



CUSTOMER INSTALLATION

CUSTOMER INSTALLATION AND OPERATION OF INTERCONNECTED DISTRIBUTED GENERATION SOURCES (INCLUDING EMERGENCY AND STANDBY SYSTEMS)

The customer shall not use any other electric power source, including distributed, emergency, and standby generation sources, in parallel with TEP/UES's service and power system, except as provided herein.

1. The construction and installation of interconnected distributed generation (DG), including standby and emergency generation facilities (hereinafter referred to as "Facilities") must comply with the National Electrical Code (NEC) and TEP/UES's Interconnection Requirements for Distributed Generation.
2. Synchronous, parallel operation of these Facilities with TEP/UES's power system may be permitted under the following conditions:
 - a. All customer Facilities, including switching devices and other special equipment, must adhere to all applicable UL and IEEE standards and recommended practices, and be approved by TEP/UES. It is recommended that the customer consult with the Company prior to commencement of design, construction, and installation of the Facilities.
 - b. The Facilities must conform to IEEE 519 on harmonic levels, flicker, and waveform distortion, and shall not produce excessive voltage or frequency variations of TEP/UES's power system. Customer is also required to maintain generator power factor and phase current imbalance (3-phase system) within TEP/UES prescribed limits. (Refer to TEP/UES's Interconnection Requirements for Distributed Generation)
 - c. TEP/UES must have access to the customer's DG disconnect switch clearly labeled in 1" high letters stating "Utility DG Disconnect". The switch shall be a gang-operated, load-break device capable of isolating all ungrounded conductors of the Facility from the utility system. The switch shall be accessible to TEP/UES operating personnel, and shall be lockable, and clearly indicate open or closed switch position with a visible air-gap employed in the open position. The switch shall be visually inspected to determine that the switch is open.
 - d. As required by NEC Article 705.10, a permanent sign shall be installed at the service entrance indicating the type(s) and location(s) of all electric power production sources capable of parallel operation with the TEP/UES system. Also in accordance with NEC Article 705.10, labeling shall be provided at all locations of all such electric power production sources. Installations with large numbers of power production sources shall be permitted to be designated by groups.
 - e. In accordance with standard utility safe operating practices, TEP/UES shall have the right to temporarily disconnect or disable the Facilities from TEP/UES's power system. Whenever reasonably possible, advance notice will be given to the customer prior to such actions.
 - f. The customer may be required by TEP/UES to modify the Facilities to accommodate special TEP/UES requirements, such as special metering, power factor correction capacitors, harmonic filters, telemetry, and protective devices.
 - g. TEP/UES may require the customer to have written operating instructions delineating procedures, mutually agreed upon between TEP/UES and the customer, that are to be followed in the execution of both routine and emergency operations.

FORMERLY SR-1.20, SECTION 100



		INITIATED BY	ED	REVISION NO.	0	SR-701 Pg. 1 of 2
		ESR COMM.	9-17	ESR COMM.	-	
				EFFECTIVE DATE	-	

CUSTOMER INSTALLATION

CUSTOMER INSTALLATION AND OPERATION OF INTERCONNECTED DISTRIBUTED GENERATION SOURCES (INCLUDING EMERGENCY AND STANDBY SYSTEMS)

- h. For customers operating Facilities in excess of their own power and energy needs and having primary voltage service, TEP/UES may require the customer to have full-time, qualified operations employees to operate the Facilities.
 - i. The customer must pay TEP/UES for any costs TEP/UES may incur as a result of the customer's Facilities.
 - j. The Customer agrees to defend, indemnify and hold harmless TEP/UES, its directors, officers, employees, and agents from any and all liability, loss, or damage (including, without limitation, damage to the TEP/UES's property) which TEP/UES, its directors, officers, employees, and agents may suffer as a result of any claim, demand, cost or judgment against it arising out of or in any way connected with the construction, installation and/or operation of the Facilities.
 - k. TEP/UES reserves the right to terminate the customer's interconnected use of these Facilities if they are not installed and operated within the guidelines established by TEP/UES.
 - l. An interconnection agreement between TEP/UES and the customer will be required for all Facilities that are to be operated in parallel with TEP/UES's power system.
 - m. The customer may need to meet additional requirements for this Facility. (Refer to TEP/UES's Interconnection Requirements for Distributed Generation).
 - n. The customer shall submit an interconnection application to TEP/UES prior to establishing parallel operation with TEP/UES's power system. The application and any required supplemental information shall be in accordance with TEP/UES's Interconnection Requirements for Distributed Generation. The application process allows TEP/UES to review the customer's proposed facilities for compliance with standards and to identify any necessary upgrades to TEP/UES facilities. The application is a necessary precursor to completing the interconnection agreement specified in Section 2.l. above.
 - o. TEP/UES may require the customer to arrange for inspection and testing of customer Facilities related to interconnection with the utility.
3. Customer-owned generating facilities intended solely for the purpose of supplying customer load during a TEP/UES power outage are not subject to the above requirements provided they conform to the following:
- a. The customer's equipment must transfer load between the TEP/UES system and the generator in an open-transition or non-parallel mode allowing no opportunity for backfeed of the TEP/UES system.
 - b. Any automatic transfer scheme must employ a double-throw, "break-before-make" transfer switch of fail-safe design such that under no circumstances will the generating facility electrically interconnect with the TEP/UES system.
 - c. Customer shall furnish documentation verifying that the transfer scheme meets non-parallel requirements.
 - d. TEP/UES reserves the right to inspect any customer equipment that functions as part of the transfer operation prior to granting approval to place in service.

FORMERLY SR-1.21, SECTION 100

		INITIATED BY	ED	REVISION NO.	0	SR-701 Pg. 2 of 2
		ESR COMM.	9-17	ESR COMM.	-	
			EFFECTIVE DATE		-	