SECTION 16910 – GENERATOR TRANSFER SWITCH

GENERAL

1.1 SECTION INCLUDES

A. Owner shall supply complete factory assembled power transfer equipment with electronic controls designed for fully automatic operation and including: surge voltage isolation, voltage sensors on all phases of the normal source and one phase of the emergency source, positive mechanical and electrical interlocking, and mechanically held contacts for both sources.

B. Factory test, startup by supplier authorized by the manufacturer, and on-site testing of the system will be provided under separate contract by Owner.

C. Contractor shall provide all necessary work in connection with the installation of the Owner supplied generator transfer switch.

PRODUCTS

2.1 OPEN TRANSITION SEQUENCE OF OPERATION

A. Transfer switch normally connects an energized utility power source (source 1) to loads and a generator set (source 2) to the loads when normal source fails. The normal position of the transfer switch is source 1 (connected to the utility), and no start signal is supplied to the genset.

B. Generator Set Exercise (Test) With Load Mode. The control system shall be configurable to test the generator set under load. In this mode, the transfer switch shall control the generator set in the following sequence:
   1. Transfer switch shall initiate the exercise sequence at a time indicated in the exercise timer program, or when manually initiated by the operator.
   2. When the control systems senses the generator set at rated voltage and frequency, it shall operate to connect the loads to the generator set by opening the normal source contacts, and closing the alternate source contacts a predetermined time period later. The timing sequence for the contact operation shall be programmable in the controller.
   3. The generator set shall operate connected to the load for the duration of the exercise period. If the generator set fails during this period, the transfer switch shall automatically reconnect the generator set to the normal service.
   4. On completion of the exercise period, the transfer switch shall operate to connect the loads to the normal source by opening the alternate source contacts, and closing the normal source contacts a predetermined time period later. The timing sequence for the contact operation shall be programmable in the controller.
   5. The transfer switch shall operate the generator set unloaded for a cool down period, and then remove the start signal from the generator set. If the normal power fails at any time when the generator set is running, the transfer switch shall immediately connect the system loads to the generator set.

C. Generator Set Exercise (Test) Without Load Mode. The control system shall be configurable to test the generator set without transfer switch load connected. In this mode, the transfer switch shall control the generator set in the following sequence:
   1. Transfer switch shall initiate the exercise sequence at a time indicated in the exercise timer program, or when manually initiated by the operator.
   2. When the control systems senses the generator set at rated voltage and frequency, it shall operate the generator set unloaded for the duration of the exercise period.
   3. At the completion of the exercise period, the transfer switch shall remove the start signal from the generator set. If the normal power fails at any time when the generator set is running, the transfer switch shall immediately connect the system loads to the generator set.

EXECUTION

3.1 FACTORY TESTING

A. Contractor shall make all necessary provisions to facilitate factory testing conducted by transfer switch manufacturer's agent.

3.2 INSTALLATION

A. Equipment shall be installed by the Contractor in accordance with final submittals and contract documents. Installation shall comply with applicable state and local codes as required by the authority having jurisdiction. Install equipment in accordance with manufacturer's instructions and instructions included in the listing or labeling of UL listed products.

B. Installation of equipment shall include furnishing and installing all interconnecting wiring between all major equipment provided for the on-site power system. The contractor shall also perform interconnecting wiring between equipment sections (when required), under the supervision of the equipment supplier.

C. Equipment shall be initially started and operated by representatives of the manufacturer.

***END OF SECTION***