

## **PART 1 GENERAL**

### **1.1 REFERENCES**

- .1 Canadian Standards Association (CSA International)
  - .1 CSA C22.2 No.14-95 (R2001), Industrial Control Equipment.
- .2 National Electrical Manufacturers Association (NEMA)
  - .1 NEMA ICS 1-2001, Industrial Control and Systems: General Requirements.

### **1.2 SHOP DRAWINGS**

- .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Include schematic, wiring, interconnection diagrams.

### **1.3 QUALITY ASSURANCE**

- .1 Submit to Departmental Representative three copies of test results.

### **1.4 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal.
- .2 Collect and separate for disposal packaging material for recycling in accordance with Waste Management Plan.
- .3 Divert unused metal and wiring materials from landfill to metal recycling facility as approved by the Departmental Representative.

## **PART 2 PRODUCTS**

### **2.1 AC CONTROL RELAYS**

- .1 Control Relays: to CSA C22.2 No.14 and NEMA ICS 1.
- .2 Universal pole type: electrically held mechanically held latch type with 4 poles, convertible from NO to NC by changing wiring connections. Coil rating: 120V, Contact rating: 600V, 20A.

### **2.2 RELAY ACCESSORIES**

- .1 Standard contact cartridges: normally-open - convertible to normally-closed in field.

**2.3 SELECTOR SWITCHES**

- .1 Maintained Spring return to, 3 position labelled Hand/Off/Auto as indicated standard heavy duty oil tight, operators standard knob wing lever cylinder lock, contact arrangement, rated 120V, 15A.

**PART 3 EXECUTION**

**3.1 INSTALLATION**

- .1 Install pushbutton stations, control and relay panels, control devices and interconnect.

**3.2 FIELD QUALITY CONTROL**

- .1 Perform tests in accordance with Section 26 05 00 - Common Work Results - Electrical.
- .2 Depending upon magnitude and complexity, divide control system into convenient sections, energize one section at time and check out operation of section.
- .3 Upon completion of sectional test, undertake group testing.
- .4 Check out complete system for operational sequencing.

**END OF SECTION**