45KVA Transformer Oil Leakage Repair

Triumf

4004 Wesbrook Mall, Vancouver, BC

Job # 20184712

January 202

BEAVER ELECTRICAL MACHINERY LTD.
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Customer: Triumf	Date: Jan 18 / 2023	Tech: PE / MO	**Job#: 20184712**
Site Address: 4004 Wesbrook Mall, Vancouver, BC.		Contact: On site Gerald Morris	

SERVICE REPORT

Equipment Data:

- T-159 Transformer: NWL, 45 KVA, 480-208 VAC, 54/125 amp, 3 phase, 60 HZ, Duty: Cont, Model: 105795, Temp rise: 55℃, Test: 60 KVDC, Silicone oil, 90 gal, Non PCB.

Service Request:

- To check and repair leaking bushing.

Work Performed:

- Arrived onsite and unloaded equipment. Found transformer switched off and locked out.
- Performed prejob safety meeting and installed our personal lock outs. Supply and load side switches.
- Found no pressure or vacuum in tank when released vent (Rated at 4 PSI pressure relief)
- Removed 480 VAC terminal box cover and top lid of transformer.
- Visual inspection found X1 bushing leaking and connection stud loose. Could rotate connection easily. Other bushings ok.
- Found oil level low referring to internal tank level marking.
- Isolate X1 lead and tightened connection stud nut. Cleaned area with isopropyl alcohol and blew out.
- Reinstalled top lid and pressurized tank to 3 PSI with hand pump connected in place of relief vent.
- Found leak did not stop. Decision made to remove bushing assembly.
- Drained approximately 25 gallons of oil below bushing level.
- Unbolted bushing assembly and removed. Found 1 piece rubber gasket not sealing around connection stud. This gasket is tubular and tank flange rubber gasket is positioned in the center of tube. No spare gaskets on hand. Refer to pictures.
- Decision made to make a neoprene rubber gasket gasket to add to the end of the original tube gasket. This will make more compression to seal to connection stud.
- Reassembled bushing as found and reinstalled.
- Filled transformer with oil and topped off with approximate 2.5 gallons to level mark.
- Reinstalled lid and pressure tested again. After about half an hour no leaks were found.
- Removed pressure from tank and reinstalled pressure relief vent.
- Reconnected X1 cable as found and cleaned up residual oil on equipment and floor.
- Removed lock outs and reloaded equipment.

Recommendations:

1- When transformer reaches operating temperature release tank pressure via pulling out pressure relief vent.
2- Monitor transformer oil leaks.
3- Order spare bushing and a set of gaskets.