Annexure-F

Scope of work

The TRANSFORMER / REACTOR tank is boxed up and ready for further operation.

The contractor has to execute the following scope of work: -

1. Vacuuming of TRANSFORMER / REACTOR up to 1 mm of mercury and maintaining for 24hrs. Dry N2 filling up to 2.0 psi for 24hrs duration. Heating of the tank externally to raise the temperature upto 75^0C and continue purging operation till desired dew point is achieved. (3 cycles tentatively estimated). Each cycle will comprise of 24hrs vacuuming and 24hrs heating after nitrogen filling.

2. Oil filing & hot oil circulation to achieve BDV & PPM values.

3. Oil settling , testing and re-commissioning of TRANSFORMER / REACTOR

Infrastructure and facilities required for restoration.

1. Vacuum pump with booster capable of pulling 1mm of hg vacuum

2. 30 Nos. dry N2 cylinders (99.9% pure & -55 deg. Cent. dew point).

3. 50 Nos. industrial finned 2kW heaters with mounting structure 1 feet away from tank wall at 1/3, 2/3 height. Enclosure around TRANSFORMER / REACTOR to prevent heat loss and proper heating of insulation.

4. Dew point meter for dew point measurement cylinders & reactor tank.

5. Filter machine (High VAC)

6. SFRA & Tan delta kit. Low voltage testing instruments.

Testing of Transformer/Reactor

1. IR values of windings & bushings at 5 kV for 60sec/600 sec.
2. Tan delta measurement of windings and HV bushing, neutral bushing at 10kV
3. Ratio test by turn ratio meter & vector group verification.
4. Resistance measurement on all taps of HV winding & LV winding.
5. Measurement of magnetization current of HV& LV windings.
6. Measurement of dew point of N2 used for dry out & that of transformer.
7. BDV test of oil before filling in the tank.
8. BDV, PPM, resistivity & tan delta tests on oil after completion of oil filtration.
9. SFRA measurement of transformer.
10. Functional checks of all TRANSFORMER / REACTOR protections like PRV, buchholz relay etc.
11. Pre-commissioning checks for charging of the TRANSFORMER / REACTOR