

26 March 2015  
EA Project No. 1470405

**TO:** Bidders of Record

**FROM:** EA Engineering, Science, and Technology  
11202 Racetrack Road  
Unit 103  
Ocean Pines, MD 21811

**RE:** Addendum No. 1  
Town of Berlin Branch Street Water Treatment Building  
Berlin, MD

TO ALL BIDDERS: This Addendum No. 1 contains direction for modification to Contract Documents. This Addendum No. 1 shall supplement, amend, and become part of the Contract Documents and Construction Specifications for the title project and contract. All bids shall be based on this addendum in accordance with the Bidding Documents.

This Addendum contains the following:

- Contract Document Clarifications

#### CONTRACT DOCUMENT CLARIFICATIONS

1. In Section 26 32 13, Emergency Generator, revise the section as follows: .
  - a. ADD article 2.12 and article 2.13:

##### **“2.12 Transfer Switch**

- A. The Automatic Transfer Switch shall be supplied with UL No. 1008 approval. The switch shall be double throw design mechanically and electrically interlocked, mechanically held and mounted in a NEMA 1 or NEMA 12 enclosure. The automatic transfer switch shall be capable of transferring the load to the emergency sources when any phase of the normal power supply fails. The switch shall automatically retransfer the load circuit to the normal source when all phases of normal A.C. power supply have been re-established. The transfer switch and its control panel shall be the product of the same manufacturer.
- B. The transfer switch shall be electrically operated and mechanically held. Transfer switches shall be over center operation, double-throw construction, positively electrically and mechanically interlocked by a simple mechanical beam to prevent simultaneous closing, and mechanically held in both normal and emergency positions. The electrical operator shall be a single-solenoid mechanism, momentarily energized.
- C. The switch shall be positively locked and unaffected by momentary outages so that pressure is maintained at a constant value and temperature rise at the contacts is minimized for maximum reliability and operating life.

- D. All main contacts shall be silver composition. Transfer switches shall have three (3) S.P.D.T. (Single Pole Double Throw) auxiliary switches, with solid neutral, on both the normal and emergency-sides, operated by the transfer switch. These auxiliary switches shall be factory wired to an easy access terminal block and may be used to monitor transfer switch position for controlling remote indicator lamps or other peripheral equipment.
- E. Inspection of all contacts shall be possible from the front of the switch without disassembly of operating linkages and without disconnection of power conductors. A manual operating handle shall be provided for maintenance purposes. The handle shall permit the operator to manually stop the contacts at any point throughout their entire travel to inspect and service the contacts.
- F. Designs utilizing components of molded-case circuit breakers, contactors, or parts which are not intended for continuous duty, repetitive switching, or transfer between two active power sources are not acceptable.
- G. Where neutral conductors must be switched, the ATS shall be provided with fully-rated neutral transfer contacts.
- H. Where neutral conductors are to be solidly connected, a neutral terminal plate with fully rated AL-CU pressure connectors shall be provided.
- I. The automatic transfer switches shall include all lights, switches, relays, and devices required to provide performance and protection as specified.
- J. The ATS shall be rated to close on and withstand the available RMS symmetrical short circuit current at the ATS terminals with the type of overcurrent protection shown on the plans. The withstand and closing rating shall be 22kAIC.
- K. The automatic transfer switch shall be ASCO Series 300SE or equal.
- L. Furnish and install an automatic transfer switch rated 400Amps, 4 pole, 240VAC. The transfer switch shall consist of an inherently double throw power transfer switch unit and a microprocessor controller, interconnected to provide complete automatic operation.
- M. Furnish an enclosure for the ATS that is for service entry. It shall provide all of the proper disconnecting, protection, grounding and bonding required for service entrance equipment (including a service entrance circuit breaker).

### **2.13 Transfer Switch Accessories**

- A. Controls
  - 1. Control accessories shall be mounted in a separate smaller cabinet mounted on the inside of the main cabinet door. This is to allow for ease of service when the main cabinet lockable door is opened, but to prevent access by unauthorized personnel.
  - 2. The control system shall be electronically based and include under voltage and time delay modules. The solid-state under voltage sensors shall simultaneously monitor all phases of the normal and emergency power sources to provide field adjustable range sensors for specific applications. Voltage sensors shall allow for adjustment to sense partial loss of voltage on any phase of the normal or emergency power source, even where motor feedback voltages exist.
  - 3. Controls shall signal the emergency power system to start upon signal from normal source voltage sensors. Solid-state time delay start shall be provided to avoid nuisance engine-generator set start-ups on momentary voltage dips or interruptions.
  - 4. The transfer switch shall transfer the load to the emergency power system after the engine-generator set reaches proper voltage and frequency and has stabilized.
  - 5. The transfer switch shall control the engine-generator set to allow the set to start and transfer the load within 10 seconds after a normal source power failure. It shall be the responsibility of the transfer switch supplier to meet this requirement.

6. The transfer switch shall retransfer the load to the normal source after normal source power is restored, allowing normal source to stabilize before retransfer and shall allow staggered retransfer of loads in multiple transfer switch systems.
7. The controls shall signal the engine-generator set(s) to stop after load retransfer to the normal source, but shall maintain the availability of the emergency source in the event that the normal source fails shortly after retransfer. The controls shall allow the engine-generator set(s) to run unloaded for a cool down period prior to shutdown.
8. The controls shall provide an automatic retransfer of the load from the emergency source to the normal source if the emergency source fails when the normal source is available.
9. The transfer switch operating power for transfer and retransfer shall be obtained from the source to which the load is being transferred.
10. Main cabinet front door mounted controls and indicator lamps shall consist of oil-tight, neon position indicator lamps (NORMAL - White and emergency - Amber) and key-operated Test and Selector switches to provide the following

**B. Test Switch**

1. TEST - Simulated normal source power loss to control unit for testing engine-generator set capability, including transfer of load if so equipped. Control system shall provide for system test without load transfer when specified.
2. NORMAL - Normal operating position and also restores the system to standby operation; and if load was transferred, retransfers load from emergency to normal source after test and time delays.
3. RETRANSFER - Spring-loaded momentary position of switch, that overrides retransfer time delay to cause the immediate return to the normal source after a test or actual power outage.

**C. Accessory Items. Transfer switches shall be equipped with the following items:**

1. Exerciser clock to set day-of-week (one week dial minimum), time-of-day, and duration-of-time of engine-generator set(s) exercise.
2. Provide Manual-Automatic retransfer selector switch. After normal source is restored, this switch provides either manual or automatic retransfer after the retransfer time delay has expired in the automatic position, or manual retransfer at a time selected by an operator.
3. Transfer switches shall be equipped with a "Programmed Transition" feature with an adjustable time range of 0.5 to 5 seconds. This feature shall provide a field adjustable time delay during switching in either normal or emergency switching directions.
4. During this time delay, the load is isolated from either power source to allow residual voltage components of motors or other inductive loads (such as transformers) to decay prior to completing the switching cycle. Transfer methods that use the phase relationships between the two (2) power sources to control the transfer initiation time are not acceptable.
5. Provide thermostatically controlled space heater of appropriate size in the ATS to reduce condensation when ATS is installed outside."

**(END OF ADDITION TO SPECIFICATION SECTION 26 32 13)**