

## **OIL POLICY**

*This document is for internal and contract specific use only.*

### **Disclaimer**

*NGG and NGET or their agents, servants or contractors do not accept any liability for any losses arising under or in connection with this information. This limit on liability applies to all and any claims in contract, tort (including negligence), misrepresentation (excluding fraudulent misrepresentation), breach of statutory duty or otherwise. This limit on liability does not exclude or restrict liability where prohibited by the law nor does it supersede the express terms of any related agreements."*

## **PURPOSE AND SCOPE**

This Policy defines National Grid's future purchases of oil, as a dielectric and coolant fluid for use in oil-filled circuit breakers, transformers and related equipment. This will include the oil purchased as part of new equipment and oil purchased for top ups and replacement where the oil is beyond further use.

This Policy allows for the purchase of alternative fluids for special circumstances.

This Policy does not cover synthetic and special oils for such as bushings, cables, capacitors and instrument transformers.

## **PART 1 – POLICY**

### **1 POLICY**

National Grid's Policy is to purchase unused, inhibited oil conforming to the latest version of IEC 60296 and includes oil purchases as part of new equipment and top ups. It is National Grid's policy to request manufacturers to provide information about all additives used in the oil they supply.

It is National Grid's Policy that oil in existing transformers in need of attention due to the advanced state of degradation should be reclaimed and inhibited in preference to being replaced, except where other factors dictate that the oil should be replaced e.g. PCB content or poor original oil quality.

It is National Grid's Policy not to purchase recycled transformer oil unless the origin and quality of the oil can be shown to be suitable for the intended purpose.

Where transformers are contaminated with potentially corrosive sulphur they will be passivated.

Equipment Suppliers shall test and supply new transformers with inhibited oil.

Once inhibited oil filled equipment is on the system, analysis of the oil for inhibitor content shall be carried out annually after a maximum period of 7 years.

Synthetic ester conforming to IEC 61099 may be used where:

- high flash and fire points are required
- environmental considerations require a high level of biodegradability
- design constraints necessitate its use
- an economic justification exists for its use .

## 2 HEALTH, SAFETY AND ENVIRONMENTAL ISSUES

There is no perceived increase in risk to health from handling inhibited transformer oil rather than uninhibited. DBPC (or BHT) is commonly used in food containing fats and oils.

DBPC and passivator will be purchased already dissolved in transformer oil at high concentration (10-15%) to add to reclaimed oil. Any harmful effects from DBPC at this concentration can easily be managed with the same basic PPE required for handling transformer oil

The Policy will have a positive environmental benefit, as there will be a reduced requirement of new oil through reuse of the oil currently in our HV equipment.

Synthetic esters have higher fire points than mineral oil and are biodegradable. There are no perceived additional risks associated with handling synthetic esters compared with mineral oil so may therefore be seen as beneficial from health, safety and environmental perspectives

## 3 RESPONSIBILITIES

Construction need to inform the Oil Management Unit (OMU) and Asset Integrity when new equipment on the system contains inhibitors or when alternative fluids are purchased.

The Oil Management Unit are to be responsible for:

- Purchasing inhibited oil for all requirements.
- Purchasing the inhibitor, known as DBPC, to enable the inhibition of transformer oil after reclamation.
- Purchasing the passivator, known as Irgamet 39, to enable the passivation of transformers found to be at risk of copper sulphide formation
- Maintaining records of transformers that contain inhibitor.

Asset Integrity will be responsible for:

- Specification of new oil for all purposes in the scope of this Policy
- Monitoring the levels of inhibitors and passivators in oil filled equipment.
- Informing Oil Suppliers of changes in Policy.
- Informing Equipment Suppliers of changes in Policy.

## 4 FORMS AND RECORDS

The OMU will maintain records of transformers that contain inhibitor.

## PART 2 – DEFINITIONS AND DOCUMENT HISTORY

### 5 DEFINITIONS

Not applicable.