

## **ADMIE TECHNICAL DESCRIPTION**

### **TRANSFORMER OIL (INHIBITED)**

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## TRANSFORMER OIL (INHIBITED)

### 1. Specifications

The materials must meet the specifications of IEC standard 60296/2012 with the following additional requirements:

- a) To be naphtha-based
  - i. Viscosity Index  $\leq 75$  according to ASTM D2270
- b) Surface tension at 250 °C  $\geq 40 \times 10^{-3}$  N/m
- c) Water Content  $\leq 20$  mg/Kg
- d) Must not contain PCB's or corrosive Sulphur
- e) Inhibitors Concentration 0.30-0.40% (inhibited transformer oil according to IEC 60296 par. 5.1.2)
- f) Minimum Breakdown voltage according to IEC standard 60296  $\geq 45/70$  kV (with or without treatment)

The values of physico-chemical characteristics must be in accordance with the above. For all the extra characteristics not defined in the above list, the applicable physico-chemical characteristics must be listed in the vendor's offer. For this purpose, the supplier will provide the following:

- Product data sheet
- Safety data sheet
- FT-IR Range

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

### 2. Tests

2.1 Before the Announcement to Inspection, 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 the authorized inspectors of ADMIE.

2.2 The material is technically acceptable if the values measured are greater or equal to the specified (if the specified value is a minimum), or less than or equal to the specified (if the specified value is a maximum). Otherwise, the material will be considered unacceptable, regardless of the measurement method's repeatability.

2.3 Sampling will be performed upon receipt of material from five (5) barrels. The supply 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 in the Public Power Corporation Research & Standard Testing Center (KDEP), or another accredited laboratory, or in the vendor's laboratories.

Assuming that these acceptance tests are positive, the buyer will assume the testing cost. However, in case of failure, the cost will be charged to the vendor.

Finally, in any case, the cost of the samples and their transfer to the laboratory that will conduct the tests will be charged to the vendor, regardless of the testing outcome.

2.4 In case that the oil is found unsatisfactory during the inspection, the supplier is obliged to replace the supplied batch with new. The vendor's liability for replacement of the material also applies in the case that the material is found inadequate during its use in ADMIE's transformers.

### **3. Special Legal Provision 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 of 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 that end, participants will provide a subscription certificate.

### **4. Special Legal Provision 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, producers-importers of chemical substances and preparations are required to register their substances, if those are 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 composed in accordance with the requirements of the REACH regulation and should be provided in electronic format.

## 5. Annex A

TABLE 1

<b>Vendor Data</b>						
Business Name/Location						
Who to contact for REACH Information						
<b>Substance/Preparation Information</b>						
Substance/Preparation Name	CAS Number	EC Number	Preparation pre-registration/registration requirement? (YES/NO) If not why?	Pre-registration Number?	Projected registration closing date?	Safety Data Sheet Attached? (YES/NO)
<i>The Name is supplemented by ADMIE (in case substances are supplied separately)</i>						

**Signature**

\_\_\_\_\_  
Name:

Position:

Date: