

## SECTION 26 36 00 – POWER SWITCHING AND CONTROL DEVICES

### PART 1 - GENERAL

#### 1.01 RELATED DOCUMENTS:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.

#### 1.02 SUMMARY:

- A. This Section covers specifications for:
  - 1. Manual Transfer Switch(es).
  - 2. Automatic Transfer Switch(es).
  - 3. Fused Disconnect Switch(es).
  - 4. Low-Voltage Contactor(s).
  - 5. Light-Sensitive Control.

#### 1.03 RELATED REQUIREMENTS:

- A. Section 13 34 23.23 - Fabricated Substation Control Enclosures
- B. Section 23 75 00 – Substation Enclosure HVAC Equipment
- C. Section 26 24 16 - Panelboards
- D. Section 26 51 23 - Substation Interior Lighting and Receptacles
- E. Section 33 72 33 36 – Cable Tray and Wireway for Utility Substations
- F. Section 33 72 33 33 – Raceway and Boxes for Utility Substations
- G. Section 33 72 33.16 - Relay Switchboards
- H. Section 33 72 43 11 - Substation Wire, Cable and Accessories

#### 1.04 REFERENCE STANDARDS:

- A. Applicable Standards:
  - 1. National Fire Protection Association (NFPA): 70 - National Electrical Code (NEC).
  - 2. National Electrical Manufacturers Association (NEMA).
  - 3. Underwriters Laboratories (UL).
  - 4. American National Standards Institute (ANSI).
- B. The Contractor shall furnish equipment and materials meeting the specified ratings and performance at the altitude and ambient temperatures specified.

#### 1.05 COMPLIANCE SUBMITTALS:

- A. Include, but are not limited to, the following:
  - 1. Physical outline drawings.
  - 2. Schematic diagrams.
  - 3. Wiring diagrams.
  - 4. Technical information such as overall dimensions, weight, ratings, etc.
  - 5. Catalog cuts.
  - 6. Factory test data if required.
  - 7. Nameplate and cover engravings.
  - 8. Instruction books.

### PART 2 - PRODUCTS

#### 2.01 ACCEPTABLE MANUFACTURERS:

- A. Transfer Switches and Fused Disconnect Switches:

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1. Automatic Switch Company.
2. General Electric Company.
3. Square D Company.
4. Westinghouse Electric Corporation.
- B. Low-Voltage Contactors:
  1. General Electric Company.
  2. Square D Company.
  3. Westinghouse Electric Corporation.
- C. Light-Sensitive Control Devices (Photocells):
  1. Fisher-Pierce, Division of Pacific Scientific.
  2. Precision Multiple Controls, Inc.
  3. Tork, Inc.

2.02 AUTOMATIC TRANSFER SWITCH:

- A. Quantity as indicated.
- B. Ratings:
  1. 600 V ac.
  2. 250 amps.
- C. Heavy duty, double throw, double pole, open transition.
- D. NEMA 1 enclosure.
- E. Adjustable time delay for transfer 0.2 to 50 seconds.
- F. Auxiliary contact (NO) suitable for external indication.
- G. Finish with two coats ANSI 61 light gray.
- H. Supply with neutral bus bar.
- I. Yellow phenolic nameplate approximately 1 inch by 3 inches on front of switch engraved with designation in black letters as indicated.
- J. Hinged door with lock and latch combination in the front trim.
- K. Construct with copper main buses of capacity as specified.
- L. Furnish lugs and connectors of size and quantity as indicated.
- M. Automatic Switch Company Catalog Type 940 or approved equivalent.

2.03 FUSED DISCONNECT SWITCH:

- A. Quantity as indicated.
- B. Ratings:
  1. 600 V ac
  2. 250 amps.
- C. Enclosures:
  1. NEMA 1 for indoor nonhazardous areas.
  2. NEMA 3R - Watertight for outdoors.
- D. Two pole, single throw.
- E. Provide for fusing as indicated.
- F. Fuses:
  1. 600 V.
  2. NEMA Class RK5.
  3. Gould Shawmut Type TR or approved equivalent.
- G. Yellow phenolic nameplate approximately 1 inch by 3 inches on front of switch engraved with designation in black letters as indicated.
- H. Hinged door with lock and latch combination.
- I. Construct with copper main buses with capacity as specified.

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- J. Furnish lugs and connectors of size and quantity as indicated.
- K. Provide with external cast handles lockable in the "off" position.
- L. Finish to be ANSI 61 light gray.
- M. Westinghouse Type DS or approved equivalent.

2.04 LOW-VOLTAGE CONTACTORS:

- A. Quantity as indicated.
- B. Ratings:
  - 1. 600Vac.
  - 2. 20 amperes.
- C. Nonreversing, electrically held.
- D. Coil voltage rated 120Vac.
- E. Hand-off-auto switch mounted on front cover.
- F. NEMA 1 enclosure.
- G. Finish ANSI 61 light gray.
- H. Number of poles as indicated.
- I. Square D Type LG-30-C or approved equivalent.

2.05 LIGHT-SENSITIVE CONTROL:

- A. Rated for control of lighting contactor.
- B. Photoelectric-controlled type.
  - 1. Quick-response control element.
- C. Single pole type rated 1,000W incandescent load and 1,800V amperes at 120Vac.
- D. Outdoor weatherproof acrylic housing fitted with a three-prong twist-lock plug.
- E. NEMA standard twist-lock receptacle and wall mounting bracket.
- F. Manufactured by Fischer-Pierce or approved equivalent.

PART 3 - EXECUTION

3.01 SWITCHES AND CONTACTORS:

- A. Locate and surface mount as indicated.
- B. Arrange for proper clearances from other equipment and materials to obtain good accessibility for operation and maintenance.
- C. Install all conduit riser and power cable connections.
- D. Ground all neutral buses to the control building ground system.
- E. Provide all necessary rods, anchors, inserts, clamps, tie-down clips, bolts, and miscellaneous steel. All bolts and miscellaneous material shall be galvanized, cadmium plated, or otherwise suitably corrosion protected.

3.02 LIGHT-SENSITIVE CONTROL DEVICES (PHOTOCELLS):

- A. Install as specified or indicated including all mounting and supporting materials.
- B. Direct toward the north sky and adjust to operate at approximately 1 footcandle. If required, provide shielding for ambient lighting interference.
- C. Connect to lighting contactor as indicated.

END OF SECTION 26 36 00