

BHARAT HEAVY ELECTRICALS LIMITED, BHOPAL
TRANSFORMER ENGINEERING DEPARTMENT

FORM NO: TRE-2003A

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ANNEXURE TO INDENT-CUM-ENQUIRY - 240634052 DTD:-
 DESCRIPTION OF EQUIPMENT : **OIL STORAGE TANK (20 KL)**
 WORK ORDER NO. : 61100-C-517-01 & 61101-C-517-01
 CUSTOMER : M/S PGCIL, Tuticorin

SPECIFICATION OF OIL STORAGE TANK

1. GENERAL:

This specification governs the supply of oil storage tank of 20 KL capacity along with complete accessories.

2. STANDARD:

The oil storage tank shall be designed & fabricated as per relevant standard e.g. IS:803 or other internationally acceptable standards.

3 SPECIFICATIONS :

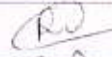

Transformer oil storage tanks shall be towable on pneumatic tyres and rested on manual screw jacks of adequate quantity & size. The tank shall be of cylindrical shape & mounted horizontally and made of mild steel plate of adequate thickness. Size of storage tank shall be as follows:

Diameter : 2.0 metre

Capacity : 20 cubic meters (20 KL).

The tank shall be designed for storage of oil at a temperature of 100 deg. C.

4. The bidder may further note that maximum height of any part of the complete assembly of the storage tank shall not exceed 4.0 metre above road top.
5. The tank shall have adequate number of jacking pad so that it can be kept on jacks while completely filled with oil. The tank shall be provided with suitable saddles so that tank can be rested on ground after removing the pneumatic tyres.
6. The tank shall also be fitted with manhole, outside & inside access ladder, silica gel breather assembly, inlet & outlet valve, oil sampling valve with suitable adopter, oil drainage valve, air vent etc. Pulling hook on both ends of the tank shall be provided so that tank can be pulled from either end while completely filled with oil. Bidder shall indicate the engine capacity in horse power to pull one tank completely filled with oil. Oil level indicator shall be provided with calibration in terms of litre so that at any time operator can have an idea of oil in the tank. Suitable arrangement shall also be provided to prevent overflow in the tank.
7. The following accessories shall also form part of supply along with each oil storage tank:
 - i) Four numbers of 50 NB suitable rubber hoses for transformer oil application up to temperature of 100 deg. C, full vacuum and pressure up to 2.5 kg/sq. c.m. with couplers and unions each not less than 10 metre long shall be provided.

REV	DATE	ALT CKD	REV	DATE	ALT CKD	REV 00	NAME	SIGN	DATE
						PREP	P.MISHRA		08.05.13
						CKD	R.K.SINGH		08.05.13

DWI/TCB/TRE/010

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ii) Two numbers of 100 NB suitable vacuum hoses, suitable for full vacuum without collapsing and kinking, with couplers and unions each not less than 10 metre long shall also be provided.

iii) One number of digital vacuum gauge with sensor capable of reading up to 0.001 torr, operating on 240 V 50 Hz AC supply shall be supplied. Couplers and unions for sensor should block oil flow in the sensor. Sensor shall be provided with **at least 8 meter cable** so as to suitably place the vacuum gauge at ground level.

8. The painting details for oil storage tank shall be as given below. The quality of paint shall be such that its color shall be able to withstand temperature up to 120 deg. C.

1) TANK	SURFACE PREPARATION	PRIMER COAT	INTERMEDIATE UNDER COAT	FINISH COAT	TOTAL DFT(min)	COLOUR SHADE
EXTERNAL SURFACE	SHOT BLAST CLEANING SA 2 1/2	EPOXY BASE ZINC PRIMER 30-40 µm	EPOXY HB MIO 75 µm	ALIPHATIC POLYURET HANE Min 50 µm	Min. 155 µm	RAL 7035
INTERNAL SURFACE	SHOT BLAST CLEANING SA 2 1/2	HOT OIL RESISTANT NON CORROSIVE PAINT OR EPOXY	-	--	Min. 30 µm	GLOSSY WHITE PAINT
2) CONTROL PANEL	SEVEN TANK PROCESS AS PER IS:3618 & IS:6005	ZINC CHROMATE PRIMER (TWO COATS)	-	EPOXY PAINT WITH PU TOP COAT	Min. 80 µm	RAL 7035 SHADE FOR EXTERIOR AND INTERIOR

9. The tank shall contain a self-mounted centrifugal oil pump with inlet & outlet valves, with couplers suitable for flexible rubber hoses & necessary switchgear for its control. There shall be no rigid connection to the pump. The pump shall be electric motor driven and shall have a discharge not less than 6.0 kL/hr. with a discharge lead of 8.0 meter. The pump motor & the control cabinet shall be enclosed in a cubicle with IP-55 enclosure.

10. The bidder should send 3 copies of the drawing, bill of material etc. along with the offer.

11. After receipt of letter of intent/purchase order from BHEL, the supplier shall furnish a detailed Outline GA drawing and quality assurance plan (QAP) for approval. It will be sole responsibility of the supplier to get the approval of Outline GA drawing and QAP before execution of the order. QAP shall include tests/checks for all major components and fittings used in the plant, all stage and process checks and final inspection and testing.

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12. The oil storage tank shall be inspected & tested at manufacturer works in presence of customer's representative. Equipment shall be dispatched only after clear-cut CIP (Customer Inspection Point) & MICC (Material Inspection Clearance Certificate) from customer.
13. Four sets of inspection & routine test reports, operation & maintenance manual shall be furnished along with dispatch document. One set shall be supplied along with equipment.
14. The supplier shall furnish a list of all fittings & components along with dispatch details, giving description & quantity of each item.