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**Part 1 General****1.1 RELATED SECTIONS**

- .1 Section 26 05 00 - Common Work Results for Electrical.
- .2 Section 26 05 28 - Grounding – Secondary.

**1.2 SHOP DRAWINGS**

- .1 Refer to Section 01 00 10 – General Instructions.

**1.3 REFERENCES**

- .1 Canadian Standards Association (CSA International)
  - .1 CAN/CSA-C22.2 No.47-13, Air-Cooled Transformers (Dry-Type).
  - .2 CSA C9-02 (R2011), Dry-Type Transformers.
- .2 National Electrical Manufacturers Association (NEMA).

**1.4 PRODUCT DATA**

- .1 Submit product data in accordance with Section 01 00 10 – General Instructions.

**1.5 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate and recycle waste materials in accordance with Section 01 00 10 – General Instructions.
- .2 Remove from site and dispose of all packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal all packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.
- .4 Divert unused metal and wiring materials from landfill to metal recycling facility as approved by Departmental Representative.
- .5 Fold up metal banding, flatten and place in designated area for recycling.

**Part 2 Products****2.1 TRANSFORMERS**

- .1 Use transformers of one manufacturer throughout the project.
- .2 Design:
  - .1 Three-phase step-down transformers shall have the following characteristics:
    - 1. Three phase - 600-Volt delta connected primary (high-voltage) and Wye connected secondary windings, voltage as indicated on the drawings.

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- .2 The secondaries shall be brought out to the terminal board for connection of the grounded neutral on the 3-ph, 4-wire systems.
  - .3 All transformers shall be distribution class and shall comply with the following parameters:
    - .1 Type: ANN.
    - .2 C.S.A.: C9, C22.2 No.47.
    - .3 Insulation: Class H.
    - .4 Design: 150°C design temperature rise by resistance.
    - .5 kVA Ratings: as indicated on drawings.
    - .6 Voltage Class: 1.2 kV.
    - .7 BIL Rating: 10 kV.
    - .8 Windings: copper.
    - .9 Magnetizing Inrush: maximum - 12 times rms F.L. value.
    - .10 Taps: 4 - 2½% (2FCAN, 2FCBN)
    - .11 Sound Level: 45 dBA maximum.
    - .12 Enclosure: ventilated, EEMAC 2, removable metal front panel.
    - .13 Finish: ASA 61 grey air dry.
    - .14 Mounts: anti-vibration between core coil frame and the enclosure frame.

## 2.2 EQUIPMENT IDENTIFICATION

- .1 Provide equipment identification in accordance with Section 26 05 00 – Common Work Results for Electrical.
- .2 Label Size: 7
- .3 Refer to drawings for nameplate wording designations. Example as follows:
  - .1 Transformer T-EPPA 30 kVA 600 volts to 120/208 volts fed from DP-EA feeding BP-EPPA.

## Part 3 Execution

### 3.1 INSTALLATION

- .1 Mount dry-type transformers on wall, mount where shown on the drawings.
- .2 Ensure adequate clearance around transformer for ventilation.
- .3 Install transformers in level upright position.
- .4 Remove shipping supports only after transformer is installed and just before putting into service.
- .5 Loosen isolation pad bolts until no compression is visible.

### 3.2 CONNECTIONS

- .1 Make primary and secondary connections shown on the drawings with liquid-tight flexible metal conduits.

- .2 Energize transformers immediately after installation is completed, where practicable.

**END OF SECTION**