by using alternative and renewable energy and net metering, namely: -

**1. Short title, commencement and application.** — (1) These Regulations may be called the National Electric Power Regulatory Authority (Alternative & Renewable Energy) Distributed Generation and Net Metering Regulations, 2015.

(2) They shall come into force at once.

**2. Definitions.** - (1) In these Regulations unless there is anything repugnant in the subject or context,—

- (a) "Act" means the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (XL of 1997)
  - (b) "Agreement" means the agreement between the Distribution Company and the Distributed Generator on the Authority's approved format as per **Schedule I**;
  - (c) "Applicable Documents" means the rules and regulation issued in pursuance of the Act by the Authority, from time to time, the generation, distribution and transmission licences, the Grid and Distribution Codes and any documents, instruments, approvals, directions or authorizations issued or granted by the Authority in exercise of its powers under the Act and any document in each case of a binding nature applicable to the licensee;
  - (d) "Applicable Tariff" means tariff approved by the Authority for the relevant period and category of consumers of the Distribution Company;
  - (e) "Applicant" means a consumer of a Distribution Company which submits an Application to interconnect its Distributed Generation Facility to the Distribution System of the Distribution Company and who applies for grant of the license to operate a Distributed Generation Facility as a Distributed Generator;
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- (f) "Application" means the application submitted by an Applicant to Distribution Company, for interconnection of a Distributed Generation Facility to the Distribution System of a Distribution Company and includes application for grant of license to the Authority;
  - (g) "Authority" means the National Electric Power Regulatory Authority established under the Act;
  - (h) "Billing Cycle" means energy recorded by the meters in a period of thirty days;
  - (i) "Distributed Generation Facility" means a facility set up by a Distributed Generator using Solar or Wind energy resource for generation of electricity up to 1 MW;
  - (j) "Distributed Generation" means electrical power generation by solar or wind that is interconnected to the Distribution System of the Distribution Company at Interconnection Point;
  - (k) "Distributed Generator" means a Distribution Company's 3 phase 400V or 11kV consumer i.e. domestic, commercial or industrial and who owns and/or operates the Distributed Generation Facility, and is responsible for the rights and obligations related to the Agreement and licensed by the Authority under these Regulations;
  - (l) "Distribution System" means the distribution facilities situated within the Service Territory owned or operated by the licensee for distribution of electric power including, without limitation, electric lines or circuits, electric plant, meters, interconnection facilities or other facilities operating at the distribution voltage, and shall also include any other electric lines, circuits, transformers, sub-stations, electric plant, interconnection facilities or other facilities determined by the Authority as forming part of the distribution system, whether or not operating at the distribution voltage;
  - (m) "Fault" means an equipment failure, conductor failure, short circuit, or other condition resulting from abnormally high or low amounts of current from the power system;
  - (n) "Grid Code" means the guidelines, standards and procedures of technical and commercial aspects for the access, use and operation of transmission system and transmission facilities of NTDC as modified and approved by Authority from time to time;
  - (o) "Interconnection Facilities" means the equipment, including, without limitation, electrical lines or circuits, transformers, switch gear, safety and protective devices, meters or electrical plant, used for interconnection services;
  - (p) "Interconnection Point" means the point where the metering, installation and protection apparatus of the Distributed Generator is connected to the Distribution System of the Distribution Company;
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- (q) "kWh" means kilowatt hour;
- (r) "MW" means megawatt;
- (s) "Net Energy Billing" means a billing and metering practice under which a Distributed Generator is billed on the basis of net energy over the billing cycle;
- (t) "Net Energy" means a balance (positive or negative) of the kWh generated by Distributed Generator against the kWh supplied by Distribution Company at the end of Billing Cycle;
- (u) "Net Metering Facility" means a facility comprising of one or two meters for measuring the kWh generated by Distributed Generator and supplied by Distribution Company for determining the net energy;
- (v) "Registrar" means a person designated by the Authority to register and record the receipt of communications, applications and petitions filed with the Authority and to perform such other duties under these Regulations as may from time to time be assigned by the Authority; and
- (w) "Tariff" means the rates, charges, terms and conditions for sale of electric power to consumers as approved by the Authority and duly notified by the Federal Government from time to time.

2) The words and expressions used but not defined in these Regulations shall have the same meaning as are assigned to them in the Act.

### **APPLICATION AND INTERCONNECTION PROCESS**

#### **3. Application Process for Interconnecting Distributed Generation Facility.—**

(1) Any person who meets the requirements of a Distributed Generator as defined under the regulations 2(k) is eligible for submitting application as specified in **Schedule-II** to a Distribution Company.

Provided that the Distribution Company shall be bound to provide information and Authority's approved documents in response to the request from Applicant free of cost within two working days.

(2) Application to Distribution Company along with necessary documents shall be submitted by intending Distributed Generator to Distribution Company.

(3) Within five working days of receiving an Application, the Distribution Company shall acknowledge its receipt and inform the Applicant whether the Application is completed in all respect.

Provided that in case of any missing information or documents the Applicant shall provide the same to Distribution Company within seven working days of being informed by

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Distribution Company.

(4) Upon being satisfied that the Application is complete in all respect, the Distribution Company shall perform an initial review to determine whether the Applicant qualifies for Interconnection Facility, or may qualify subject to additional requirements.

Provided that the initial review shall be completed within twenty working days.

(5) In case the initial review reveals that the proposed facility is not technically feasible, the Distribution Company shall return the Application and communicate the reasons to the Applicant within three working days after the completion of initial review.

(6) If the Distribution Company is satisfied that the Applicant qualifies as Distributed Generator, then the Distribution Company and the Applicant shall enter into an Agreement within ten working days and Distribution Company shall send a copy of the Agreement to the Authority within seven working days of the signing of the Agreement.

(7) Within seven working days of execution of the Agreement, the Distribution Company shall issue the Connection Charge Estimate to the Applicant for the proposed interconnection facility up to the Interconnection Point including the metering installation.

(8) The Applicant shall make the payment of Connection Charge Estimate within twenty days of its issuance.

(9) The Distribution Company shall install and commission the proposed interconnection facility within thirty days of the payment of demand notice by the Applicant.

Provided that the net metering arrangement shall commence upon grant of license to the Distributed Generator in accordance with Regulation 4 of these Regulations.

**4. Licensing.**— (1) Notwithstanding anything contained in NEPRA Licensing (Application and Modification Procedure) Regulations, 1999 any consumer who enters into an Agreement with the Distribution Company under net metering arrangement qualifies for grant of a Distributed Generator License.

(2) Distribution Company shall forward the Application for grant of License as specified in **Schedule -III** to the Authority along with following;

- (a) Agreement
- (b) Application for exemption from the requirement of section 24 of the Act as specified in **Schedule-IV**,
- (c) Evidence of deposit of fee as may be specified by the Authority as specified in **Schedule-V**
- (d) Affidavit by Distributed Generator as specified in **Schedule-VI**

(3) The Authority may, on receipt of the Application and the documents specified in sub-regulation (2), grant a license as specified in **Schedule VII** to the Applicant.

**5. General Powers, Rights and Obligations of the Distribution Company.**— (1) A Distribution Company shall.—

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- (a) allow any of its consumers to establish Distributed Generating facilities to be interconnected with its Distribution System using either (a) a standard meter capable of registering the flow of electricity in two directions, or (b) two separate meters one for selling electricity to the Distribution Company and other for purchasing electricity from the Distribution Company.
- (b) enter into an Agreement with the Distributed Generator, and shall grant interconnection approval under Regulation 3 (6) after following due process

Provided that the approval of interconnection facility shall not be unreasonably withheld.

- (c) have the right to review the design of a Distributed Generation Facility and Interconnection Facilities and to inspect the same prior to the commencement of parallel operation with its Distribution System and may require the Distributed Generator to make modifications as necessary to comply with the requirements of these Regulations.
- (2) A Distribution Company may limit the operation and/or disconnect or require the disconnection of a Distributed Generation Facility from its Distribution System at any time, with or without notice, in the event of Fault.
  - (3) A Distribution Company may also limit the operation and/or disconnect or require the disconnection of Distributed Generation Facility from its Distribution System upon the provision of thirty days written notice for the conditions which include as follows:
    - a) To allow for routine maintenance, repairs or modifications to the Distribution System of the Distribution Company;
    - b) Upon Distribution Company's determination that Distributed Generation Facility is not in compliance with these Regulations;
    - c) Upon termination of the Agreement.

**6. Rights and Obligations of the Distributed Generator.**— (1) A Distributed Generator shall operate and maintain its Distributed Generation Facility and Interconnection Facilities in accordance with prudent electrical practices.

(2) The Distributed Generator shall not have any right to utilize Distribution Company's Interconnection Facilities for the sale of electricity to any other person.

#### **Terms of Agreement, Termination of Agreement and Dispute Resolution**

**7. Term of Agreement.**— (1) The term of the Agreement between Distributed Generator and Distribution Company shall be three years with effect from commissioning of Distributed Generator Facility.

(2) At the expiry of initial term, the Agreement may be automatically renewed by the mutual understanding between the Distributed Generator and the Distribution Company for another term of three years and so on.

**8. Termination of Agreement.**— (1) The Distributed Generator may terminate the



Agreement upon thirty days written notice if the Distributed Generator decides to discontinue the sale of electricity to the Distribution Company.

(2) The Distribution Company shall not terminate the Agreement in any event without prior approval of the Authority.

(3) All rights and obligations accrued up to termination shall continue in force upon termination.

#### **DISTRIBUTED GENERATION FACILITY DESIGN AND OPERATING REQUIREMENTS**

**9. Protection Requirements.**— (1) The protection and control diagrams for the interconnection of the Distributed Generator shall be in accordance with the provisions of the Grid and Distribution Codes and approved by the Distribution Company prior to commissioning of the proposed Interconnection Facilities and a typical single line diagram as specified in **Schedule-VIII**.

(2) The Distributed Generator shall be responsible for the installation of equipment, including, without limitation, electrical lines or circuits, transformers, switch gear, safety and protective devices, meters or electrical plant, to be used for interconnection.

Provided that, if the Distributed Generator is unable to install equipment, including, without limitation, electrical lines or circuits, transformers, switch gear, safety and protective devices, meters or electrical plant, used for interconnection, the Distribution Company may execute the requisite work in case the Distributed Generator offers to deposit the cost to be incurred on the requisite work at mutually agreed terms.

(3) The protective functions shall be equipped with automatic means to prevent reconnection of the Distributed Generation Facility with the Distribution facilities of the Distribution Company;

Provided that the service voltage and frequency is of specified setting and is stable and mutually agreed between the Distribution Company and the Distributed Generator.

(4) The Distributed Generator will furnish and install a manual disconnect device that has a visual break to isolate the Distributed Generation Facility from the Distribution facilities.

(5) The grid connected inverters and generators shall comply with Underwriter Laboratories UL 1741 standard (Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources) which addresses the electrical interconnection design of various forms of generating equipment, IEEE 1547 2003, IEC 61215, EN or other international standards.

**10. Prevention of Interference.**— (1) The Distributed Generator shall not operate such equipment that superimposes upon the Distribution System a voltage or current that interferes

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with Distribution Company's operations, service to its consumers, or communication facilities.

(2) In the event of such interference, the Distributed Generator must diligently pursue and take corrective action at its own expense after being given notice and reasonable time to do so by the Distribution Company.

(3) On account of any failure on part of the Distributed Generator to take timely corrective action, the Distribution Company may, without liability, disconnect the Distribution Generation facility from the Distribution System, in accordance with these Regulations.

**11. Voltage and Frequency Range.-** A variation of  $\pm 5\%$  and  $\pm 1\%$  is permissible to the nominal voltage and frequency respectively.

### **INTERCONNECTION FACILITY FINANCING**

**12. Responsibility for Costs of Interconnecting a Distributed Generation Facility.—**

(1) A Distributed Generator shall be responsible for all costs associated with Interconnection Facilities up to the Interconnection Point including metering installation.

(2) The Distributed Generator shall also be responsible for any costs reasonably incurred by Distribution Company in providing, operating, or maintaining Interconnection Facilities and Distribution System improvements required solely for the interconnection of the Distributed Generation Facility with Distribution Company's Distribution System.

(3) In case of non-availability of meter(s) with Distribution Company, the Distributed Generator may procure such meter(s) directly subject to testing by Distribution Company, before installation.

### **NET ENERGY METERING SERVICES**

**13. Metering Requirements.—** (1) The equipment installed for net metering shall be capable of accurately measuring the flow of electricity in two directions.

Provided that in case two separate meters are installed, the net energy metering calculation shall yield the same result as when a single meter is used.

(2) The Net Energy Metering Facility, shall meet all safety and protection requirements that are necessary to assure safe and reliable operation of the Distributed Generation Facility when connected to the Distribution System of the Distribution Company and that have been approved by the Authority.

**14. Billing for Net Metering.—** (1) At the end of each Billing Cycle following the date of final interconnection of Distributed Generation Facility to the Distribution System of the Distribution Company, the Distribution Company shall net off the kWh supplied by Distributed Generator against the kWh supplied by it.

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Provided that the meter readings shall be carried out preferably through Hand Held Units (HHU) and through automated means as directed by the Authority from time to time.

(2) In case the kWh supplied by Distribution Company exceed the kWh supplied by Distributed Generator, the Distributed Generator shall be billed for the net kWh in accordance with the Applicable Tariff.

(3) In case the kWh supplied by Distributed Generator exceed the kWh supplied by Distribution Company, the net kWh shall be credited against Distributed Generator's next billing cycle for future consumption, or shall be paid by the Distribution Company to the Distributed Generator quarterly.

Provided that where the Distributed Generator is to be paid, the kWh in a month will be charged at the tariff of that respective month.

(4) The tariff payable by the Distribution Company shall only be the off-peak rate of the respective consumer category of the respective month and other rates such as variable charges for peak time, fixed charges, fuel price adjustment, duties/levies will not be payable by Distribution Company.

**15. Power of the Authority to give directions, instructions and guidelines.**— (1) For carrying out the purposes of these Regulations, the Authority may issue directions, instructions and guidelines to the Distributed Generator and the Distribution Company in the form and manner determined by the Authority, which shall be complied with by the Distributed Generator and the Distribution Company.

(2) The Authority may, on representation made to it or on its own motion modify or cancel any direction, instruction or guidelines issued under sub-rule (1), and in so modifying or cancelling any direction, instruction or guidelines may impose such conditions as it thinks fit.

**16. Power to require information.**—The Authority may, at any time, by notice in writing require any director, officer and member of the Distribution Company and/or the Distributed Generator, generally or in particular to furnish it within the time specified therein or such further time as the Authority may allow, with any statement or information and without prejudice to the generality of the foregoing power, may call for information, at such intervals as the Authority may deem necessary.

**17. Resolution of disputes.**— Any dispute or disagreement between Distributed Generator and Distribution Company relating to any matter arising out of, or in connection with, the activities covered under the Regulations shall be submitted for decision to the Authority.

**18. Penalty for failure, refusal to comply with, or contravention with any provision of the Regulations.**— If any person fails or refuses to comply with, or contravenes any of the provisions of these Regulations or any direction or order passed by the Authority under these Regulations or knowingly or willfully authorizes or permit such failure, refusal or contravention, he shall, be punishable with a fine which may extend to 100 million rupees.

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CIRCULAR

Subject: REVISED ACTIVITY FLOW CHART FOR NET-METERING

With reference to the comments received from the DISCOs, considering the timelines given under the NEPRA's Regulations and decision of the Federal Government regarding waiver of generation license for net-metering based RE system up to 25kW, the revised activity flow chart indicating the timelines of each activity for processing of net-metering based systems is circulated herewith for its implementation by the DISCOs in letter and spirit.

Encl: As Above.

Encl: As Above.

(Shakila Begum)  
Section Officer (Ent.)  
Ph: 051-9103995

**Distribution: -**

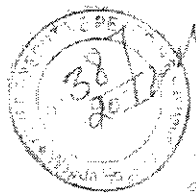
- i. The Chief Executive Officer, HESCO, Hyderabad.
- ii. The Chief Executive Officer, IESCO, Islamabad.
- iii. The Chief Executive Officer, LESCO, Lahore.
- iv. The Chief Executive Officer, MEPCO, Multan.
- v. The Chief Executive Officer, PESCO, Peshawar.
- vi. The Chief Executive Officer, QESCO, Quetta.
- vii. The Chief Executive Officer, SEPCO, Sukkur.
- viii. The Chief Executive Officer, FESCO, Faisalabad.
- ix. The Chief Executive Officer, GRPCO, Gujranwala.
- x. The Chief Executive Officer, TESCO, Peshawar.
- xi. The Chief Executive Officer, K-Electric, Karachi.

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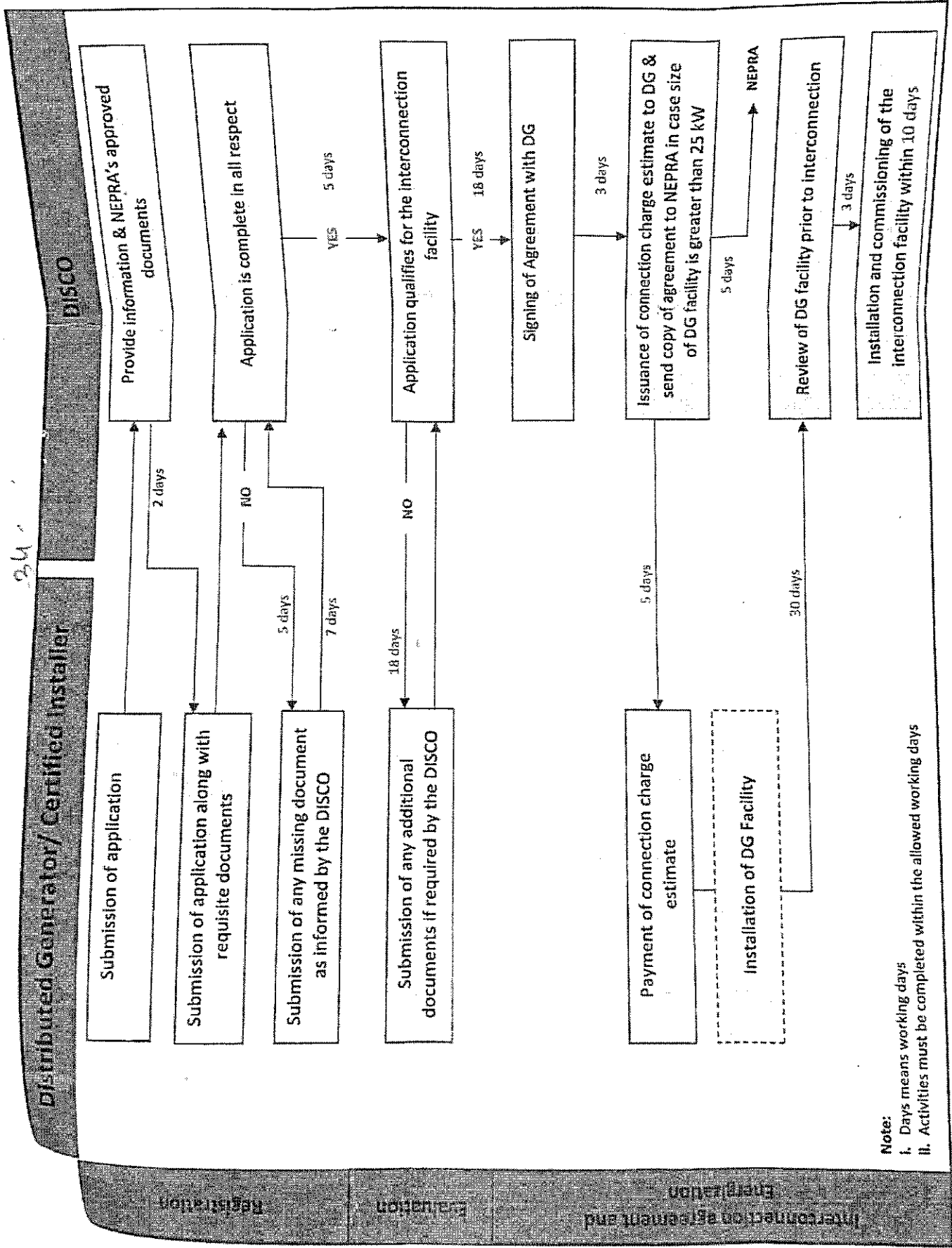
- by to:
- i. The Additional Secretary-I, Ministry of Energy (Power Division), Islamabad.
  - ii. The Chief Executive Officer, AEDB, Islamabad.
  - iii. The Managing Director, PPMC, Islamabad.
  - iv. SO to the Secretary, Ministry of Energy (Power Division), Islamabad.

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Already included  
in 2P.



TO BE PUBLISHED IN THE GAZETTE OF PAKISTAN

**NATIONAL ELECTRIC POWER REGULATORY AUTHORITY  
(NEPRA)**

**NOTIFICATION**

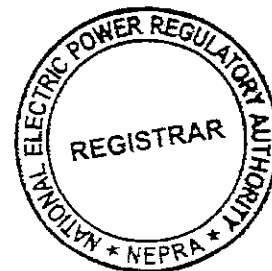
Islamabad, the 20<sup>th</sup> day of April, 2022

S.R.O. 539/2022.— In exercise of the powers conferred by section 47 of the Regulation of Generation, Transmission and Distribution of Electric Power Act (XL of 1997), the National Electric Power Regulatory Authority is pleased to make following amendments in the National Electric Power Regulatory Authority (Alternative & Renewable Energy) Distributed Generation and Net Metering Regulations, 2015 (hereinafter referred to as the aforesaid regulations), namely.—

1. In clause (e) of sub-regulation (1) of regulation 2 of the aforesaid regulations,
  - i. for the words “general services or single point bulk supply consumer”, the words “general services consumer or a single point bulk supply consumer” shall be substituted”; and
  - ii. after the words “Distributed Generator”, the full stop (.) shall be removed and the words “as and if required under regulation 4 of these Regulations.” shall be inserted.”
2. In clause (k) of sub-regulation (1) of regulation 2 of the aforesaid regulations, the words “licensed by the Authority” shall be deleted.
3. In sub-regulation (1) of regulation 4 of the aforesaid regulations,
  - i. the words “NEPRA Licensing (Application and Modification Procedure) Regulations, 1999” shall be substituted with the words “National Electric Power Regulatory Authority (Licensing, Modification, Extension and Cancellation) Procedure Regulations, 2021”.
  - ii. the full stop (.) at the end shall be substituted with a colon (:) and following proviso shall be inserted:

“Provided that a person interested in installation of Distribution Generation Facility of 25 kW or below capacity shall not be required a Distributed Generator Licence from the Authority and the concerned distribution licensee shall facilitate such person in the same manner as if it were a licensee.”

(Syed Safeer Hussain)  
Registrar





**TO BE PUBLISHED IN THE OFFICIAL GAZETTE**  
**GOVERNMENT OF PAKISTAN**

Government of Pakistan  
Ministry of Energy  
Power Division  
\*\*\*

Islamabad, November 9 2021

**NOTIFICATION**

S.R.O/448 (I)/2021- In pursuance of sub-section (7) of section 31 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 (XL of 1997), the Federal Government after consultation with the National Electric Power Regulatory Authority and in exercise of its powers conferred by sub-section (5) of section 14B of the said Act is pleased to notify that the distributed generation facility using solar or wind power generation upto 25 kilowatt, connected with the network of a distributed licensee through net metering facility, shall not require a generation licence from the National Electric Power Regulatory Authority.

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**(F.No.Ent 9(91)/2021-AEDB)**

  
**(SYED MATEEN AHM)**  
**DS(T&S)/SO (Tariff)**



## **PESHAWAR ELECTRIC SUPPLY COMPANY**

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Office of the  
Chief Executive Officer PESCO  
WAPDA House, Shami Road,

No. 241-254/EE/PESCO/DG MIRAD

Dated 30/04/2022

Chief Engineer P&E  
All SEs Operation Circles  
PESCO

Subject: - **DISTRIBUTED GENERATION NET METERING CASES PENDENCY IN PESCO.**

I am writing regarding the latest clarification received from NEPRA about net metering connections and request strict and prompt compliance with the same. In addition, NEPRA has conveyed numerous consumer complaints regarding delay and transparency issues in processing net metering applications. I am therefore issuing the following directions to all field formations, the load sanctioning Authority (SDO/XEN/SE/CE P&E---The Authority) to ensure transparency, swift processing, and compliance with codal formalities in processing net metering applications.

### **FOR CONNECTIONS ABOVE 26KW—1000KW**

The concerned Authority should expeditiously process the consumer application as per NEPRA regulations and AEDB guidelines amended to date. The Authority, after completing the processing requirements, should send the entire application to PESCO MIRAD for onward submission to NEPRA. PESCO MIRAD will be the liaison office coordinating between the PESCO field offices and NEPRA. PESCO MIRAD office will also handle and resolve complaints relating to net metering connections above 25KW.

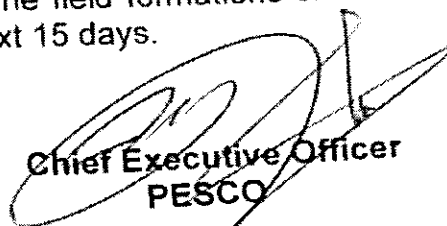
### **FOR CONNECTIONS 5KW--25KW**

The concerned Authority for 5KW-25KW connections should send consumer applications directly process and implemented up to the installation of bi-directional green E-meter and for accurate prompt billing. However, they should send a copy of profile of application and license to Deputy Director Technical (DDT) PESCO HQ. DDT will be the liaison office for connections between 5KW-25KW and will prepare a consolidated monthly report to PESCO MIRAD. He will also handle and resolve complaints relating to net metering connections.

It is essential to mention that NEPRA vide additional Director Registrar office No. NEPRA/DG (Lic)/LAD-07-6547 dated 28.04.2022 has clarified that PESCO should not recover the processing fee on account of overhead charges of 3000/KW levied by PESCO



for up to 25 KW. Therefore, the concerned Authority should, ensure that all the pending cases are processed according to the already issued SOP for Net Metering with no processing/NEPRA/PESCO fee for below 25KW. In this connection it is important to mention that the concerned authorities strictly adhere to the rules, laws, codal formalities, and SOPs and follow the deadlines laid down by NEPRA. The field formations should clear the existing pendency of net metering applications in next 15 days.

  
Chief Executive Officer  
PESCO

**Copy to:**

1. CCO for information and direction to hand over complete details of all net metering files/Cases from field formations to MIRAD PESCO processed till date by the Commercial Directorate. In future all matters relating to net metering will be dealt with by PESCO MIRAD.
2. DG MIRAD/CLO should ensure strict compliance with the above directions and revise the net metering SOP a per regulatory decisions. DG MIRAD should depute competent officers/officials for handling net metering matter above 25KW.
3. DDT PESCO HQ for information and compliance. DDT will fully assist MIRAD office in all matters related to net metering and provide monthly report for onward sharing.
4. Haider Ali, Secretary SBU, for information and with the direction to hand over all the policies, documents, and information regarding net metering to DDT. He will also train DDT on net metering procedures.



Registrar

**National Electric Power Regulatory Authority**  
**Islamic Republic of Pakistan**

NEPRA Tower, Attaturk Avenue (East), G-5/1, Islamabad  
Ph: +92-51-9205500, Fax: +92-51-2600026  
Web: www.nepa.org.pk, E-mail: registrar@nepa.org.pk

No. NEPRA/DG(CAD)/TCD-10/2461-83

January 15, 2021

1. Chief Executive Officer, Faisalabad Electric Supply Company Ltd. Abdullahpur, Canal Bank Road Faisalabad	2. Chief Executive Officer, Gujranwala Electric Power Company Ltd. 565/A, Model Town G.T. Road, Gujranwala
3. Chief Executive Officer, Hyderabad Electric Supply Co. Ltd. WAPDA Offices Complex, Hussainabad, Hyderabad	4. Chief Executive Officer Islamabad Electric Supply Co. Ltd. Street # 40, Sector G-7/4, Islamabad.
5. Chief Executive Officer, Lahore Electric Supply Company Ltd. 22-A, Queens Road, Lahore	6. Chief Executive Officer Multan Electric Power Co. Ltd. MEPCO Headquarter, Khanewal Road Multan
7. Chief Executive Officer, Peshawar Electric Supply Company Ltd. WAPDA House, Shami Road, Sakhi Chashma, Peshawar	8. Chief Executive Officer Quetta Electric Supply Company Ltd. Zarghoon Road, Quetta
9. Chief Executive Officer, Sukkur Electric Power Company Ltd. Administration Block, Thermal Power Station, Old Sukkur.	10. Chief Executive Officer Tribal Areas Electricity Supply Company Limited (TESCO) Room No. 213, 1 <sup>st</sup> Floor, WAPDA House, Shami Road, Sakhi Chashma, Peshawar
11. Chief Executive Officer K-Electric Limited (KEL) KE House, Punjab Chowrangi, 39 - B, Sunset Boulevard, Phase-II Defence Housing Authority, Karachi.	

**MOST IMPORTANT**

**SUBJECT: INSTALLATION OF BI-DIRECTIONAL METER UPON EXTENSION  
OF LOAD FOR AVAILING NET METERING FACILITY.**

It has come to the notice of the Authority through various complaints that in case a (single phase) consumer intends to apply for net-metering license, the consumer is required to apply for load extension/3-phase connection after which the application for net metering is considered eligible. As per practice, initially a 3-phase meter is installed upon extension of load from single to 3-phase. Subsequently, upon approval of net metering application and issuance of License, the 3-phase meter is removed and a bidirectional meter is installed due to which the consumer sustain a loss of Rs. 15000/- approximately i.e. cost of 3-phase meter. To avoid this loss, DISCOs may install a bi-directional meter directly upon extension of load for single phase consumers who intend to apply for net-metering facility.

Page | 1 of 2

2. Foregoing in view, concerned officials may be directed to install a bi-directional meter at the premises directly where the consumer intends to apply for a net metering facility to avoid unnecessary costs involving installation of 3-phase meters.

(Hafeez Ullah Khan)  
Additional Director  
Registrar Office

Copy to:

1.	Chief Engineer/ Customer Services Director, Faisalabad Electric Supply Company (FESCO) Abdullahpur, Canal Road, Faisalabad	2.	Chief Engineer/ Customer Services Director, Gujranwala Electric Power Company Ltd. 565/A, Model Town G.T. Road, Gujranwala
3.	Chief Engineer/ Customer Services Director, Hyderabad Electric Supply Co. Ltd. WAPDA Offices Complex, Hussainabad, Hyderabad.	4.	Chief Engineer/ Customer Services Director, Islamabad Electric Supply Company Street 40, Sector G-7/4 Islamabad
5.	Chief Engineer/ Customer Services Director, Lahore Electric Supply Company Ltd. 22-A, Queens Road, Lahore	6.	Chief Engineer/ Customer Services Director, Multan Electric Power Co. Ltd. MEPCO Headquarter, Khanewal Road Multan
7.	Chief Engineer/ Customer Services Director, Peshawar Electric Supply Company WAPDA House, Shami Road, Sakhi Chashma, Peshawar	8.	Chief Engineer/ Customer Services Director, Quetta Electric Supply Company Ltd. Zarghoon Road, Quetta
9.	Chief Engineer/ Customer Services Director, Sukkur Electric Power Company Ltd. Administration Block, Thermal Power Station, Old Sukkur.	10.	Chief Engineer/ Customer Services Director, Tribal Areas Electricity Supply Company Limited (TESCO) Room No. 213, 1 <sup>st</sup> Floor, WAPDA House, Shami Road, Sakhi Chashma, Peshawar
11.	Mr. Ayaz Jaffer Ahmed, Director (Finance & Regulations) K-Electric Ltd. KE House, Punjab Chowrangi, 39 - B, Sunset Boulevard, Phase-II Defence Housing Authority, Karachi.	12.	Mr. Ehteshamullah Malick, Secretary General (ABAD) St. I/D, Block 16, Gulistan-e-Johar, Karachi.



# National Electric Power Regulatory Authority Islamic Republic of Pakistan

NEPRA Tower, Allama Iqbal Avenue (East), G-5/1, Islamabad  
P.O. Box: 41-2200000, Fax: +92-61-2000018  
Web: www.nepra.org.pk, E-mail: registrar@nepra.org.pk

Registrar

No. NEPRA/ADG(Licensing)/LAN.100/33654-68

October 1, 2020

Chief Executive Officer Hyderabad Electric Supply Company (HESCO), WAPDA Water Wing Complex, Hussainabad, Hyderabad	Chief Executive Officer Sukkur Electric Power Company Limited SEPCO Headquarter Old Thermal Power Station, Sukkur
Chief Executive Officer Quetta Electric Supply Company (QESCO), 14-A Zarghoon Road, Quetta	Chief Executive Officer Multan Electric Power Company, MEPCO Complex, WAPDA Colony, Khanewal Road, Multan
Chief Executive Officer Faisalabad Electric Supply Company Abdullahpur, Canal Bank Road, Faisalabad	Chief Executive Officer Gujranwala Electric Power Company (GEPCO) 565/A, Model Town G.T. Road, Gujranwala
Chief Executive Officer Lahore Electric Supply Company (LESCO) 22-A, Queen's Road, Lahore	Chief Executive Officer Islamabad Electric Supply Company (IESCO) Street No. 40, G-7/4, Islamabad
Chief Executive Officer Peshawar Electric Supply Company (PESCO) WAPDA House, Sakhi Chashma, Shami Road, Peshawar	Chief Executive Officer Tribal Area Electricity Supply Company 213-WAPDA House Shami Road, Sakhi Chashma, Peshawar
Chief Executive Officer K-Electric Limited (KEL) KE House, Punjab Chowrangl, 39-B, Sunset Boulevard, Phase-II Defence Housing Authority, Karachi.	Deputy Chief Executive, Bahria Town (Private) Limited, Sector-E, Bahria Expressway, Safari Homes, Phase-VIII, Rawalpindi.
Additional Director Development Phase-XII, DHA Phase-XII (EME), Multan Road, Lahore.	Aujla and Associates Town Developers (Private) Limited, 206 — A, Sector — 2, Canal View Housing Scheme, Gujranwala.

Subject: **IMPLEMENTATION OF PROVISIONS UNDER NET METERING REGULATIONS**

On the specific request of the Renewable and Alternative Energy Association of Pakistan (REAP), a clarification was earlier issued vide letter # NEPRA/ADG(L)/LAN-100/8403, dated May 31, 2018 that installation of Distributed Generation facility is not necessary before submitting the application for Distributed Generation Net Metering License.

2. REAP vide his letter # REAP/NEPRA/202/3, dated August 20, 2020 has stated that DISCOs are completely oblivious of such directions from NEPRA and therefore request Authority to instruct DISCOs for implementation of above captioned clarification.
3. In view of the above, all the DISCOs are advised to implement the above referred clarification in letter and spirit (copy of NEPRA letter #NEPRA/ADG(L)/LAN-100/8403, dated May 31, 2018 is attached for ready reference).

Encl: As Above

(Hafeez Ullah Khan)  
Deputy Registrar

CC: Col Muhammad Tariq Khattak, Chairman, REAP, 151-A,  
Street # 8, Chaklala Scheme III, Rawalpindi

Scanned with CamScanner

#

**National Electric Power Regulatory Authority**

**NOTIFICATION**

Islamabad, the <sup>TH</sup>20 day of December, 2017

1261 (J)/2017

S.R.O. \_\_\_\_\_—In exercise of the powers conferred by section 47 of the Regulation of Generation, Transmission and Distribution of Electric Power Act (Act No. XL of 1997), the National Electric Power Regulatory Authority is pleased to approve the following amendments in the National Electric Power Regulatory Authority (Alternative & Renewable Energy) Distributed Generation and Net Metering Regulations, 2015, notified *vide* S.R.O. 892(I)/2015 dated 1<sup>st</sup> September, 2015, namely:—

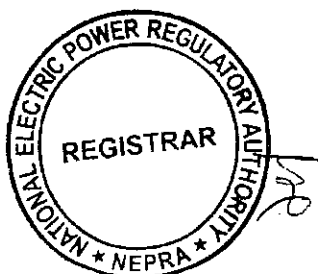
In the aforesaid Regulations, —

(a) in regulation 2,

- i. the sub-regulation (1) (e), shall be substituted with the words ““Applicant” means a 3 phase 400V or 11kV domestic, commercial, industrial or agricultural consumer of a Distribution Company, which submits an Application to interconnect its proposed Distributed Generation Facility to the Distribution System of the Distribution Company and who applies for grant of the license to operate a Distributed Generation Facility as a Distributed Generator”;
- ii. the sub-regulation (1) (k) shall be substituted with the words, ““Distributed Generator” means an Applicant licensed by the Authority under these Regulations to undertake Distributed Generation”;

(b) in regulation 3,

- i. the sub-regulation (1) shall be substituted with the words, “Any Applicant who meets the requirements of these Regulations is eligible for submitting an Application as specified in Schedule-II to a Distribution Company,” which shall be followed by the proviso, “Provided that the Distribution Company shall be bound to provide information and Authority’s approved documents in response to the request from Applicant free of cost within two working days.”;
- ii. in sub-regulation (2), for the words “intending Distributed Generator” , the words “the



Applicant" shall be substituted;

(c) in regulation 4, in sub-regulation (3), after the word "Applicant" the words "within seven working days after receipt of requisite documents" shall be inserted;

(d) in regulation 7,

i. in sub-regulation (1), for the word "three" the word "seven" shall be substituted;

ii. the sub-regulation (2), shall be substituted with the words "At the expiry of initial term, the Agreement may be automatically renewed between the Distributed Generator and the Distribution Company for another term of seven years and so on unless the Distributed Generator or the Distribution Company terminates the Agreement in accordance with the Regulations";

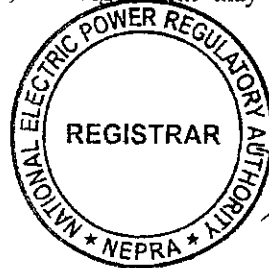
(e) in regulation 14, after sub-regulation (4), following sub-regulation (5) shall be inserted, "The Authority may determine the tariff payable by the Distribution Company to the Distributed Generator from time to time; provided, however, the tariff once awarded to a Distributed Generator shall remain valid for a term of the Agreement/License.";

(f) in Schedule-I to the regulations,

i. in serial no. 2 titled as "Applicant's Representations and Warranties", the clause "c." shall be substituted by the words, "The DG facility shall be installed to Applicants satisfaction";

ii. in serial no. 6 titled "DG Facility Commissioning and Testing", the words "duly certified by Electrical Inspector" shall be omitted and after the words "DISCO shall thereupon have the right to test the DG Facility", the words "and ensure that DG facility fulfils the safety/quality standards in accordance with SOPs 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 case may be" shall be inserted;

iii. in serial no. 11 titled "Term and Termination of Agreement", the first paragraph shall be substituted with the words "The term of Agreement between Distributed Generator and DISCO 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

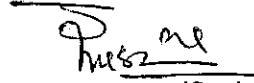


Distributed Generator and DISCO for another term of seven years and so on unless the Parties terminate the Agreement in accordance with the Regulations.”;

- (g) In schedule-II to the regulations, the table in the Standard Distributed Generation Application Form For Distribution Company having words “(a) Has the proposed distributed generation paralleling equipment been certified by Electrical inspector? Yes/No”, shall be omitted;
- (h) In schedule-II to the regulations, the word “proposed” shall be inserted before the words “ DG facility” wherever occurring;
- (i) In schedule-III to the regulations, the word “proposed” shall be inserted before the words “DG facility” wherever occurring.

[No. NEPA/NR-14)



  
20 12 17  
REGISTRAR





Registrar

# National Electric Power Regulatory Authority Islamic Republic of Pakistan

NEPRA Tower, Attaturk Avenue (East), G-5/1, Islamabad  
Ph: +92-51-9206500, Fax: +92-51-2600026  
Web: www.nepra.org.pk, E-mail: registrar@nepra.org.pk

No. NEPRA/DG(Lic)/LAD-07/6547

April 28, 2022

Chief Executive Officer  
Peshawar Electric Supply Company Limited  
WAPDA House Shami Road  
Sakhi Chashma  
Peshawar

Subject: **SOPs of NET METERING DG FACILITY of LOAD UPTO 25KW**

This is with reference to your office communication dated April 7, 2022 wherein clarification has been sought regarding certain issues pertaining to subject matter. In this regard it is clarified that:

1. The distribution licensee can only charge such rate or tariff which is approved or determined by the Authority and without such approval, the tariff & rates are void and of no legal effect. Moreover, Net-Metering Regulations do not allow distribution licensees to levy any overhead charges/processing fees for the net metering applications.
2. It is further clarified that there is no link between de-licensing of net metering arrangement for up to 25 KW and charging of certain fees by a distribution company from the applicants/consumers. The only change pursuant to notification is that the applications up to the capacity of 25 KW are no more required to be forwarded to NEPRA for issuance of Distributed Generator License. However, the working/processing of applications at DISCOs' end remains the same even after the amendment/notification.
3. In view of above analysis, it is directed to stop charging processing fee from the applicants for net metering arrangement and in case those applicants which are already charged, may be refunded. Furthermore, charging consumers without approval of the Authority is in fact violation of applicable documents which may lead to call for an explanation/show cause/fine under the provisions of NEPRA Fines Regulations.

  
( Shakil Ahmed )  
Additional Director  
Registrar Office





Registrar

**National Electric Power Regulatory Authority**  
Islamic Republic of Pakistan

NEPRA Tower, Azadpur Avenue (East), G-5/1, Islamabad  
P.O. Box: 422, P.O. Box: 422, P.O. Box: 422  
Web: www.nepa.org.pk, Email: registrar@nepa.org.pk

No. NEPRA/ADG(L)/LAN-100/8403

May 31, 2018

Mr. Asif Jali,  
Chairman  
Renewable & Alternative Energy Association of Pakistan (REAP)  
Plot No. 140, Street No. 9,  
Sector I-10/3, Islamabad  
Tele: 4100084

Subject: **FOLLOW UP ON CONSULTATIVE MEETING ON 24 APRIL 2018**

This is with reference to query raised in your letter dated 26 April 2018 that whether a prospective DG can apply and can be granted net metering license without physically installing a DG. In this regard the relevant section 2(1)(c) of the National Electric Power Regulatory Authority (Alternative & Renewable Energy) Distributed Generation and Net Metering Regulations, 2015, herein after referred to as "the Regulations" is produced below:

*"Applicant means a 3 phase 400V or 11kV domestic, commercial, industrial or agricultural consumer of a Distribution Company, which submits an Application to Interconnect its proposed Distributed Generation Facility to the Distribution System of the Distribution Company and who applies for grant of the license to operate a Distributed Generation Facility as a Distributed Generator".*

2. We would like to clarify you that according to the amendment to the Regulations through SRO 1261(I)/2017 dated 20<sup>th</sup> December 2017, the definition of an "Applicant" has been amended to provide for the prospective Distributed Generator. A consumer may apply to interconnect its proposed Distributed Generation facility and grant of license for Distributed Generation. Hence, Distributed Generation facility need not to be installed before submitting the application for Distributed Generation/Net Metering License.

3. We hope this clarifies your concern.

31/5/18  
(Iftikhar Ali Khan)  
Director  
Registrar Office



## PESHAWAR ELECTRIC SUPPLY COMPANY

Phone No. 091-9210226  
Fax No. 091-9223136  
Email: sec.pesco@gmail.com

Office of the  
Company Secretary PESCO  
Room No.158 Wapda House,  
Shami Road, Peshawar

No. 1803-06 /183<sup>rd</sup> BoD

Dated 26/12/2022

Director General (MIRAD)  
PESCO HQ.

Subject: - 183<sup>RD</sup> PESCO BOARD OF DIRECTORS MEETING.

PESCO Board of Directors in its 183<sup>rd</sup> Board meeting held on 16-12-2022 issued the following decisions;

### **Agenda Point # 08**

#### **Authorization for filing Distribution & Integrated Investment Plan (DIIP) (2022-23 to 2026-27) with NEPRA and brief on Demand forecast.**

The 05 year (DIIP) Distribution Integrated Investment Plan/ Business Plan for the period FY 2022-23 to FY 2026-27 was presented before the Board along with complete financial implications. It was explained that it is the regulatory requirement to submit 05 year (DIIP) Distribution Integrated Investment Plan/ Business Plan with NEPRA. It was further explained that the said plan is a detailed document covers the financial/investment activities for next five years to make PESCO a financially viable company by improving the efficiency and governance of the company, introducing new technologies including upgrading existing technology, machinery and improving human resources in line with best practices of world. The primary objective of PESCO being a distribution company is the provision of uninterrupted and stable power supply to its consumers along with state of the art customer care as well as establish and operate reliable electricity distribution network. The Multi-year tariff for 2020-21 to FY 2024-25 along with Business Plan for the said period has already been approved by NEPRA, however as per regulatory requirement, Investment plan for next five years required to be filed with the authority on annual basis.

### **RESOLUTION 183-BOD-R09**

The Board after detailed discussion and upon recommendation of PSM Committee, authorized DG MIRAD PESCO to file Business Plan for the period FY 2022-23 to FY 2026-27 and its subsequent adjustments with NEPRA.

*All Managers*

### **Agenda Point # 09**

#### **Approval of NET Metering Policy/Modification by MoE, AEDB and NEPRA.**

DG (MIRAD) presented the SOP for the Net Metering policy and explained that NEPRA had announced the Alternative & Renewable Energy, Distributed Generation and Net Metering Regulations on 01-09-2015. He further explained that any consumer of the National Grid (Having 3-Phase connection) can avail Net Metering facility for small scale (1KW-1MW) Renewable Energy installations already adopted by PESCO. Subsequently, NEPRA has revised the Net Metering policy for the load below and up to 25 KW to

*18-01-23*



facilitate small consumer for Net Metering by exemption of license requirements. The following points were deliberated.

1. PESCO has to adopt MOE/NEPRA fresh guidelines on potential Distributed Generation Facility using solar or wind power generation up to 25KW connected with the network of a distributed licensee through net metering facility and shall not require a generation license from the NEPRA.
2. Installation of Distribution Generation facility **needs not** to be installed at the time of application from the Net Metering.
3. After receiving case of above 25KW Distributed Generation facility, PESCO MIRAD as liaison office will submit the complete file received from field offices to NEPRA for generation license.
4. CCO PESCO proposed fee @ 3000 per KW as overhead charges and the same was not allowed by NEPRA, hence will not be charged as per NEPRA clarification.
5. PESCO has taken up the matter with NEPRA to review its decision, however the same is under consideration and is yet to be finalized.
6. Chief Commercial Officer PESCO proposed that net metering connections will not be allowed on the 11 KV feeders having over 50 % AT&C loss to avoid PESCO from further loss of the imported energy from Net Metering consumers.

### **RESOLUTION 183-BOD-R10**

The Board after through deliberation and upon recommendations of PSM Committee, approved the Net Metering Policy issued by Ministry of Energy (Power Division) & NEPRA for adoption in PESCO. The Board further directed management to take up the matter with the regulator for charging one time nominal fee as service charges (not on per kilowatt basis). Moreover, the Board was not agreed with the proposal of not allowing Net Metering facility on the feeders having above 50% AT&C losses and advised management to follow the NEPRA guidelines.

### **Agenda Point # 10**

**Issuance of Power of Attorney in favor of D.G (MIRAD) PESCO to sign and file the Power Acquisition Request (PARs) related to the Power Generating Projects at NEPRA.**

---

Director General (MIRAD) briefed the Board that presently the power procurement from the power generating/companies by CPPA-G or DISCOs, is processed/carried out under the NEPRA Interim Power Procurement (Procedures and Standards) Regulations (IPPR), 2005. He elaborated that as per Rule-3(2) of these regulations a request for power acquisition shall be filed with the Registrar by a distribution company or a transmission company. He further elaborated that filing of the Power Acquisition Request (PAR) with NEPRA is also necessary prior to signing of any power acquisition contract with a power generating company/seller.

He explained that before (01-05-2022) operationalization of Market Implementation and Regulatory Affairs Department (MIRAD) in PESCO, Chief Commercial Officer/Customer Service Director (CSD) PESCO was authorized by the Board vide its decision dated 26-06-2012 to sign the Power Acquisition Request (PAR) for PESCO.

He further explained that although the MIRAD become operational on 01-05-2022, however, MIRAD department, in all the DISCOs, were under test run for a period of six (06) months.

As the test run period test-run period was expired on 30-11-2022, so now it would be the responsibility of the MIRAD Department to process/sign and file the power acquisition requests, pertaining to the existing as well as all the upcoming power projects with NEPRA.

The matter was placed before the PSM committee in its meeting dated 01-12-2022 and the committee recommended to the Board to authorize DG MIRAD PESCO to sign the Power Acquisition Request for existing as well as all the upcoming power projects. Accordingly, the Board was requested, to authorize DG MIRAD PESCO to sign the Power Acquisition Request for existing as well as all the upcoming power projects.

#### **RESOLUTION 183-BOD-R11**

The Board upon the recommendation of the PSM Committee, authorized DG MIRAD PESCO as signatory for the Power Acquisition Request (PAR) to be filed with NEPRA for existing as well as all the upcoming power projects.

Please take further necessary action in light of Board decisions; under intimation to this office.

**COMPANY SECRETARY  
PESCO**

**Copy to:**

1. Chief Commercial Officer PESCO.
2. Chief Law Officer PESCO.
3. SO to CEO PESCO HQ.

*Noted & Filed*

*[Signature]*

*18-01-23.*





**PESHAWAR ELECTRIC SUPPLY COMPANY**

Office of Director General MIRAD PESCO Peshawar

Cell# 03309972000 email: dg.mirad@pesco.com.pk

No. MIRAD/DG/NET-METERING/

871-84

Dated: 08/03/2023

**All Superintending Engineers (Opr)  
PESCO Circles.**

**Subject: - MODIFICATION IN NET METERING SOP FOR PESCO**


**Reference: 183<sup>rd</sup> PESCO BOARD OF DIRECTORS MEETING COMPANY SECRETARY LETTER NO.1803-06 DATED 26/12/2022**

With reference to the above, partial modification in previous Net-Metering SOP has been approved by the BOD PESCO on dated 26/12/2022 which is reproduced below with the directions of PESCO BOD.

1. As per previous SOP proposed Para No.6 in "***Application and Interconnection Process***" states that Net-Metering connections are hereby proposed to be allowed on those feeders having less than 50% ATC loss so as to avoid PESCO from further loss of the imported energy from Net-Metering consumers.

**BOD Resolution: "The BOD PESCO was not agreed with the proposal of not allowing Net-Metering facility on the feeders having above 50% AT&C losses and advised management to follow the NEPRA guidelines".**

In view of the above, you all are hereby advised to inform and direct all the field formations accordingly to ensure the adherence of SOP and as to avoid any complications in the belated stages.

  
**Director General MIRAD  
PESCO, Peshawar**

Copy to:

1. Chief Commercial Officer PESCO HQ, Peshawar for information, please.
2. Chief Engineer (Operations) PESCO HQ, Peshawar for information, please.
3. Chief Engineer (P&E) PESCO HQ, Peshawar for information, please.
4. Company Secretary PESCO, Peshawar.
5. SO to CEO PESCO, Peshawar
6. Deputy Manager NEPRA Cell PESCO HQ, Peshawar.