

BGE
STRATEGIC CUSTOMER ENGINEERING
CUSTOMER SUBSTATION REQUIREMENTS
LOW VOLTAGE AUTOMATIC CLOSED TRANSITION SWITCHES
GUIDE SPECIFICATION CSR-5
REVISION No. 1 – January, 2005

1. This specification contains minimum BG&E requirements for acceptance of the customer low voltage transfer switch installation on the BG&E system
2. Automatic closed transition (make before break) transfer switches capable of momentarily paralleling a low voltage customer generator and the Baltimore Gas and Electric (BG&E) system shall be approved by BG&E prior to installation.
3. Customers seeking to install new electrical generation in the State of Maryland are required to file an “*Application for Commission Approval to Construct a Generating Station*” with the Maryland Public Service Commission. This application must be filed for:
 - 3.1.1. Emergency Generators
 - 3.1.2. Base Load Synchronized Generators
 - 3.1.3. Interconnected Generators for Export
- 3.2. The application is available from:

Maryland Public Service Commission
William Donald Schaefer Tower
6 Saint Paul Street, 16th Floor
Baltimore, MD 21202-6806
4. BGE has an additional specification, CSR-6, which details the requirements for the installation of Customer-owned synchronous generation.
5. **Required Submittal:** Contract drawings and specifications covering the transfer switches shall be submitted to BG&E for review and approval prior to their release for contractual bidding.
6. **Required Submittal:** Manufacturer shop drawings for the transfer switch, including complete description of operation, shall be submitted to BG&E for review and approval prior to each installation. This review and approval may take up to six weeks and could affect the service date if complete shop drawings are not submitted to BG&E in a timely fashion.
7. Actual overlap of customer low voltage generator and BG&E system during closed transition transfer operation shall not exceed 100 milliseconds.

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Note: Actual overlap during closed transition in excess of 100 milliseconds shall require the installation by the customer of reverse power protective relaying subject to approval by BG&E.

8. The transfer switch mechanism shall be equipped with the required control devices to automatically trip and lockout both the utility and the generator contactors or breakers if the actual overlap during closed transition exceeds 100 milliseconds.
9. An alarm shall be provided to indicate failure of closed transition operation with overlap in less than 100 milliseconds.
10. Manually initiated closed transition transfer from the utility source to the customer generator and retransfer to the utility source shall be possible, provided all system conditions for closed transition operation are satisfied.
11. Closed transition operation shall only be possible between two live sources which are in or close to synchronism.
12. Transferring from a failed or failing source to a live source shall only be possible by break-before-make open transition operation. If the utility source fails, there shall be no momentary interconnection of sources when load is being transferred to the generator source.
13. **Required:** Proper operation of the transfer switch shall be demonstrated by the customer and witnessed by BG&E personnel.
14. At present, BG&E has approved the following manufacturers of an acceptable Automatic Closed Transition (Overlap) Transfer Switch:
 - 14.1. ASCO (Automatic Switch Company)
 - 14.2. GE/Zenith, “ZBTSCT”
 - 14.3. Cummins “CHPC-Close Transition”
15. These guidelines do not preclude other manufacturers from providing this transfer switch, subject to approval by BG&E as previously indicated.