

WFEC Interconnect Requirements

The requirements to interconnect to WFEC are outlined in these four documents.

- Board Policy 9-3: Interconnecting Contracts, Interchange Agreements, and Power Loads
- Board Policy 9-5: Interconnection with Small Power Producers, Cogenerators and Certain Other Generators
- Board Policy 9-6: Interconnection Procedure
- WFEC Transmission Criteria

WFEC maintains these documents and reserves the right to revise these documents at any time.

Current versions of these documents as of the time of submittal are attached.

The latest version of these documents can be found at WFEC HQ in Anadarko, OK. To request a copy, please contact WFEC at (405) 247-3351 during regular business hours.

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POLICY BULLETIN NO. 9-3:

INTERCONNECTING CONTRACTS, INTERCHANGE AGREEMENTS, AND POWER LOADS

I. OBJECTIVES:

- A. To provide for interconnections with other generation and transmission systems.
- B. To improve continuity and reliability of service.
- C. To reduce transmission facility investment.
- D. To purchase capacity and energy where economically practical.
- E. To market excess capacity and energy when available.

II. POLICY:

- A. In order to fulfill the above objectives, it shall be the policy of Western Farmers Electric Cooperative (WFEC) to provide Members the most reliable and economical power supply energy according to the following provisions:
 1. WFEC shall interconnect its transmission system with transmission systems of other electric power suppliers where economically feasible to improve continuity, stability, and reliability of service; to provide the means of purchasing low cost capacity and energy; and to market excess capacity and energy.
 2. WFEC shall enter into interchange agreements with municipalities or other electric power suppliers whenever such agreements serve the interest of WFEC.
 3. WFEC shall serve power loads other than those of an interchange character directly, if economically feasible, only upon written request from the Member in the area of the load that WFEC provides service.
- B. Where interconnection of WFEC's facilities with other power suppliers is not economically feasible, interchange agreements are not in the interest of WFEC, or service to power loads is not economically feasible, such entity requesting service shall pay such costs as deemed necessary to make the project economically feasible.

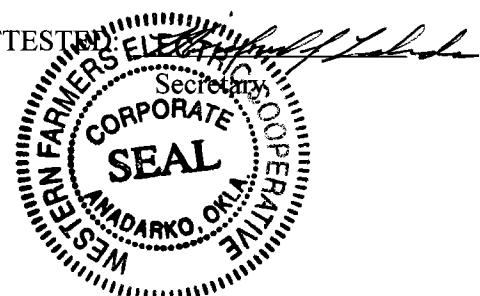
III. RESPONSIBILITY: Management and Staff

DATE ADOPTED: April 9, 1981

DATE AMENDED: December 16, 2005

DATE REVIEWED: December 17, 2014

ATTESTED:



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POLICY BULLETIN NO. 9-5:

INTERCONNECTION WITH, AND PURCHASES FROM, SMALL POWER PRODUCERS, COGENERATORS AND CERTAIN OTHER GENERATORS

I. OBJECTIVES:

- A. To provide for the electrical interconnection between Western Farmers Electric Cooperative (WFEC) and a qualifying small power producer or cogenerator as defined by the Public Utility Regulatory Policies Act of 1978 (PURPA) and hereinafter referred to as a qualifying facility or "QF" and to establish rules for the safe and reliable operation of such interconnected facilities.
- B. To provide for the purchase of electric power and energy from a QF.
- C. To provide for the electrical interconnection between WFEC and a generator that is not subject to the interconnection procedures administered by the Southwest Power Pool, Inc. (SPP).

II. APPLICABILITY OF WFEC INTERCONNECTION POLICIES AND PROCEDURES:

- A. Responsibility for the tariff administration of WFEC's transmission facilities has been transferred to the SPP. The WFEC transmission facilities subject to the SPP's administration (WFEC's Pool Tariff Facilities hereinafter the WFEC PTF) are specified in SPP's open access transmission tariff (OATT) on file with the Federal Energy Regulatory Commission (FERC). Certain interconnection requests are subject to the SPP OATT, such as: (a) any request by an electric generator that is not a qualifying facility (QF), as defined in FERC's regulations implementing PURPA, to interconnect to the WFEC PTF; (b) any request by a QF that will sell all or part of its available electrical output to a purchaser other than WFEC to interconnect to the WFEC PTF; and (c) any request to interconnect a substation, radial line, or other transmission or distribution facilities to the WFEC PTF. If WFEC receives an interconnection request that is subject to the SPP OATT, WFEC will notify the applicant and direct the applicant to file the request with the SPP.
- B. All interconnection requests, other than those described above in paragraph II.A., shall be subject to the WFEC Interconnection Policies and Procedures, as follows: (v) any request by a QF that will sell all of its available electrical output to WFEC to interconnect to WFEC's facilities (see below); (w) any request to interconnect an electric generator to WFEC's facilities that are not WFEC PTF (see below); (x) any request to interconnect a substation, radial line, or other transmission or distribution facilities to WFEC's facilities that are not WFEC PTF (see Policy 9-1); (y) any request by a WFEC Member or customer under an agreement with WFEC that has been identified by SPP as a "Grandfathered Agreement" under the SPP OATT to add, expand or upgrade a substation, delivery point or other facilities under such agreement (see Policy 9-1); and (z) until the adoption of standard interconnection policies and procedures applicable to distribution cooperatives in the State of Oklahoma, any request to interconnect to a Member or other all-requirements customer of WFEC (see below).

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- C. It is the policy of the WFEC Board of Directors that WFEC shall implement the WFEC Interconnection Policies and Procedures on a not unduly discriminatory basis, and therefore WFEC will process interconnection requests made by third parties under the WFEC Interconnection Policies and Procedures on a basis comparable to that which WFEC uses in processing its requests to interconnect its own generation and transmission facilities to WFEC facilities.

III. INTERCONNECTION POLICY – QFs:

- A. Part III of this Policy is intended to establish WFEC's basic approach and general guideline for allowing QFs to interconnect with the electric utility system of WFEC and sell electric power and energy to WFEC, or to interconnect with the distribution system of a WFEC Member or other all-requirements customer of WFEC and sell electric power and energy to WFEC, one of its Members or another all-requirements customer of WFEC, all in accordance with rules adopted by the FERC to implement Sections 201 and 210 of PURPA. For interconnection with the distribution system of a WFEC Member or other all-requirements customer of WFEC, refer to that Member's or customer's distribution interconnection policy.
- B. Because of the wide diversity in size and other characteristics of the facilities that must be covered, it is impractical for this Policy to be all-inclusive. Additional requirements will be appropriate in particular cases, and will be imposed or placed into effect as may be appropriate. WFEC will apply any such additional requirements on a not unduly discriminatory basis.
- C. To the extent practicable, any changes in matters that are the subject of this Policy will be made by a revision to the Policy, a copy of which will at all times be available at the headquarters of WFEC, located at Anadarko, Oklahoma. When necessary, interconnected QFs will be notified at the time of such revisions.
- D. All provisions of this Policy are subject to change in the event any necessary governmental approval or other action from FERC, the Rural Utilities Service (RUS), or other agency having appropriate jurisdiction is not obtained, or in the event of change in relevant law, regulations or rules.
- E. The final rules issued by FERC to implement Sections 201 and 210 of PURPA require all electric utilities to interconnect with and to buy electric energy and capacity made available by QFs. With certain exceptions for "old" QFs, the construction of which began prior to November 9, 1978 (the date PURPA became effective), the purchase rates paid to QFs for their energy and capacity must equal WFEC's "avoided costs" of energy and capacity that would have been purchased or generated but for the purchases from the QFs, unless (1) such rates would be unjust or unreasonable to WFEC's Member cooperatives and a lower rate would, in WFEC's reasonably exercised discretion, be sufficient to encourage cogeneration and small power production and is not discriminatory against QFs, or (2) the QF and WFEC agree on a negotiated rate in lieu of an "avoided cost" rate.
- F. Section 210 of PURPA and FERC's implementing rules were imposed on WFEC, which has the responsibility of formulating and implementing a program to comply with the forgoing requirements, and authorized WFEC to adopt

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reasonable standards to ensure the safety and reliability of interconnected operations with QFs.

- G. Part III of this Policy is intended to provide general guidance as to the manner in which WFEC will implement such requirements, and to establish basic safety and operational standards. Part III is not intended to, and shall not operate to, obligate WFEC to interconnect with, or buy from facilities that do not qualify as beneficiaries of these legal requirements, or to interconnect with or buy from QFs under any circumstances not required by PURPA. Policy 9-6 sets forth additional procedures that a QF requesting interconnection with WFEC must follow.
- H. Direct Interconnection with QFs: Part III of this Policy applies to (i) the direct interconnection with the WFEC PTF of QFs who will sell all of their available electrical output to WFEC, and (ii) the direct interconnection with WFEC's facilities that are not WFEC PTF of QFs regardless of the purchaser(s) of the QFs' available electrical output.
 1. It is the policy of WFEC to permit any QF to interconnect with its integrated transmission system and purchase from such QF, in each case subject to the express and implied terms and conditions of the Policy, and a written agreement as stated in Section K, Paragraph 9 of Part III of this Policy.
 2. Any QF that will be connected and operated in parallel with WFEC must meet certain requirements to assure safety and reliability and protect property of WFEC, its employees, the QF owner and operator, and the public; however, if a QF is installed to serve only dedicated loads at the site (such as water or space heating) without any connection to WFEC's system, the interconnection requirements contained in this Policy will not apply.
 3. The following requirements and conditions apply to the direct interconnection with QFs that are subject to Part III of this Policy 9-5, and will be considered in interconnections with QFs on an individual, not unduly discriminatory basis:
 - a. WFEC must be notified in writing of a QF's request to sell to WFEC electric energy or capacity from the QF's generating facility. This notice will provide the opportunity to give the potential QF information concerning rates and interconnection costs to be used in determining the costs and benefits of the proposed installation. The notification must include:
 - i. Proposed generating capacity in kW.
 - ii. Number of phases and description of generator as given by manufacturer.
 - iii. Proposed locations, including evidence of the QF's legal authority to use said location for the intended purpose (i.e., option to purchase, option to lease, deed, etc.), a diagram of the site, and assumed conditions, such as wind or flow of water, which would influence the pattern of electrical output.
 - iv. The proposed means of interconnection.

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- b. WFEC will review all proposed facilities and interconnection plans. Facilities will not be allowed to be energized and commence parallel operation until such review by WFEC has been completed, a final inspection of the facilities completed by WFEC, and approval granted. WFEC's review of facilities and interconnection plans will specifically address adequate physical and contractual safeguards with regard to safety, reliability, system protection and quality of service.
 - c. WFEC reserves the right to inspect the generation and associated interconnection facilities at any time and to disconnect the generation and associated interconnection facilities if necessary to address or avoid a system emergency, consistent with FERC's PURPA regulations.
 - d. The owner or operator of the QF will maintain and service the generating and QF-owned interconnection facilities as necessary for safe and reliable operation, and maintain a record log to be made available to WFEC and other appropriate authorities having jurisdiction over such matters, showing planned and actual data indicating when the generator is, or is planned to be, shut down for repairs or maintenance, the kind of maintenance or repair completed, and when the generator is, or is planned to be, placed in service.
 - e. If operations of the generator cause unacceptable voltage conditions, service interruptions communications interference, or any other safety or reliability concern, the generator will be disconnected until the unacceptable condition has been corrected consistent with FERC's PURPA regulations.
4. WFEC's Members shall not subsidize the QF. All costs including engineering, construction, material, and related expenses are to be paid by each QF.

I. Purchase Rates for energy and/or capacity:

1. Unless a different rate is negotiated by WFEC and a QF, WFEC will purchase at its "avoided costs" (as defined in Section III.I. 2. below) energy and, as applicable, capacity from the QF in accordance with Sections 201 and 210 of PURPA. WFEC will base its "Avoided Cost Rate" on that portion of its costs that, by virtue of the purchase from the QF, it would avoid. WFEC will provide a requesting QF with historical avoided costs but such historical data is no guarantee of future avoided costs, which shall be calculated pursuant to this Section I. WFEC may modify the Avoided Cost Rate or any component(s), input(s) or calculation(s) methodology(ies) thereof from time to time, with any such modification(s) having prospective effect only.
2. For purposes of determining the rate(s) at which WFEC will purchase energy, capacity or both, from QFs, WFEC's Avoided Cost Rate (ACR) shall be:

ACR = CR + ER, where:

CR is the Capacity Rate, expressed as a dollar per kilowatt per month (\$/kW/month), if any, equal to the actual \$/kW/month associated with capacity avoided by WFEC as a direct result of purchasing from the QF

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(AC), multiplied by actual net capacity of the QF as recognized and accredited by the SPP, or other applicable regional reliability coordinator or successor thereto, expressed in kW (QFAC), such that CR = (AC (\$/kW/month) X QFAC (kW)).

By way of an example, if WFEC determines that it will actually avoid capacity that would cost \$6.75/kW/month, with a QF resource that has a nameplate rating of 100,000 kW but an accredited capacity of 5,000 kW the formula would solve as:

$$CR = \$6.75 \times 5,000$$

$$CR = \$33,750 \text{ per month}$$

WFEC shall determine CR annually or more frequently as appropriate, and may adjust CR to reflect the value of the QF capacity purchased, based on type and characteristics of the QF and the value of the capacity avoided.

ER is the Energy Rate expressed as a cents per kilowatt hour ($\text{¢}/\text{kWh}$) which WFEC shall pay to QF for energy delivered by QF to a designated delivery point (subject to the Loss Factor Adjustment, if applicable). The ER for each hour in which energy is delivered is (a) the lesser of (1) the SPP Market Price, or (2) the Index Price, plus (b) the Avoided Variable Operating and Maintenance expense (AVOM), where:

SPP Market Price is the market-clearing price locational marginal price at the relevant node or pricing point for the hour in which the energy is delivered, by the QF to WFEC, as such market-clearing price is determined by SPP, provided that WFEC shall determine the average price for the hour based on the SPP prices during such hour; and

Index Price is the Gas Index Price for the day in which the energy is delivered times the Heat Rate, where:

Gas Index Price is the daily midpoint index price for natural gas delivered to pipelines for the Panhandle Eastern Pipe Line Company, Texas-Oklahoma delivery point as published each day by Platts in its Gas Daily publication, provided that if such index price is not available, then WFEC shall select a commercially reasonable alternative index, and

Heat Rate (HR) is the applicable monthly On-Peak or Off-Peak heat rate for the month in which energy is delivered where the On-Peak period each day is defined as the sixteen (16) hours beginning with the hour ending 0700 and terminating with the hour ending 2200, and the Off-Peak period each day is defined as the eight (8) hours beginning with the hour ending 0100 through and including the hour ending 0600 plus the two hours ending 2300 and 2400 as follows:

January HR:	On-Peak 0.010000	Off-Peak 0.009000
February HR:	On-Peak 0.010000	Off-Peak 0.009000
March HR:	On-Peak 0.007700	Off-Peak 0.006200
April HR:	On-Peak 0.007700	Off-Peak 0.006200
May HR:	On-Peak 0.007700	Off-Peak 0.006200
June HR:	On-Peak 0.010500	Off-Peak 0.006200
July HR:	On-Peak 0.010500	Off-Peak 0.006200
August HR:	On-Peak 0.010500	Off-Peak 0.006200

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September HR:	On-Peak 0.010500	Off-Peak 0.006200
October HR:	On-Peak 0.007700	Off-Peak 0.006200
November HR:	On-Peak 0.007700	Off-Peak 0.006200
December HR:	On-Peak 0.010000	Off-Peak 0.009000

AVOM is two tenths of one cent per kWh (0.2¢/kWh).

Loss Factor Adjustment. The quantity of energy to which ER is applied may be adjusted to account for losses associated with delivery of the energy from the QF. The applicable Loss Factor for the month may be the WFEC system loss factor or the system loss factor plus applicable wheeling losses. The applicable Loss Factor will be developed by WFEC individually for each QF depending on the location of the interconnection and system topology. A Loss Factor Adjustment may not be applicable upon and after implementation of the Integrated Marketplace.

3. **Ancillary Services.** The QF will be responsible, and shall pay WFEC or reimburse WFEC if WFEC has paid, for all costs and charges for Ancillary Services (including but not limited to Scheduling, System Control and Dispatching Service, Reactive Supply and Voltage Control Services, Regulation and Frequency Response Service, Energy Imbalance Service, Operating Reserves Services, and any other applicable ancillary services) provided in connection with the sale and delivery of the QF's capacity and energy, at rates for such services applied in a not unduly discriminatory manner. However, the QF may self-supply or purchase certain ancillary services from a third party in lieu of purchase from WFEC. In such case the QF must document the arrangement to self-supply or purchase such ancillary services to the satisfaction of WFEC.
4. **Standard Avoided Cost Rates.** WFEC annually shall establish a standard avoided cost rate for purchases of capacity, energy or both from QFs with a nameplate capacity of no more than 100 kW. The standard rate for purchases of such capacity shall be \$0/kW/month, which reflects the value of the addition of such very small increments of capacity to WFEC's ability to avoid capacity costs. The standard rate for purchases of such energy shall be based on the following formula: The average index price for the 12-month period for forward deliveries of natural gas to pipelines for the Panhandle Eastern Pipe Line Company, Texas-Oklahoma delivery point as published by Platts in its Gas Daily publication (or a commercially reasonable alternative index selected by WFEC if such index price is not available) times the simple average of the Heat Rates specified in Section III.I.2 above for such 12-month period, plus AVOM (as defined in Section III.I.2 above). The WFEC Staff is hereby delegated authority to modify the foregoing methodology prospectively if the capacity and/or energy rates are unjust and unreasonable to WFEC and/or the QF. WFEC from time to time may establish a standard avoided cost rate for purchases of capacity, energy or both from QFs with a nameplate capacity of more than 100 kW; any such

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standard avoided cost rate shall be calculated in accordance with the principles set forth in Section III.I.2 herein.

- J. Interconnection of a QF to a WFEC Member, municipal customer or other all-requirements customer:
1. The interconnection and parallel operation of QFs on WFEC's Member, municipal customer or other all-requirements customer systems could directly affect the operations and quality of service on WFEC delivery points. As a result, WFEC will need to be directly involved in the approval process for these QFs.
 2. Since WFEC's Members, municipal customers and other all-requirements customers are required by law to interconnect with, purchase electricity from and sell electricity to certain QFs, and since WFEC's operations will be affected by such purchases, WFEC will maintain direct involvement in the development of avoided costs, interconnection requirements and purchase agreements for those QF's interconnected at distribution voltage. The distribution level interconnection must be structured so that WFEC can correctly measure the Member's or other requirements customer's total demand and energy, as if the QF was not interconnected. Except for QFs that qualify for and participate in net metering per WFEC Members' "Distributed Generation Procedure & Guidelines Manual for Members", if the QF has a total name plate capacity of 100 kW or less at a single interconnected point, WFEC will take responsibility for the development of avoided cost rates for use by the Member in its power purchase agreement with the QF. For QF's that are interconnected at distribution voltages and have a total name plate capacity larger than 100 kW at a single interconnected point, WFEC will take responsibility for the development of avoided cost rates, and the purchase agreement for QFs subject to this Policy. For QF's that are interconnected at transmission voltages WFEC will take responsibility for the interconnection requirements, development of avoided cost rates and the purchase agreements.
 3. Rates: In the event that WFEC Members, municipal customers or other all-requirements customers purchase electricity from QFs, the QFs will be paid WFEC's avoided cost rates.

K. General:

1. The rate guidelines set above are designed to cover the general application of a QF on WFEC's system, its Member systems, municipal customers, or other all-requirements customers. It is recognized that there are cases where this formula will not apply and in those cases, WFEC will develop a rate applicable to the types of service provided. It is also recognized that service conditions may change which will necessarily revise the avoided cost. In such cases, WFEC reserves its right to modify its rates accordingly. WFEC will apply this provision in a not unduly discriminatory manner.
2. WFEC and its Member cooperatives and customers are to be indemnified and held harmless by the QF from all acts or omissions on the part of the owner and/or operator of the QF. The QF owner and/or operator will be required to carry adequate insurance (the types and amounts of, and other

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- requirements concerning, such insurance to be determined in WFEC's reasonably exercised discretion), and will be required to reimburse WFEC for any additional insurance premiums caused by the connection of the QF.
3. Service to WFEC Member cooperatives and customers shall not be degraded because of the interconnection of the QF. The owner of the QF shall construct, operate, and maintain its facilities or cause them to be constructed, operated, and maintained, in a manner conforming to all existing safety codes, regulations, and best operating practices. Failure to comply shall be cause for disconnection of the QF.
 4. Future costs or system improvements that may become necessary by reason of the continued interconnection of additional QFs to WFEC shall be shared by all such additional QFs that contribute to the need for the improvement to the WFEC system. The sharing of costs shall be prorated on a capacity basis at the time the cost is incurred. In addition, these and other changing conditions may necessitate changes in the QF's facilities to maintain acceptable levels of service, safety and reliability. WFEC will notify the QF of the need to make such changes or modifications to the QF's facilities and the time frame by which such changes or modifications must be achieved. The QF timely shall notify WFEC of completion and, if warranted, of any events, circumstances or conditions that may delay completion in the specified time frame. WFEC retains all rights of approval, inspection and denial of interconnection for any such changes or modifications. The cost of all changes or modifications to the QF's facilities will be borne solely by the QF.
 5. Each interconnection of a QF to WFEC's system will require individual engineering analysis. WFEC encourages prospective QFs to employ qualified engineering firms in the design of the interconnecting facilities and in the design of modifications, if any, to WFEC's system to accommodate the addition of such generation. WFEC will provide all system data for use by the engineer, including line characteristics, substation capacities, sectionalizing schemes, and voltage regulation programs subject to reasonable confidentiality restrictions. WFEC reserves its right to review and approve or reject any such engineering and design work and in particular any modifications to WFEC's system.
 6. The design of the interconnecting facilities and system modifications shall incorporate apparatus and devices compatible with those existing on WFEC's system, and shall be compatible with facilities which other QFs use to connect to WFEC's system. The design shall incorporate features that will permit construction, operation, and maintenance of the facility without disruption or degradation of service to the Members and customers served by WFEC. WFEC is prepared to provide the design and construction service referred to herein on a cost reimbursable basis. However, QFs are encouraged to employ independent firms for this service.
 7. Metering of kW and kWh quantities shall be provided by meters as specified by WFEC. Based on readings of these meters, WFEC will monthly render a statement showing in necessary detail the purchase by WFEC.

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8. WFEC will maintain an accurate and complete accounting of all expenses related to the application and interconnection of each QF. Related expenses shall include, but not be limited to, labor, material, insurance, overhead, legal services, consulting services, meter reading, switching costs, mileage, and equipment costs.
9. WFEC and the QF shall enter into a written agreement setting forth in necessary detail the manner in which WFEC shall purchase capacity and energy from the QF, the facilities to be constructed or modified, the character of service, the planned mode of operation, and maintenance of the facilities. The agreement shall also detail the rate, billing, and payment arrangements for capacity and energy transactions; the billing and payment procedures for WFEC's expenses related to the QF; and other items that are a necessary part of the agreement. WFEC and the QF will not unduly delay executing such an agreement and will negotiate the terms of the agreement in accordance with all applicable laws, rules and regulations.
10. Electric utilities are required by PURPA to interconnect with only those cogeneration and small power production facilities that are QFs pursuant to the FERC rules. No generator will be permitted to interconnect as a QF under PURPA and FERC's rules until the generator has certified as a QF, in a manner compliant with PURPA and provided written evidence to WFEC of such certification. Each QF generator interconnected with WFEC shall maintain QF status throughout the duration of such QF's interconnection with WFEC. Each WF generator shall promptly provide to WFEC written notice of any material changes in facts or circumstances that may affect the QF's certification status, and a copy of any filings, applications and orders related to such status.
11. Delivery arrangements are subject to applicable North American Electric Reliability Corporation (NERC) reliability standards, North American Energy Standards Board (NAESB) standards, and SPP curtailment policies and procedures. Purchases from and sales to a QF may be interrupted during a "system emergency" as that term is defined under FERC's PURPA regulations. Upon notice to a QF to cease delivery of energy, purchases from a QF may be interrupted due to operational circumstances during which such purchases would cost WFEC more than would have been incurred had WFEC generated an equivalent amount of energy itself.
12. Each QF interconnected with WFEC shall exercise commercially reasonable efforts to cooperate with WFEC in responding to any FERC, NERC, SPP or other governmental or quasi-governmental investigation, audit, data request, or other process or proceeding, including by timely providing data, information and/or documentation reasonably requested by WFEC.

IV. INTERCONNECTION POLICY – OTHER GENERATORS:

Interconnection requests by non-QF generators that are governed by this Policy 9-5 shall be subject to the procedures set forth in Policy 9-6. Neither this Policy 9-5 nor Policy 9-6 shall govern the rates, terms and conditions for purchases by WFEC of capacity, energy and other services from such non-QF generators. Such rates, terms and conditions shall be negotiated by the parties.

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V. RESPONSIBILITY: Board of Trustees and Management

DATE ADOPTED: March 13, 1981

DATE AMENDED: December 17, 2014

DATE REVIEWED: December 17, 2014

ATTESTED:

Secretary



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POLICY BULLETIN NO. 9-6:

INTERCONNECTION PROCEDURES

I. OBJECTIVES:

- A. To set forth the procedures for requesting interconnection with the transmission system of Western Farmers Electric Cooperative (WFEC) for interconnections governed by WFEC Policy Nos. 9-1 or 9-5.
- B. To define the requirements for such interconnections, including reliability and energization requirements necessary to meet the system performance criteria established for compliance with North American Electric Reliability Corporation (NERC) Reliability Standards and applicable Regional Reliability Organization/Regional Entity, sub-regional, Southwest Power Pool, Inc. (SPP) and individual Transmission Owner planning criteria and facility connection requirements.

II. SCOPE OF POLICY:

- A. Responsibility for the tariff administration of WFEC's transmission facilities has been transferred to SPP. The WFEC transmission facilities subject to the SPP's administration (WFEC's Pool Tariff Facilities, hereinafter the WFEC PTF) are specified in SPP's open access transmission tariff (OATT) on file with the Federal Energy Regulatory Commission (FERC). Certain interconnection requests are subject to the SPP OATT, such as: (a) any request by an electric generator that is not a qualifying facility (QF), as defined in FERC's regulations implementing the Public Utility Regulatory Policies Act of 1978 (PURPA), to interconnect to the WFEC PTF; (b) any request by a QF that will sell all or part of its available electrical output to a purchaser other than WFEC to interconnect to the WFEC PTF; and (c) any request to interconnect a substation, radial line, or other transmission or distribution facilities to the WFEC PTF. If WFEC receives an interconnection request that is subject to the SPP OATT, WFEC will notify the applicant and direct the applicant to file the request with SPP.
- B. Interconnection requests that are governed by Policy Nos. 9-1 or 9-5 and that are subject to this Policy No. 9-6 include: (v) any request by a QF that will sell all of its available electrical output to WFEC to interconnect to WFEC's facilities (Policy No. 9-5); (w) any request to interconnect an electric generator to WFEC's facilities that are not WFEC PTF (Policy No. 9-5); (x) any request to interconnect a substation, radial line, or other transmission or distribution facilities to WFEC's facilities that are not WFEC PTF (Policy No. 9-1); (y) any request by a WFEC Member or customer under an agreement with WFEC that has been identified by SPP as a "Grandfathered Agreement" under the SPP OATT to add, expand or upgrade a substation, delivery point or other facilities under such agreement (Policy No. 9-1); and (z) until the adoption of standard interconnection policies and procedures applicable to distribution cooperatives in the State of Oklahoma, any request to interconnect to a Member or other all-requirements customer of WFEC (Policy No. 9-5).

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- C. It is the policy of the WFEC Board of Directors that WFEC shall implement this Policy No. 9-6 on a not unduly discriminatory basis, and therefore WFEC will process interconnection requests made by third parties under this Policy No. 9-6 on a basis comparable to that which WFEC uses in processing its requests to interconnect its own generation and transmission facilities to WFEC facilities.

III. INTERCONNECTION PROCEDURES:

A. System Impact Study

1. The formal interconnection process is initiated by the submission of a System Impact Study request to the Operations Planning Engineer through the WFEC Transmission Engineering & Operations time dated FAX at 405-247-4446.
2. An acknowledgement of the receipt of the System Impact Study request will be returned within two (2) working days. An estimate of the costs (+/- 25%) for the basic interconnection will be returned within ten (10) working days, along with a copy of the terms and conditions for a contractual agreement. Additional time may be required for some generation interconnections or for multiple System Impact Studies or if the necessary information is not made available in a timely fashion.
3. These broad estimates should be used for budgetary purposes only; if more definitive estimates are required, a Facilities Study should be requested (see below).
4. All System Impact Studies involve consistent review procedures and will be processed in the order that they were received (based on the date and time that the complete System Impact Study request was received). A System Impact Study request will not be considered complete until all necessary information has been received from the requesting party. The estimate will be provided free of charge unless expressly specified in the receipt acknowledgment.
5. The System Impact Study request should include the following information (as well as any additional information reasonably requested by WFEC):
 - a. The physical location of the proposed facility.
 - b. The term of service or the expected lifetime of the proposed installation.
 - c. The expected peak demand and expected average demand in KVA.
 - d. The expected in-service date.
 - e. Ownership intentions.
 - f. A contact person, to whom questions, comments or proposals should be directed.

B. Facilities Study

1. Upon submission of the System Impact Study to the customer, the customer will have thirty (30) calendar days to decide whether to proceed with a Facilities Study for the requested interconnection(s) covered by the System Impact Study. A Facilities Study must be requested to further define the intent, requirements and specifications to interconnect with the WFEC transmission system and must be made to the Operations Planning Engineer through the WFEC Transmission Engineering & Operations time dated FAX

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at 405-247-4446 at least one hundred and eighty (180) calendar days before the start of project construction. The customer must include such payments (deposits or other form of security) as may be identified in the System Impact Study. Failure by the customer to request a Facilities Study within thirty (30) calendar days of receipt of the System Impact Study will result in the customer's interconnection request being withdrawn. Failure by the customer to request a Facilities Study at least one hundred and eighty (180) calendar days before the start of project construction may result in a delay in the start of project construction, energization and/or commercial operation of the customer's facilities.

2. All Facilities Studies will be reviewed in a consistent fashion by a designated group of WFEC employees. They will be processed in the order that they were received based on the timely receipt of all necessary and complete information. The cost for this initial processing will be \$500.00 for each interconnection point studied.
3. The Facilities Study to the extent feasible will be based on the information contained in the original System Impact Study, any additional information provided by the customer in its Facilities Study request or in response to a request by WFEC for additional information. The Facilities Study should be available within sixty (60) working days of the receipt by WFEC of all information required to complete the study. If WFEC is unable to complete the Facilities Study within sixty (60) working days, WFEC will notify the customer and provide an estimated date for completion of the Facilities Study. WFEC shall not be liable for any claims or losses resulting in any way, directly or indirectly, from its failure to complete the Facilities Study by the foregoing dates.
4. The Facilities Study will provide an estimate (accurate to + or - 15%) of the costs for the interconnection(s) covered by the Facilities Study. Estimates provided will be valid for one hundred and eighty (180) calendar days from the time it is made available to the requesting party, unless otherwise indicated by WFEC.
5. The Facilities Study will identify interconnection requirements including improvements to existing facilities to meet the customer's new load or generation requirements.
6. Facility Studies will require and provide in general additional physical and operational information such as:
 - a. Details of attached end-user equipment, e.g., motors
 - b. Connection information including voltage level and MW and MVAR capacity or demand at point of interconnection
 - c. Supervisory Control and Data Acquisition capability
 - d. Protection System equipment
 - e. Telemetry and metering
 - f. Equipment ratings including breaker duty and surge protection
 - g. Short circuit conditions
 - h. Low frequency protection and remote load shed equipment
 - i. System protection schemes and other controls
 - j. Synchronizing equipment

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- k. System grounding requirements
 - l. Details of proposed radial transmission and substation elements
 - m. Facilities access information
 - n. Voltage and power factor control
 - o. Reactive power requirements
 - p. Generation control or process indications
 - q. Maintenance coordination
 - r. Protection System coordination
 - s. Responsibilities and communications during normal and emergency conditions
 - t. Insulation and insulation coordination
 - u. Power quality impacts
7. A letter listing additional information, if any, required for the Facilities Study estimate will be forwarded to the requesting party within ten (10) working days of the request.
 8. Upon submission of the Facilities Study to the customer, the customer will have thirty (30) working days to decide whether to proceed with the interconnection(s) covered by the Facilities Study. The customer will notify WFEC in writing of its decision, and will include such payments (deposits or other form of security) as may be identified in the Facilities Study. Within thirty (30) working days of WFEC's receipt of the customer's decision to proceed with the interconnection(s) and any payments (deposits or other form of security), WFEC will tender a draft interconnection agreement to the customer. The customer will have thirty (30) working days to execute the agreement.

IV. MINIMUM INTERCONNECTION REQUIREMENTS:

- A. A responsible person with decision making authority designated to help resolve issues or activities involving or associated with all interconnected facilities.
- B. The physical location of the proposed facility, accurate to within 100 meters. The physical location may be stated as a surveyed location, Longitude & Latitude or physical description. Global Positioning System (GPS) Longitude & Latitude is preferred. WFEC will verify the proposed location, with the requesting party.
- C. A visible air gap disconnection device at the point of initial interconnection to the WFEC transmission system of a type approved by WFEC.
- D. A rated, full load interrupter device capable of instantaneous operation and the ability to be remotely controlled by WFEC to be installed between the disconnection device and customer owned equipment. The type of device must also be approved by WFEC.
 1. Facilities less than 25 MVA will require a Circuit Switcher or equivalent technology approved by WFEC.
 2. Facilities equal to or greater than 25 MVA will require a Circuit Breaker or equivalent technology approved by WFEC.
- E. All interconnections shall be approved by WFEC and shall meet the system reliability requirements for the particular nature of the load or generator.

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- F. Project prints shall be submitted to WFEC for approval, no later than ninety (90) calendar days before the start of construction.
- G. All switches, breakers, and other equipment will be labeled prominently and according to WFEC standards.
- H. All loads and facilities attached to WFEC facilities will be of permanent construction. The operational and construction practices shall not reduce WFEC's reliability.
- I. All loads and facilities connected to WFEC lines and stations shall be constructed in compliance with the National Electrical Safety Code, Occupational Safety and Hazards Act, environmental regulations, applicable NERC and SPP or other Regional Reliability Entity rules and reliability standards, and all other applicable laws, rules and regulations.
- J. When an extension of electrical facilities is to be constructed on private property or right-of-way not under the jurisdiction of WFEC, the customer shall provide a right-of-way easement.
- K. Relays, current transformers and other protective equipment must have characteristics compatible with WFEC's existing protective system.
- L. The customer shall provide sufficient suitable space on the customer's premises to enable WFEC to install, maintain, repair or remove equipment necessary to maintain satisfactory supply under unusual or unplanned circumstances.
- M. Provided that such request is made no less than 24 hours prior and in the absence of extenuating circumstances, WFEC shall, on request by any customer, disconnect the supply during normal working hours to the customer's premises or render the electric line reasonably safe where any work has to be carried out in close proximity to any such line. No charge will be made by WFEC for such switching.
- N. Where an electric line has to be dismantled for reasons of safety to permit the work, WFEC will charge normal time, materials and transport for the dismantling work undertaken.
- O. Transmission system connections will commence at the terminating point or a tap point on WFEC's present electric facilities.
- P. Generation not owned or operated by WFEC will be required to allow for remote telemetry of generation data and breaker status to WFEC Transmission Engineering & Operations or its designate.

V. GENERAL RELIABILITY REQUIREMENTS:

- A. All permanent loads and facilities attached to WFEC facilities will be of permanent construction.
- B. The operational and construction practices shall not reduce WFEC's reliability below currently established levels.
- C. Upon approval by WFEC, temporary loads and facilities may be attached to WFEC facilities. The construction practices used must not reduce WFEC's reliability. Temporary facilities must be removed within three hundred and sixty (360) calendar days after being placed in service or they will be disconnected.
- D. Control of switching facilities and loads that affect loop transmission service will be accomplished by WFEC.

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- E. All switching will be coordinated through WFEC Transmission Engineering & Operations.
- F. Maintenance of equipment attached to WFEC lines or facilities not maintained by WFEC may be inspected by WFEC. If after sufficient notification of problems, the other party fails to repair or maintain attached equipment, WFEC will perform maintenance or repairs and collect from the interconnected party the cost, plus margins, expenses and overhead for such repairs or maintenance.
- G. Ancillary service requirements shall be, at a minimum, coordinated through WFEC Transmission Engineering & Operations WFEC is not liable for interruption of service due to transmission line loading relief declared by the SPP or other system operators.

VI. ENERGIZATION REQUIREMENTS:

The following requirements, at a minimum, must be met to WFEC's satisfaction prior to energization.

- A. WFEC Transmission Engineering & Operations shall be in possession of a contractor's release meeting WFEC's standards.
- B. WFEC Transmission Engineering & Operations shall be in possession of all pertinent contract information involving the usage of said facilities including those involving other entities such as cooperatives, municipals, etc.
- C. WFEC Transmission Engineering & Operations shall be in possession of contact information including but not limited to telephone numbers, e-mail address and pertinent personnel including those involving other entities such as cooperatives, municipals, etc.
- D. WFEC Transmission Engineering & Operations shall receive pertinent telemetry data that meets the minimum NERC requirements and is capable of at least 15 parameters, all as defined by WFEC.
- E. WFEC Transmission Engineering & Operations shall be made aware of any unusual equipment or other considerations that would affect the safety of employees or equipment or that would require special switching considerations.
- F. WFEC Transmission Engineering & Operations shall be in possession of information regarding persons authorized to operate, repair, replace, or otherwise have access to the customer's facility.
- G. All transmission system users shall operate within and meet all applicable NERC, SPP, and Open Access Same Time Information System (OASIS) requirements and those requirements of any other entity having jurisdiction over such matters.
- H. Prior to flowing power to any loads, users must obtain a valid OASIS transmission service reservation (or comparable reservation for service over non-WFEC PTF).

VII. RESPONSIBILITY: Management and Staff

DATE ADOPTED: April 21, 2000

DATE AMENDED: December 19, 2012

DATE REVIEWED: December 17, 2014

ATTESTED:



WFEC Planning Criteria and Design Goals

The basic power supply and transmission criteria of the Southwest Power Pool are generally followed by WFEC. Several additional design criteria and planning goals are incorporated in the long-range planning performed by WFEC, they are as follows:

- (1) Power Factor - Transmission system power factor, including the reactance and susceptance of transmission lines, should be maintained at 98% or better by the use of switched capacitors and/or reactors. Generator reactive power will be used to provide system voltage control, but will not be available to supply reactive power to remote loads with lagging power factor.
- (2) System Voltage - All bus voltages should be within 5% of nominal system voltage. Capacitor switching, LTC operation and manual bolted transformer tap changes will be permitted to meet this voltage criteria for normal system operation. A maximum of 10% change in bus voltage will be permitted for single contingencies. In determining this criteria, it was assumed that system regulation equipment, including system voltage regulators, could recover as much as 7% of the voltage change and that an additional variation of 3% is allowable during single contingencies. In all cases, the absolute minimum allowable voltage at any transmission bus will be 90% after all transmission regulation equipment and switched capacitors are utilized to their limit.
- (3) Equipment ratings - The majority of the transmission line normal ratings are based on a conductor temperature of 95 degrees Celsius and air temperature of 45 degrees Celsius, with exposure to direct sunlight and a two feet per second perpendicular wind speed. For certain lines, such as old lines built with TS-1 structures and 1/0 ACSR conductor, the normal rating was calculated for a 25 degrees Celsius rise (45 degrees ambient, 70 degrees Celsius conductor). These lines were designed and built in the early fifties, and contain many long spans which are subject to excessive sag at higher conductor temperatures. For these 1/0 lines, the rating based on 50 degrees Celsius rise, which is normal summer ratings for most lines, was used as an emergency (single contingency) rating. Transformers may be loaded to 100% of their maximum rating (usually FA rating) for any condition and up to 115% of maximum rating for winter peaking loads. Line ratings are not limited by minor equipment ratings, such as wave traps, current transformers, or relays.
- (4) Radial Service Conversion - Radial served loads (i.e. - one source) will qualify for improved service (i.e. - loop or multiple source, improved line construction, ect.) when the radial load exposure factor exceeds predefined limits. The radial load exposure factor was developed to provide a systematic approach to evaluating radial to loop conversion. This was necessary to avoid overly subjective evaluation of conversion resulting in inconsistent system improvements. Radial load exposure is calculated by calculating MW miles, and then proposing projects to

reduce mw miles on Radial. The range of MW miles to consider conversion to loop services is between 500 and 1000. MW-miles are calculated by multiplying each load on the radial by the length, miles from the tap point to each load for radials with multiple loads. So we would effectively allow a 50 MW load on a 10 mile tap, or a 25 MW load on a 20 mile tap. We also take into consideration age and line design. Newer lines with H structures are allowed the full 1000 MW-Miles. Single pole lines, and older lines may justify a lower loading of 500 MW-Miles. We also look at outage rates. A line tap that has more than 1 hour per year over 10 years would be addressed; WFEC does not include ice storms, tornado, and other extreme weather events in this outage rate.

- (5) Outages - Outage records for WFEC transmission facilities are reviewed for a 5 year period. System modifications or additions are recommended if any line or substation has an outage record of more than 10 hours average per year, or more than one outage every year of five hours duration or more.
- (6) Maximum Service Level - No more than 50 MW of load or 10,000 consumers will be served on any single line segment between major switching points. Switching stations and/or looped lines will be added as necessary to meet this criterion.
- (7) Multiple Terminal Lines - Multiple terminal lines are permitted up to three terminals on rare occasions. No four terminal lines will be allowed.
- (8) Multiple Transformers - For loads up to 28,000 kVA, a single transformer per substation will be used. For loads above 28,000 kVA, separately protected parallel transformers will be used or additional substations will be considered.
- (9) Transformer Protection - Primary fuses will be used for transformers rated up to 10,500 kVA. Circuit Switchers, vacuum interrupters or similar devices will be used for transformers rated above 10,500 kVA. New stations will have circuit switcher on 10.5 and above. Rehabs generally will have circuit switcher if XFMER has CTs on it.
- (10) All new or refurbished switch stations will be built in a ring bus configuration wherever possible to improve fault isolation and system reliability. Minimum 2000 amp bus in any new/rehab 138 kV switch station.
- (11) Newly constructed and rebuilt transmission lines will be designed and insulated for 138 kV even if operated at 69 kV. They will use Class II or better poles for all tangent structures. Class I equivalent steel poles, either direct bury or on foundations, will be used for all turns and dead-end structures.