

	Customer Service	SOP Name	Interconnection Procedures for Distributed Generation
		Revision #	1
		Implementation Date	May 1, 2019
		Last Reviewed/Update Date	
SOP Owner	Dianna Walmsley	Approval	<i>General Manager</i>

Standard Operating Procedure (SOP)

1. Purpose

This policy establishes Arab Electric Cooperative's procedures and application fees required for Members to participate in available TVA programs that purchase distributed generation from qualifying member facilities. Available programs currently include Green Power Providers, Distributed Solar Solutions and Dispersed Power Production.

2. Scope

These procedures describe the steps Interconnection customers (herein after called customer) must follow in order for their distributed generation (DG) equipment to be evaluated and approved for interconnection to Arab Electric Cooperative (AEC) distribution system for parallel operation. To assure that the DG equipment does not cause significant degradation of the safety, power quality, or reliability to AEC's distribution system, these procedures and standards have been established.

AEC has an all requirements contract to purchase its total electric power requirements from the Tennessee Valley Authority (TVA). Therefore, AEC cannot purchase any portion of the output of DG connected to its distribution system. AEC can only provide distribution facilities to connect the DG and to transmit the energy to TVA. The owner of the DG must obtain from TVA either 1) a Power Purchase Agreement to buy the electrical energy, or 2) a transmission Service Contract to move the power to another utility.

All DG systems utilizing any TVA sponsored program will fall under their guidelines and interconnection procedures. All information pertaining to these programs can be found on TVA's website: www.tva.com/Energy/Renewable-Energy-Solutions

Any other DG system not filed under a TVA sponsored program must adhere to the guidelines presented in this document.

	Customer Service	SOP Name	Interconnection Procedures for Distributed Generation
		Revision #	1
		Implementation Date	May 1, 2019
		Last Reviewed/Update Date	
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3. Procedure

Application for Interconnection

Applicants participating in TVA sponsored programs including Green Power Providers (GPP) and Distributed Solar Solutions (DSS) are handled through the TVA Online Portal. All other customers must submit the application form found below.

Regardless of program type, all DG customers must complete the AEC Interconnection Agreement found below.

Fees

- For any new Participation Agreements (PA) received by the Cooperative for participation in TVA's Green Power Providers (GPP), there will be a \$200 non-refundable program application fee for each PA for any renewable energy generation system 10 kW or less.
- For any new PA received by the Cooperative for participation in GPP, there will be a \$500 non-refundable program application fee for each PA for any renewable energy generation system greater than 10 kW and less than or equal to 50 kW.
- For any new application received by the Cooperative for participation in TVA's Distributed Solar Solutions (DSS), there will be a \$10 per kW non-refundable program application fee for each PA.
- For any new application received by the Cooperative for participation in TVA's Dispersed Power Production, there will be a \$500 non-refundable program application fee along with a \$44.44 monthly administrative fee.
- For each member requesting a Transfer of ownership, a non-refundable fee of \$200 will be required before the requested transfer be made.

 Customer Service	SOP Name	Interconnection Procedures for Distributed Generation
	Revision #	1
	Implementation Date	May 1, 2019
	Last Reviewed/Update Date	
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The application fees and monthly administrative fees listed above represent the fees currently in effect and are subject to periodic revision under the Cooperative's Schedule of Fees and Services.

All fees are non-refundable.

Application Processing For Systems Requesting Compensation for DG Facilities Outside of the GPP or DSS Programs.

- AEC will review applications for any new project to determine the system impacts and any system modifications that must be made in order to accommodate the new system. DG systems in excess of 1MW will also be sent to TVA for assessment of any potential impacts to the bulk transmission system.
- After a system review has been performed, TVA will be notified of proposed interconnection to initiate the TVA Review and Power Purchase Agreement Process.
- Any system improvements required to accommodate a new DG system must be paid for in advance by the customer before any interconnection agreements will be signed.
- After all fees, system improvement and engineering study charges are paid; AEC will execute the Interconnection Agreement found on Attachment 2. At that time the customer will have one year to complete construction of the new DG system.
- The customer must execute the interconnection agreement and return it to AEC at least 30 calendar days prior to the desired date of parallel operation.
- A final system inspection must be completed prior to any parallel operation. All systems must be compliant with all rules and regulations outlined in the Interconnect Agreement before the system inspection will be finalized. If a system is found to be out of compliance AEC reserves the right to lock out the system until proper remediation takes place.
- After final inspections are complete the customer and AEC will commission the system together and begin parallel operation on an agreed upon date.
- Once the System is successfully commissioned TVA will be notified to execute the Power Purchase Agreement.

	Customer Service	SOP Name	Interconnection Procedures for Distributed Generation
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ATTACHMENT 1

APPLICATION FOR INTERCONNECTION OF DISTRIBUTED GENERATION

The Customer or his designated representative shall supply the following information.

Customer Name: _____

Service Address: _____

No. of Generators _____ Manufacturer _____ Model No: _____

kW Rating _____ kVA Rating _____ Power Factor _____

Voltage Rating: _____ Number of Phases: _____ Frequency: _____

Type (Synchronous, Induction, photo-voltaic, micro-turbine, fuel cell etc.) _____

Amount of power to be exported. _____ kW

Description of normal operation of distributed generation: (examples: provide power to meet base load, demand management, provide standby power)

Is one line diagram attached? _____ Is disconnect device location shown? _____

Is list of specifications on protective devices attached? _____

Expected Start-up Date: _____

Submitted by: _____ Title: _____

Signature _____ Date: _____

Address _____

Phone Number: _____ e-mail: _____

Return completed application to the AEC main office:

	Customer Service	SOP Name	Interconnection Procedures for Distributed Generation
		Revision #	1
		Implementation Date	May 1, 2019
		Last Reviewed/Update Date	
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Attachment 2

AGREEMENT FOR INTERCONNECTING MEMBER OWNED GENERATION TO THE ELECTRIC POWER SYSTEM

This Agreement (“Agreement”) is made and entered into this _____ day of _____, 20____, (“Effective Date”) by _____ Arab Electric Cooperative (“Cooperative”), and _____ (“Member”), In consideration of the mutual covenants set forth herein, the Parties agree as follows:

This Agreement provides for the safe and orderly operation of the generating resources of the Member located at _____.

This Agreement does not create any obligation of the Cooperative or the Cooperative’s power supplier, Tennessee Valley Authority (“TVA”) to purchase energy resulting from this interconnection, nor does this Agreement give the Member the right to sell energy resulting from this interconnection to any other entity.

This Agreement does not supersede the requirements of any by-laws, policies or membership agreements applicable tariffs, rates, rules and regulations in place by or between the Parties hereto.

1. **Intent of Parties:** It is the intent of the Member to directly or indirectly connect an electric power generator to the Cooperative’s electrical distribution system.

It is the intent of the Cooperative to operate the distribution system to maintain a high level of service to its Members and to maintain a high level of power quality.

It is the intent of both parties to operate the facilities in a way that ensures the safety of the public, Cooperative employees, Member employees (as applicable) and the Member’s household.

2. **Operating Authority:** The Member is responsible for establishing operating procedures and standards within state and local regulations, and in compliance with

	Customer Service	SOP Name	Interconnection Procedures for Distributed Generation
		Revision #	1
		Implementation Date	May 1, 2019
		Last Reviewed/Update Date	
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IEEE 519 and IEEE 1547, or other applicable industry standards that supersede IEEE 1547. The Member signifies by signing this Agreement that they are competent in the operations of the electrical generation system and are aware of the provisions of any operating requirements and regulations relating to the safe operation of electrical systems, specifically the system listed in this document.

3. **Responsible Member:** The Member acknowledges and asserts that they are the legal owner of the facilities referenced in this agreement and are the owners or have the legal right to place the facilities on the real property upon which it is located and the member is responsible for the safe operation of all electrical facilities and resources listed in this Agreement.
4. **Suspension of Connection:** It is intended that the connection should not compromise the Cooperative's protection of its own equipment and facilities or the operational requirements of its own equipment and facilities (including adversely affecting the transmission system of the Cooperative's power provider). The operation of the Member's generation device and the quality of electric energy supplied (in the case of power export) shall meet the standards including, but not limited to, IEEE 1547, IEEE 519 and UL 1741. All installations must be certified as IEEE 1547 compliant in writing either by the manufacturer, a recognized independent testing laboratory, or by a Registered Professional Engineer prior to connection. The Cooperative reserves the right to verify compliance through inspection/testing. If the operation of the Member's system or quality of electric energy supplied (in the case of power export) does not meet the standards as specified, then the Cooperative will notify the Member to take reasonable and expedient corrective action. The Cooperative shall have the right to disconnect the Member's system until compliance is demonstrated. Notwithstanding, the Cooperative may, in its discretion, disconnect the Member's generating resource from the distribution system without notice if the operating of the generating resource imposes a threat, solely within the discretion of the Cooperative to life and/or property.
5. **Maintenance Outages:** Maintenance outages will occasionally be required on the distribution system. The Cooperative will try to provide as much notice and planning as practical to minimize downtime resulting from a maintenance outage. It is noted that in some emergency cases such notice may not be practical. Compensation will not be made for unavailability of the distribution system due to outages (i.e. storms, equipment failures, etc.) and the Cooperative

	Customer Service	SOP Name	Interconnection Procedures for Distributed Generation
		Revision #	1
		Implementation Date	May 1, 2019
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does not in any way guarantee or warrant uninterrupted power supply or power distribution.

6. **Access:** Access to the Member's site is required at all times by the Cooperative for inspection, maintenance, operation and meter reading. The Cooperative reserves the right to inspect the Member's generating facilities and all equipment appurtenant to the facilities. However, the Parties further understand and agree that nothing herein obligates the Cooperative to inspect the facilities and/or equipment of the Member. Any inspection of the facilities and equipment by the Cooperative will be solely for the purpose of determining the effect of the interconnection of the facilities of the Member and the Cooperative's system. Said inspections are not intended to be relied upon by the Member or third parties as to the safety or efficacy of the Member's facilities or equipment.
7. **Liability and Indemnification:** The Member shall assume all liability for and shall indemnify the Cooperative and its members, trustees, directors, officers, managers, employees, agents, successors and assigns and shall hold them harmless from and against any claims, losses, damages, costs, and expenses of any kind or character, whether to property or person, arising from the Member's equipment and facilities and the construction, repair, interconnection, installation, operation, or maintenance of any electric generating resource or facility.
8. **Metering:** In cases of power export, a meter (or meters) capable of measuring and recording power flow in and out of the Member's generating resource will be installed by the Cooperative. Any and all costs and fees associated with metering requirements imposed by TVA or the Cooperative shall be paid by the member.
9. **Disconnect:** Member must install an automatic, lockable, visible load break disconnect switch between the generation source and the Cooperative's system. The disconnect shall be mounted separate from but adjacent to the Cooperative's meter socket. The Member shall ensure that such manual disconnect switch shall remain readily accessible to Cooperative and be lockable in the open position with a single Cooperative padlock. A permanent, weatherproof single line diagram of the facility must be located adjacent to the disconnect switch. Names and current telephone numbers of at least two persons authorized to provide access to the facility that have authority to make decisions regarding the interconnection and

	Customer Service	SOP Name	Interconnection Procedures for Distributed Generation
		Revision #	1
		Implementation Date	May 1, 2019
		Last Reviewed/Update Date	
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operation of the system will also be required in a permanent weatherproof format adjacent to the disconnect switch.

10. **Costs and Fees:** Prior to application acceptance, the Member shall pay the Cooperative the appropriate application fee(s) to cover the cost of facilities inspection/testing, and other administrative and overhead expenses incurred by the Cooperative to accommodate the metering and billing/purchasing of energy transmitted by the Member. Any costs incurred by the Cooperative in modifying the Cooperative's system to receive the power generated by the member shall be the responsibility of the member. These costs shall be paid prior to interconnection. Such costs include but are not limited to the purchase and installation of equipment and the engineering costs incurred in determining the modifications to be made to accommodate the Member's generated power.
11. **Rates:** The Member acknowledges that alternative retail rates for power received from the Cooperative may be applicable depending on the installed capacity of the distributed resource. The applicable Cooperative rate, as amended over time, will be applied in determining the cost of power delivered from the Cooperative to the Member. The rate paid by the Cooperative to the member for power generated by the member and exported to the Cooperative shall be determined by TVA pursuant to the applicable rules and regulations.
12. **Insurance:** Member shall carry the following minimum insurance: for facilities which generate less than 50Kw \$100,000.00 in General Liability coverage and for facilities which generate more than 50Kw \$500,000.00 Aggregate – Commercial General Liability for personal and property damage. Member shall provide the Cooperative with a certificate of insurance evidencing such coverage and shall keep coverage active for the life of this agreement.
13. **Generating Facilities:** The Member certifies that the following devices constitute the total unit(s) of generating equipment installed and addressed under this Agreement.

Item Description

Model Number:

- 1) _____

- 2) _____

- 3) _____

	Customer Service	SOP Name	Interconnection Procedures for Distributed Generation
		Revision #	1
		Implementation Date	May 1, 2019
		Last Reviewed/Update Date	
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4) _____

5) _____

6) _____

14. **Term:** This Agreement is valid for a period of three (3) years from the Effective Date and will automatically renew, unless terminated as set forth herein. Member is required to notify Cooperative if interconnected equipment is modified or other equipment is added or if equipment is replaced with new equipment. This agreement may be terminated by either party, with or without cause and for any reason, with not less than thirty (30) days written notice to the other party.
15. **Severability:** If any portion of this Agreement is held or adjudged for any reason to be invalid or illegal or unenforceable by any court of competent jurisdiction, such portion shall be deemed separate and independent, and the remainder of this Agreement shall remain in full force and effect.
16. **Amendment:** This Agreement may only be amended upon mutual agreement of both Parties, which amendment will not be effective until reduced to writing and executed by the Parties.
17. **Limitations:** This Agreement is not intended to and does not create any rights, remedies or benefits of any character whatsoever in favor of any persons, corporations, associations or entities other than the Parties hereto, and the obligations herein assumed are solely for the use and benefit of the Parties. This agreement is not intended to be relied upon by third parties.
18. **Assignment:** The Interconnection Agreement shall not be assignable by either party without thirty (30) calendar days' notice to the other Party and written consent of the other Party, which consent shall not be unreasonably withheld or delayed.

An assignee to this Interconnection Agreement shall be required to assume in writing the Participant's rights, responsibilities, and obligations under this Interconnection Agreement.

19. **Attorney Fees:** In any action, suit or proceeding to enforce or interpret the terms of this agreement, the prevailing party shall be entitled to reimbursement for all costs and expenses reasonably incurred in enforcing, defending or interpreting its rights hereunder, including, but not limited to, all collection and court costs, and all

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attorneys' fees, whether incurred out of court, in the trial court, on appeal, or in bankruptcy or administrative proceedings.

AGREED TO BY

Member

Cooperative

By: _____

By: _____

Its: _____

Its: _____

Date: _____

Date: _____ Requirements

4. References

My signature above indicates that I have received this SOP, and I understand that I am encouraged to discuss any concerns with my supervisor.