

## Standard Form Information

The following information is intended to provide further explanations and expectations to assist you in submitting a completed application that will operate safely in parallel with AEP Ohio's system.

- **Site Diagram**

It must clearly display and include the house/building and location of the generator, AEP Ohio meter and generator disconnect switch. It should also include the name and address of the customer, installer name, and date as well as a north arrow and geographic references such as streets, driveways, AEP poles or transformers, etc. If there are any existing generators, include the same items and information for them.

- **Electrical One-line Diagram**

It must be a legible schematic diagram of the entire generating equipment system. It should contain all of the electrical equipment from the AEP Ohio meter to the generator including switches, fuses, breakers, panels, transformers, inverters, energy source, wire size, equipment ratings and transformer connections. It is preferred that a title block with the project name, address, installer name and date is also included. If there are any existing generators, include the same items and information for them. The diagram must be signed and stamped by a licensed Professional Engineer if the generating equipment system is greater than 50 kW.

- **Technical Specifications and Documents**

Submit with the Interconnection Application, the technical specifications literature of each component of the generating equipment system (i.e. inverters, photovoltaic modules, wind turbines, other generators, battery systems or other interface devices) which must be for the specific equipment that will be installed. A critical item for inverters is the UL 1741 approved or IEEE 1547 compliance documentation.

The technical specifications and requirements of IEEE 1547 are needed for the interconnection of all generating equipment systems, and meeting them will be sufficient for most installations. Additional technical requirements may be necessary for some limited situations. For example, when a transformer configuration within the generating equipment system, elsewhere in the customer-generator's electrical system or at the AEP Ohio transformer consist of any three phase delta connected winding.

Please refer to the "AEP Ohio Technical Requirements for Interconnection Service" for a detailed explanation and guidance on the information that will need to be submitted in order for AEP Ohio to assess IEEE 1547 compliance of the generating equipment system. Appendix 3 of this document is a guide for testing and reporting per IEEE 1547.1, which includes examples of acceptable documentation and reports. The "Distributed Generation IEEE 1547.1 Testing Matrix" must be fully populated and submitted with the Standard Application whenever the generating equipment system is not only a UL 1741 approved inverter-based system. For clarity

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and ease of reference AEP Ohio recommends utilizing the “Documentation Index” and “Testing Results Summary” templates in the IEEE 1547.1 Templates spreadsheet file.

- **Proof of Insurance**

Customers must maintain sufficient amounts of insurance coverage to meet its construction, operating and liability responsibilities. A copy of the customer-generator’s “Certificate of Liability Insurance” or for residential customers, a current copy of the Home Owner’s Declaration Page that lists Property and Liability coverage is acceptable proof. If the customer is an entity who is self-insured, then written notification from an authorized representative of the entity attesting to have sufficient insurance coverage is acceptable proof.

- **Generating Equipment System Disconnect Switch**

A disconnect switch to the generating equipment system is always required.

The disconnect switch must be readily accessible at all times. AEP Ohio or its authorized personnel must be able to operate the disconnect switch at any time for maintenance purposes or service restoration. It should be within 6 feet of the AEP Ohio meter. It can’t be in an enclosed area (i.e. inside a building, behind a locked fence or blocked by a barrier such as hedges, miscellaneous items, dogs, etc.). AEP Ohio does not enter buildings, make phone calls to gain access, maintain keys to secured areas or acquire a key from a key box to get access to disconnect switches. If there is a unique situation where the AEP Ohio meter is located inside a building or enclosed area, then the disconnect switch can be located next to the meter. Locating the disconnect switch anywhere other than next to the AEP Ohio meter will require pre-approval from the DG Coordinator and a permanent plaque must be installed next to the AEP Ohio meter that clearly identifies the location of the disconnect switch.

The disconnect switch must be lockable and plainly indicate whether it is in the open (off) or closed (on) position.

If the disconnect switch is on the load side of the main disconnect means then it could be a solid blade switch or the DC switch for the inverter, provided it meets all other requirements.

If the disconnect switch is on the supply side of the main disconnect means it must be an AC switch and if the electric service is a three phase supply it must be a three phase automatic isolating device. Also, it must meet all other requirements.

It must be properly labeled such as, “Generator AC Disconnect Switch”.

- **Supply-side Connections**

A direct connection of the generating equipment system to the service conductors outside the main service equipment panel between the point of service and the service disconnecting

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means is not permitted. A supply-side connection of the generating equipment system can only take place on the supply-side of the main disconnect means or the service conductors within the main service equipment panel when suitable for that purpose. If connected on the service conductors a self-piercing connector is not recommended, instead an insulated clamp style connector is preferred.

AEP Ohio will allow supply-side connections outside of the main service equipment panel provided the Authority Having Jurisdiction (AHJ) (i.e. State, City or County Building/Electrical Inspector) has provided documentation authorizing the connection. This in turn places full liability and responsibility on the AHJ and customer-generator. If there is no AHJ with the proper documents, as is often the case for many residential and some nonresidential projects, then a supply-side connection will not be approved. AEP Ohio will not accept the responsibility and liability of a supply-side connection outside the main service equipment panel.

A direct connection of the generating equipment system inside a meter enclosure or meter base for AEP Ohio metering is not permitted unless it is a UL Approved (SOLAR Ready type) meter-load center combination enclosure. Another exception may be allowed for a self-contained 400 A class meter base with load-side double lugs. At present other such meter bases are not available.

- **Inspections**

The customer is responsible for ensuring the generating equipment system is inspected by the local authority that has jurisdiction for generator installations in their area and that all appropriate permits are acquired. AEP Ohio isn't responsible for inspections, but does make a field verification to confirm the generating equipment system installed matches what was submitted on the interconnection application.

- **Application Fee**

The Interconnection Application fee is \$50 plus \$1/kW of the generating system nameplate capacity rating when it is a Level 2 expedited review; otherwise, it is \$100 plus \$2/kW of the generating system nameplate capacity rating as a Level 3 standard review. The criteria for determining if the generating system is a Level 2 or 3 is available in our Minimum Requirements for Interconnection Service or section 4901:1-22-07 of the Ohio Administrative Code. Most generating systems with a nameplate capacity rating of 2,000 kW or less will be processed under a Level 2 expedited review. The check must be payable to "AEP Ohio" and mailed to: AEP Ohio, Attn: DG Coordinator, 850 Tech Center Drive, Gahanna, Ohio 43230 when the application is submitted.

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- **Meter Change Fee**

To accommodate participation of Schedules NEMS or COGEN/SPP a dual register meter that measures the energy delivered and received is installed at actual cost, borne by the customer. With most meters currently in use this cost is typically \$319 for residential and \$195 for nonresidential customers. In some cases the meter may already be capable of measuring the flow of electricity in both directions, but for various reasons AEP Ohio may change the meter at no cost to the customer. If there is a cost borne by the customer, you will be notified prior to making a meter change.

- **Construction Cost**

The customer must pay the full actual cost for all construction on the AEP Ohio system required to accommodate the safe operation of the generator. The customer will be notified of the estimated cost before any construction is performed. In many cases there is no construction required when the generator capacity is not greater than the AEP Ohio facilities providing electric service.

- **Changes to Generating Equipment Systems**

AEP Ohio must be notified immediately of any generating equipment system changes at any time to ensure the safety and electric service reliability are not impacted. If an expansion to the generator, addition of another type of generator, or the removal of the generator occurs after the initial installation is completed, the customer must notify AEP Ohio.

- **Interconnection Agreement**

The Interconnection Agreement will be prepared by AEP Ohio.

**Please do not permit the operation of the generator until AEP Ohio has verified the installation and returned the Interconnection Agreement signed by AEP Ohio.**