

## **DIVISION 16 - ELECTRICAL**

### **Section 16680 - Variable Speed Drive Systems Coordination**

#### **Introduction**

Refer to section 15870 for VFD parameters and provide coordination to include mechanical trades.

#### **Part 1 - General**

- Note that it will be necessary to interface with the mechanical or instrumentation engineer as to what required connections are necessary for the tie into the EMCS or other control system
- Do not locate drive inside of air handling units unless a dedicated power and control space accessible from the exterior is provided.
- Require complete submittals including wiring diagrams and recommended spare parts at the submittal.
- Require submission of complete operation and maintenance manuals at time of completion of contract prior to conducting the "training session". Operation and maintenance manual shall contain a complete copy of the submittal documents.
- Require a factory representative startup and training on site four hour minimum training session to be scheduled after the VFD is in service and fully operational.

#### **Part 2 - Products**

- Refer to section 15870
- Fully transistorized PWM type drives.
- Coordinate use of VFD rated motors with mechanical trade.

#### **Part 3 – Execution**

- Utilize Mechanical section 15870 in coordination with the mechanical trade and /or engineer.
- Limit length of feeder from VFD or AFC (adjustable frequency controllers) to motor as per recommendations of the manufacturer. If possible locate drive near motor.
- Feeder must be in steel conduit.
- Control wiring in separate steel conduit. Speed signal wiring to be in twisted shielded pair, minimum of 18 ga. copper.
- Install AY.

#### **End of Section 16680**