

Guidance for Emergency Generators Paralleling to the Grid in Closed Transition Mode

(Less than 100 ms)

SECTION I

Purpose: This document provides guidance for customers interconnecting their Emergency Generators to the utility Distribution System.

Definition: For the purpose of this application, Emergency Generators are defined to provide emergency power to a customer's load. It may be connected in a one of two of ways:

OPEN Transition (does not parallel to Eversource system). The Automatic Transfer Switch (if any) is a "break before make" style. This type of connection does NOT require an Interconnection Application.

CLOSED Transition (momentarily parallels with the Eversource system for less than 100milliseconds). Automatic Transfer switch (ATS) is a "make before break" style. A complete Interconnection Application is required.

Applicability: This guidance document is applicable to Closed Transition generating facilities planning to parallel with the utility for < 100ms.

a) Generators lasting less than <100ms will require watchdog timer and synchronizer. See Appendix B of the Generator Technical Requirements for detail of closed transition design and see section 4.6.3 for the maximum paralleling time protection.

b) Open transition generators do not require an application

References:

Generator Interconnection Technical Requirements Exhibit B Section 4.6 and Appendix B

IEEE 1547 Standard for interconnecting Distributed Resources with Electric Power Systems

National Electrical Code, NFPA 70 NEC

SECTION II

Deliverables:

- Application Review Phase: One Line (should be 1 or 2 pages) Send field prints only. Manufacturer prints are not acceptable.
- Site Diagram (should be 1 or 2 pages).
- Sequence of Operations: Provides explanation on how the EG will be transferred to and from parallel connection to the Eversource circuit (should be 1-3 pages).
- Data Sheets for transfer switch and watch dog timer (should be 1-2 pages).
- Three Line Diagram & Control Logic (should be 1-3 pages).
- Eversource will request a paper copy of any instruction books if needed. Do not send instruction books until Eversource asks for a copy
- Send timer and synch check settings.

Witness Test Phase

Test Procedure – Follow Section 4.6.5 of the [Generator Interconnection Technical Requirements](#). However, the timer setting must be tested, the synch check capability verified, phase rotation must be checked, paralleling time must be tested, and the power to the timer must be verified that it comes from the generator battery.

SECTION III

Interconnection Process – More information is available on the [Interconnections & Net Meter page](#) of Eversource.com.