

ON – SITE RECONDITIONING OF OIL IN SERVICE

Introduction

Insulating oil filled in electrical equipment service three fold purposes

- a. As a dielectric insulating medium between the live part and earth.
- b. As a cooling medium to dissipate the heat developed in the core and windings
- c. To quench the arc during switching operations or in case of fault.

In the life of the equipment the quality of the oil plays a significant role. The oil in service may get deteriorated due to oxidation or contamination with water and solid particles or due to oil soluble polar components.

Hence monitoring and maintaining the oil quality is very essential to ensure its reliability. The resultant cost of electrical equipment failure is far greater than the cost incurred by properly maintaining the standard of the insulating oil.

IEC 422 - “Supervision and maintenance guide for mineral insulating oils in electrical equipment” gives the parameters to be monitored, its limiting values and the frequency of which the tests to be carried out. When these values cross the specified limits, the oil has to be conditioned.

What ETS can do?

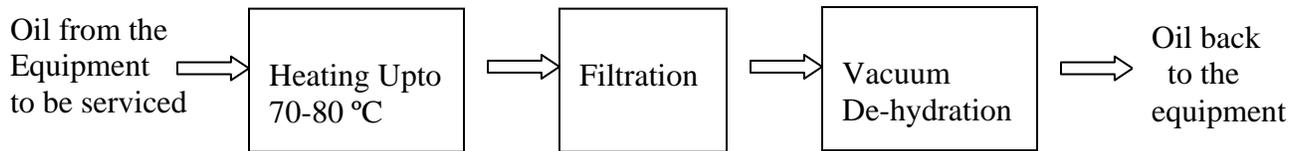
We are fully equipped with the right equipments and skilled personnel to service the oil in equipment of any capacity and voltage class at your site.

Our mobile purification system, on-board our trailer, represent the latest state of the Art in oil purification.

This along with the trained and experienced field engineering team makes the oil servicing easy. Together you get convenient, economical service while assuring professional maintenance of your transformers, circuit breakers tap changers, enclosures and regulators.

A complete lab facility, lets our expert test the oil samples for break down voltage, interfacial tension, moisture content, neutralization value (Acidity), dielectric dissipation factor and resistivity. The analysis of the test result will enable us to decide on the reconditioning or reclamation or replacement of the oil.

The reconditioning process is as shown below:



The reconditioning cycle starts by heating the oil and passing it through paper filters. The filtered oil is sent through the dehydration chamber at ultra high vacuum where the moisture and dissolved gases are removed. After a single pass 99.9% of solid particles up to 1 micron are removed, the moisture content is reduced to less than 5 ppm and the dissolved gases to less than 0.25% by volume.

This process may be repeated few cycles for larger size of equipment till the oil samples tested confirm to the specified values in IEC 422.

With machines of various capacities available, it will be possible to handle oil at the rate of 5000 lph and thereby reducing the down time of your equipment for re-conditioning.