West Virginia Net Metering

Customer Information Guide

APPALACHIAN POWER
An AEP Company

Revision v2.0 Effective Date 02/01/2026

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Revision History

Current revision (v2.0) 2026

Previous revision 2019

Description: Distributed Energy requirements for Net Metering interconnection to the APCo distribution system.

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1. **Introduction**
   1.1. Net Metering is available to certain eligible Appalachian Power customers who operate on-site renewable energy generators (such as solar panels) and wish to make some or all their own electricity. Approved customers are allowed to interconnect their renewable energy generating facility with the grid, providing renewable energy to serve their own electrical load.
   1.2. Net Metering: The means of measuring the difference between the electricity supplied by an electric utility to the customer and the electricity generated from an alternative or renewable energy resource facility owned or operated by the electric retail customer when any portion of the electricity generated by the alternative energy resource facility is used to offset part, or all, the electric retail customer requirements for electricity.
   1.3. This guide is intended to provide documents for commonly installed inverter based photovoltaic and/or wind turbine generating systems that may qualify for Net Metering Service.
   1.4. The **Legislative Rule (Title 150CSR33)** governs electric utility Net Metering arrangements and interconnection standards.
   1.5. The Company's **Net Metering Service Tariff (Tariff N.M.S.)** provides detailed information regarding availability of the service, charges, metering, conditions of service, and technical requirements.
   1.6. The **DER Technical Interconnection and Interoperability Requirements (TIIR)** document specifies the technical requirements for the interconnection of Distributed Energy Resources (DERs) to AEP's distribution system.
      1.6.1. In some instances, additional Transmission system or RTO requirements may also be applicable.
   1.7. Submissions shall be made using our online portal located at **https://aep.powerclerk.com.**
   1.8. To obtain non-net metering documents or non-inverter-based systems, or for questions about eligibility, please contact us at **dgcoordinator-wv@aep.com.**
   1.9. The Distributed Energy System shall be installed in accordance with the manufacturer's specifications as well as all applicable provisions of the National Electric Code.
   1.10. Customers are reminded that the terms, conditions, fees, and eligibility requirements for net metering service are subject to revision, as approved by the West Virginia Public Service Commission.
   1.11. Company approval of connecting a generator to its distribution system is required.
   1.12. Please leave your generator OFF until APCo has completed the final review and your meter has been exchanged or reprogrammed.
2. **Summary of the process:**
   2.1. A completed Interconnection Application is submitted to the Company.
      2.1.1. Submittal includes, but is not limited to:
         2.1.1.1. Manufacturer's literature illustrating UL 1741SB compliance,
         2.1.1.2. Proof of insurance
         2.1.1.3. Electrical one-line diagram.

2.2. Customer will sign an Application Fee Agreement.

2.3. Customer invoice is generated.

2.4. Once payment is received, the application will be reviewed.

2.5. Company will notify customer of approval or disapproval of interconnection and/or provide any applicable conditions.

2.6. Interconnection Agreement will be signed by the customer.

2.7. Approval to Interconnect will be issued by the Company.

2.8. Customer completes all conformance testing (see 4.1.5.e of the Public Service Commission of West Virginia Interconnection Standards) required by IEEE 1547 and notifies Company of test results within 10 business days.

2.8.1. Company accepts test results or notifies customer of deficiencies within 10 business days.

2.9. Each DER installation shall have an electrical inspection conducted.

2.9.1. The inspection must be performed by the local Authority Having Jurisdiction (AHJ) or a third-party electrical inspector licensed by the State of West Virginia.

2.9.2. DER installations that are installed on the supply-side (line) of a service disconnect are considered a modification of the existing electrical service. Therefore, the electrical inspection shall encompass both the electrical service entrance and the DER.

2.9.2.1. A modified electrical service, requiring an electrical inspection, shall meet the standards of a new service installation.

2.9.3. DER installations that are installed as load-side source connections do not require an electrical inspection of the service entrance. However, any safety concerns of the electrical service entrance observed by the electrical inspector may cause a failure of the inspection.

2.10. After installation, the electrical inspector submits inspection information via approved method.

2.11. Customer submits completed Certificate of Completion (COC), signed by the electrical inspector, photos of the installation, and other documents as required.

2.12. Commercial and Industrial applications must have proof of compliance with the West Virginia State Fire Marshal's Office or other local State Fire Code authority having jurisdiction.

2.13. Company reviews all submitted test results, required photos, and other submitted documentation within **10 business days**.

2.14. Upon acceptance of submittals the company will install a bi-directional meter or reprogram existing meter, if applicable, within **10 business days**.

2.15. Company executes Permission to Operate thereby granting the customer the right to operate the generator connected to the AEP system.

2.16. Company may conduct on-site inspections to verify the proper installation and continuing safe operations of the generating facilities.

3. **Application Checklist**

3.1. Completed Application

3.2. Secured general liability insurance (minimum $100,000) – attach proof of insurance (e.g., Certificate of Insurance).

3.3. Electrical one-line diagram of proposed installation.

3.4. Site diagram

3.5. Generator specification sheet.

3.6. Inverter specification sheet illustrating UL1741SB compliance.

4. **Title 150 Legislative Series 33**

4.1. Rules governing electric utility Net Metering arrangements and interconnections can be found here: https://apps.sos.wv.gov/adlaw/csr/ruleview.aspx?document=16946

4.1.1. Level 1 Interconnections.

4.1.1.1. Shall have a nameplate capacity of 25kW or less.

4.1.1.2. Shall utilize inverter-based technology and customer Interconnection Equipment that is non-islanding, UL listed, and Certified in accordance with the provisions contained in Appendix C of 150CSR33.

4.1.1.3. Proposing to interconnect to distribution facilities operating at 69kV or less.

4.1.1.4. Application fee of thirty dollars ($30).

4.1.2. Level 2 Interconnections

4.1.2.1. Any system that does not qualify under Level 1.

4.1.2.2. Application fee of fifty dollars ($50) plus one dollar ($1) per kW of capacity.

4.2. Other requirements are specified in the Legislative Series.

5. **West Virginia Tariff Rates**

5.1. The Company's tariff book can be found here: https://www.appalachianpower.com/company/about/rates/

5.1.1. The maximum allowed generator size (AC) for a residential account is **25kW**, for commercial accounts it is **500kW**, and for industrial accounts it is **2MW**.

5.1.2. Inverters must be UL1741-SB and IEEE1547-2018 compliant.

5.1.3. You must carry liability insurance while interconnected.

5.2. Other requirements are specified in the tariff.

6. **Technical Interconnection and Interoperability Requirements.**

6.1. Please see our Technical Interconnection and Interoperability Requirements (TIIR) https://www.aep.com/requiredpostings/aeptransmissionstudies/der-tiir/

6.1.1. A labeled, lockable, visible load break disconnect is required outside near our electric meter so that the renewable generator can be isolated, if necessary.

6.2. Other requirements are specified in the TIIR.

7. **Relevant Codes and Standards**

7.1. IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems (including use of IEEE 1547.1 testing protocols to establish conformity)

7.2. UL 1741 Inverters, Converters, and Controllers for Use in Independent Power Systems

7.3. IEEE Std 929-2000 IEEE Recommended Practice for Utility Interface of Photovoltaic (PV) Systems

7.4. NFPA 70 National Electrical Code

7.5. IEEE Std C37.90.1-1989 (R1944) IEEE Standard Surge Withstand Capability (SWC) Tests for Protective Relays and Relay Systems

7.6. IEEE Std C37.90.2 (1995) IEEE Standard Withstand Capability of Relay Systems to Radiated Electromagnetic Interference from Transceivers

7.7. IEEE Std C37.108-1989 (R2002) IEEE Guide for the Protection of Network Transformers

7.8. IEEE Std C257.12.44-2000, IEEE Standard Requirements for Secondary Network Protectors

7.9. IEEE Std C62.41.2-2002, IEEE Recommended Practice on Characterization of Surges in Low Voltage (1000V and Less) AC Power Circuits

7.10. IEEE Std C62.45-1992 (R2002) IEEE Recommended Practice on Surge Testing for Equipment Connected to Low-Voltage (1000V and Less) Power Circuits

7.11. ANSI C84.1-1995 Electric Power Systems and Equipment - Voltage Ratings (60 Hertz)

7.12. IEEE Std 100-2000, IEEE Standard Dictionary of Electrical and Electronic

7.13. NEMA MG 1-1998, Motors and Small Resources, Revision 3

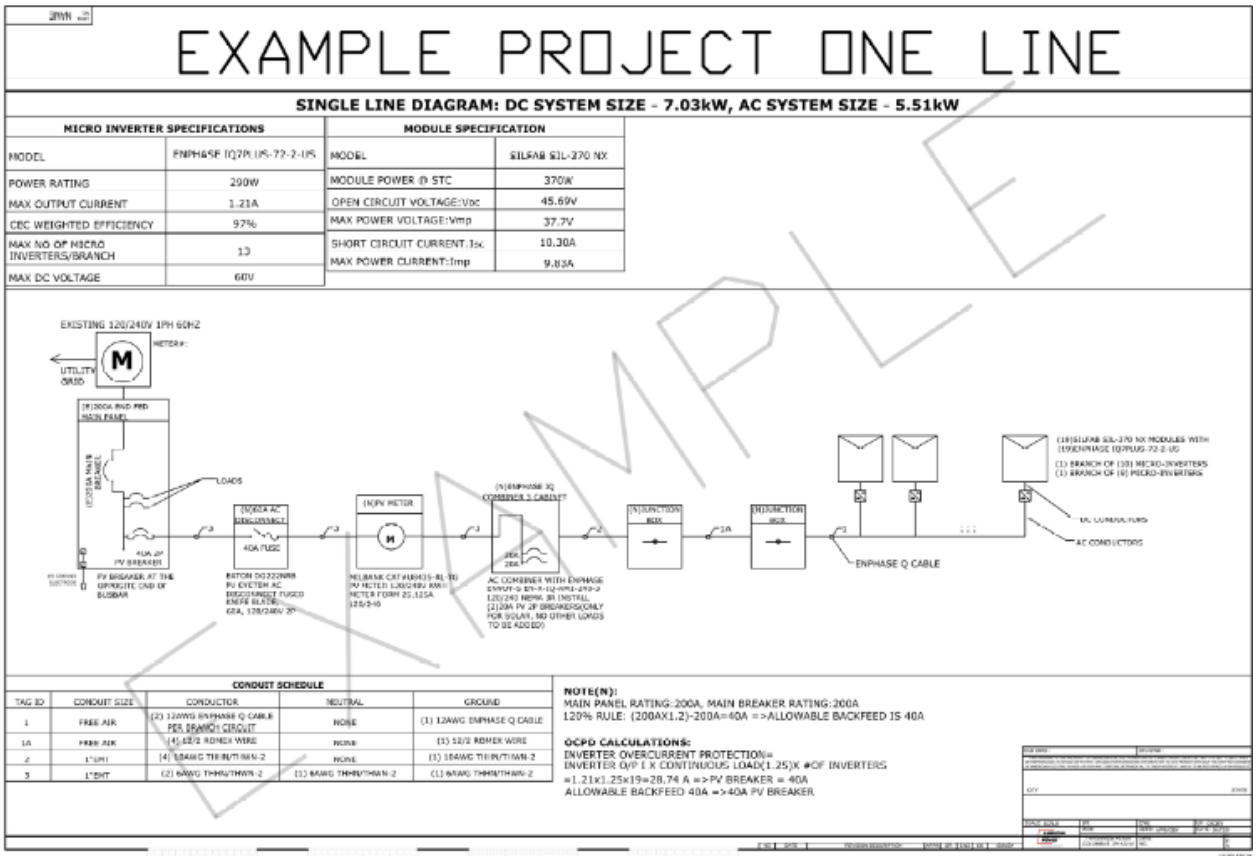
7.14. IEEE Std 519-1992, IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems

7.15. NEMA MG 1-2003 (Rev 2004), Motors and Generators, Revision 1

7.16. NFPA 1 Fire Code

7.17. West Virginia State Fire Code (Commercial and Industrial).

Sample One Line Diagram



Sample Site Diagram