

SPECIFICATION FOR INHIBITED TRANSFORMER OIL

1. SPECIFICATIONS

The materials must meet the specifications of IEC standard 60296/2003 with the following additional requirements:

- a) To be of naphtha consistence
- b) Surface tension (at 25⁰C) $\geq 40.10^{-3}$ N/m
- c) Water Content ≤ 40 mg/Kg
- d) Not contain PCB's or corrosive sulphur
- e) Inhibitors' Concentration 0.30-0.40% (inhibited transformer oil according to IEC standard 60296 par. 5.1.2)
- f) Minimum Breakdown voltage according to IEC standard 60156 $\geq 30/70$ kv (without or with treatment)

The values of physico-chemical characteristics will be in accordance with the above, while for all the extra characteristics, not defined by those, applying the physico-chemical characteristics listed in the vendor's offer. For this purpose, the supplier will supply the following:

- Product data sheet
- Safety data sheet

The offered transformer oil should be fully mixable with those existing in the transformers of IPTO, which meet the above requirements.

2. TESTS

2.1 Before the "Announcement to Inspection" of material, tests of the finished product will be performed by the vendor. The report of these tests will be sent along with the "Announcement to Inspection" to authorized inspectors of IPTO.

2.2 The material is technically acceptable, if the values measured are greater or equal to the specified (if this is "min") or less than or equal to the specified (if this is "max"). Otherwise, the material will be considered unacceptable, whatever the repeatability of the measurement method is.

2.3 Sampling will be done upon receipt of material, from five (5) barrels and will be considered acceptable if all samples taken for testing give satisfactory results. Acceptance tests will be carried out, at the discretion of the buyer, at KDEP or another accredited laboratory or to the vendor's laboratories.

The buyer will be charged with test cost at KDEP or other lab, if these tests are successful. However, in case of failure of the above tests, their cost will charge the vendor.

Finally, in any case, the cost of samples and their transfer to the laboratory that will conduct the tests will charge the vendor, in both cases of a success or a failure of the tests.

2.4 In case the oil is not deemed satisfactory during the inspection, the supplier is obliged to replace the bad batch with new. The vendor's liability for replacement of the material applies also in the case that the inadequacy of the material, found in the use of IPTO's transformers.

3. SPECIAL CLAUSE for the IMPLEMENTATION of law 2939/2001 and of Decree-law 82/2004

Participants to the competition will have to include in their technical bid, all necessary documents showing that they have individual systems or participate in collective systems alternative management for lubricating oils and generally that adhere to the provisions of law 2939/2001 and Presidential Decree-law 82/2004 concerning the management of waste lubricating oils. To this end participants will provide subscription certificate.

4. SPECIAL CLAUSE for the IMPLEMENTATION OF REGULATION 1907/2006/EC and DIRECTIVE 2006/121/EC

On implementation of EU legislation REACH (Regulation 1907/2006/EC and Directive 2006/121/EC) ' for the registration, evaluation, authorization and restriction of chemicals "which refers to the sound management of chemicals within the EU, in order to effectively protect human health and the environment, required the producers-importers of chemical substances and preparations, to register their substances, since those manufactured or imported in quantities greater than one (1) ton per year.

Thus participants must submit, compulsory on penalty of nullity, completed the attached Table 1.

In addition, safety data sheets will be drawn up in accordance with the requirements of the REACH regulation and should be provided in electronic format.