SECTION 26 36 00

TRANSFER SWITCHES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Automatic Transfer Switch.

1.02 RELATED REQUIREMENTS

A. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.

B. Section 26 32 13 - Engine Generators: Testing requirements.

1.03 REFERENCE STANDARDS

A. NEMA ICS 10 - Industrial Control and Systems: AC Transfer Switch Equipment; National Electrical Manufacturers Association.

B. NETA STD ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems; International Electrical Testing Association.

C. NFPA 70 - National Electrical Code; National Fire Protection Association.

1.04 SUBMITTALS

A. Product Data: Provide catalog sheets showing voltage, switch size, ratings and size of switching and overcurrent protective devices, operating logic, short circuit ratings, dimensions, and enclosure details.

B. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

C. Operation Data: Instructions for operating equipment under emergency conditions when engine generator is running.

D. Maintenance Data: Routine preventative maintenance and lubrication schedule. List special tools, maintenance materials, and replacement parts.

1.05 QUALITY ASSURANCE

A. Conform to requirements of NFPA 70.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience and with service facilities within 100 miles of Project.

C. Supplier Qualifications: Authorized distributor of specified manufacturer with minimum three years documented experience.

D. Products: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. ASCO Power Technologies, LP: www.asco.com.

B. Eaton Corporation; Cutler-Hammer Products: www.eaton.com.

2.02 AUTOMATIC TRANSFER SWITCH

A. Description: NEMA ICS 10, automatic transfer switch suitable for use as service equipment.

B. Configuration: Electrically operated, mechanically held transfer switch.

C. Interrupting Capacity:14000 amp minimum ,rms .

2.03 SERVICE CONDITIONS

A. Service Conditions: NEMA ICS 10.

B. Temperature: 105 deg F.

C. Altitude: 3,300 feet.

2.04 COMPONENTS

A. Indicating Lights: Mount in cover of enclosure to indicate NORMAL SOURCE AVAILABLE.

B. Test Switch: Mount in cover of enclosure to simulate failure of normal source.

C. Return to Normal Switch: Mount in cover of enclosure to initiate manual transfer from alternate source to normal source.

D. Transfer Switch Auxiliary Contacts: 1 normally open; 1 normally closed.

E. Normal Source Monitor: Monitor each line of normal source voltage and frequency; initiate transfer when voltage drops below 85 percent or frequency varies more than 3 percent from rated nominal value.

F. Alternate Source Monitor: Monitor alternate source voltage and frequency; inhibit transfer when voltage is below 85 percent or frequency varies more than 3 percent from rated nominal value.

G. In-Phase Monitor: Inhibit transfer until source and load are within zero electrical degrees.

H. Switched Neutral: Overlapping contacts.

I. Enclosure: ICS 10, Type 1, finished with manufacturer's standard gray enamel.

2.05 AUTOMATIC SEQUENCE OF OPERATION

A. Initiate Time Delay to Start Alternate Source Engine Generator: Upon initiation by normal source monitor.

B. Time Delay To Start Alternate Source Engine Generator: 0 to 6 seconds, adjustable.

C. Initiate Transfer Load to Alternate Source: Upon initiation by normal source monitor and permission by alternate source monitor.

D. Time Delay Before Transfer to Alternate Power Source: 0 to 60 seconds, adjustable.

E. Initiate Retransfer Load to Normal Source: Upon permission by normal source monitor.

F. Time Delay Before Transfer to Normal Power: 0 to 60 seconds, adjustable; bypass time delay in event of alternate source failure.

G. Time Delay Before Engine Shut Down: 0 to 1 minutes, adjustable, of unloaded operation.

H. Engine Exerciser: Start engine every 15days run for 30 minutes before shutting down. Bypass exerciser control if normal source fails during exercising period.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surface is suitable for transfer switch installation.

3.02 PREPARATION

A. Provide 6" housekeeping pads.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Provide engraved plastic nameplates under the provisions of Section 26 05 53.

3.04 FIELD QUALITY CONTROL

A. Provide the services of the manufacturer's technical representative to check out transfer switch connections and operation and place in service.

B. Inspect and test in accordance with NETA STD ATS, except Section 4.

C. Perform inspections and tests listed in NETA STD ATS, Section 7.22.3.

3.05 CLOSEOUT ACTIVITIES

A. Demonstrate operation of transfer switch in bypass, normal, and emergency modes.

3.06 MAINTENANCE

A. Provide a separate maintenance contract for specified maintenance service.

B. Provide service and maintenance of transfer switches for one year from Date of Substantial Completion.

END OF SECTION