

SECTION 16271

PAD MOUNT TRANSFORMER – OIL FILLED

PART 1 - GENERAL

1.1 SYSTEM DESCRIPTION

A. Pad Mount Transformers and Insulating Oil

1.2 INCORPORATED DOCUMENTS:

A. Latest applicable NEMA and ANSI standards for pad mount, dead front, oil filled distribution transformers

1.3 SUBMITTALS

A. Submit shop drawings containing information of dimensions, weight, sound level, impedance, voltage regulation, efficiency, and fabrication details.

B. Submit manufacturer's test report of the transformer furnished.

PART 2 - PRODUCTS

2.1 GENERAL DESCRIPTION

A. Pad Mount Compartmental Type, Self-cooled, Three Phase Distribution Transformer as manufactured by Alstom (Balteau Transformers). Suggested vendor: Ormond Associates.

2.2 ELECTRICAL CHARACTERISTICS:

A. Self cooled rating: 75, 112.5, 225, 300, 500, 1000, KVA; 3-Phase, 60 Hz.

B. Insulating Liquid: Mineral Oil, ASTM D-3487.

C. Primary Voltage: (60kV, 95kV) BIL, (4,160, 12,470) Delta

D. Secondary Voltage: (208Y/120), (480Y/277) Volts

E. Impedance: 4.5%, Minimum

F. Taps: Two – 2.5% full capacity above and below normal; externally operable no-load tap changer.

G. Temperature rise: 65 Degrees C.

2.3 HIGH VOLTAGE TERMINATION AND EQUIPMENT

- A. Configure the primary for loop feed and provides six externally clamped 200 amp bushing wells and inserts and parking stands.
- B. Provide three, OFF-ON, 200 amp LBOR switches (feed left, feed right, and isolate transformer) with eyes for hot stick operation in the primary section.
- C. Provide primary protection by current limiting fuses in Non-loadbreak drywells. Interlock fuse holders so that transformer switch must be in the off position before fuses can be removed. Fuses shall be Cooper Power System or equal.

Or (for simple radial feed)

- A. Configure the primary for radial feed and provides three externally clamped 200 amp bushing wells and inserts and parking stands.
- B. Provide one, OFF-ON, 200 amp LBOR switch with eye for hot stick operation in the primary section.
- C. Provide primary protection by current limiting fuses in Non-loadbreak drywells. Interlock fuse holders so that transformer switch must be in the off position before fuses can be removed. Fuses shall be Combined Technologies X-Limiter or equal.

2.4 LOW VOLTAGE TERMINATION AND EQUIPMENT

- A. Low voltage connections shall be by blade type spade terminals with NEMA standard hole spacing.

2.5 CONSTRUCTION

- A. Construction shall be dead front primary with a steel barrier separating the high and low voltage sections.
- B. The high and low voltage compartments shall be side-by-side with the low voltage compartment on the right facing the transformer. The door shall be tamperproof, secured by a pentahead bolt and padlock arrangement.
- C. Provide lifting lugs and provisions for jacking, rolling, and skidding.
- D. Provide lugs, attached at the bottom of the transformer tank, for bolting the transformer to the pad. The lugs shall be designed for UBC (California 1992), Seismic Zone 4 earthquake forces.

E. Provide the following accessories:

1. Pressure relief valve
2. One inch drain valve with sampling device
3. Upper filter press connection
4. Liquid level gauge
5. Ground pad
6. NEMA standard pad mount warning label on door to primary section
7. Thermometer
8. Pressure Vacuum Gauge
9. Gas Sample/Pressure Test Valve
10. Non PCB Label

F. Finish the transformer according to ANSI standard (c.57.12.28/29) for surface preparation, primer, and paint durability. Exterior color: Munsel No. 7GY3.29/1.5 “pad mount green.”

OR

Kelly Moore 1245-407 acrylic low sheen “carbon” or equal

G. Copper Windings shall be copper for transformer rated 1500kVA or higher.

2.6 FACTORY TESTS:

A. Perform factory tests on each transformer according to ANSI C57.12.90 and submit certified test reports to the Owner prior to shipment of the transformer.

B. Include the following test results in the report:

1. Winding-to-winding and winding-to-ground resistance
2. Ratio tests on rated voltage and all tap connections
3. Polarity and phase relation test on rated voltage connection.
4. No load loss
5. Exciting Current
6. Impedance and load loss at full load.
7. Applied potential test.
8. Induced potential test.
9. Impulse test (one full wave, QC on all units)
10. Pressure leak test.

2.7 SHIPPING AND DELIVERY

- A. Ship the transformer on a flat-bed truck and secured to a pallet suitable for unloading by forklift.
- B. Notify the Owner 24 hours prior to delivery.

2.8 WARRANTY

- A. The manufacturer shall warrant the product for a period of not less than eighteen (18) months from the date of shipment or (12) months from the date of energization, whichever occurs earliest.

END OF SECTION