

S.S. "MESA VERDE"NOW DONE :- For Part M.S.

The following main and auxiliary machinery parts were examined and found or placed in good condition :-

Main alternator rotor lifted and tested
Main turbine examined in its entirety,
with top and bottom half casings.

One auxiliary (Worthington) simplex type feed pump.

For Machinery Wear & Tear, and Electrical Repairs :-

Steel supporting stays found broken in turbine casing exhaust belt to condenser. Satisfactorily repaired by welding in place.

2- Int. Stage wheels of the rotor blading found damaged on end clearance knife edges of blading strips. Now dressed and end clearances of all stages checked with rotor in position. All satisfactory.

ELECTRICAL INSTALLATION

A General Examination of the electrical installation carried out. The main and auxiliary alternators, propulsion motor, generators, auxiliary motors, control gear, cables, fittings on switchboards and in distribution boards, examined as far as practicable and insulation resistance of all circuits measured.

It was found that the insulation test on the main alternator rotor was 50,000 ohms. and even after cleaning the exposed parts of the windings with carbon tetrachloride then applying heat, the insulation test could not be raised above 150,000 ohms. The rotor was removed ashore to be 'stowed' but after this treatment the test was only 300,000 ohms. The steel end covers over the rotor windings were withdrawn and it was found that the inner surface of the insulation, which is situated between the top layer of the windings and the end cover, was coated with carbon. It would appear that the carbon particles had been drawn in from the slip rings by the fan fitted to the rotor and deposited inside the rotor by centrifugal force. The rotor winding was found to be made up of strip copper with alternate turns insulated, the top layer being uninsulated, and it is assumed that a path was formed from these turns across the carbon deposit to earth. The windings were cleaned, the top turns heavily varnished and a sheet of 'Shilplex' insulation was laid over the turns before the original glass fibre insulation was replaced and the end covers refitted. The insulation test at this stage was 30 megohms. The rotor was balanced, returned to the ship and fitted into place but on running the Main Alternator at its normal revolutions excessive vibration was experienced and the turbine and alternator rotors had to be balanced, in place, as a combined unit. On completion of this work the set was run on load for two hours at 1550 r.p.m. then on no load up to 4000 r.p.m. and the insulation resistance of the rotor measured at that time was 50 megohms. A trial of the main propulsion equipment was carried out at a later date under working conditions and was satisfactory.

The examination and insulation test of the remainder of the electrical installation was satisfactory. J.M.

The boilers, oil fuel installation and all auxiliary machinery working in conjunction with the Main Engine were also examined during the above trial and found satisfactory. J.M.

noted
Part Classification
Survey
W.C.H.
13/1/48