

Rpt. 4c

Date of writing report 22.3.57. Received London 11 APR 1957 Port NOTTINGHAM. No. FE. 1339. Survey held at Lincoln. No. of visits 6. First date 17.9.56. Last date 30.1.57.

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship (Or Contract No. if name unknown). Owners (Or Consignees). Ship built to the order of:- Firma Eivind K. Son Sylvan, Gothenburg. when. Yard No. Auxiliary Engines Ruston & Hornsby Ltd. when Eng. Nos. 409279, 409280, 409281. Total No. of sets and description (including type name) Three 6VCBZ - Auxiliary.

INTERNAL COMBUSTION RECIPROCATING ENGINES. No. of cylinders per engine 6. Dia. of cylinders 8" Stroke 10 3/4". 2 or 4 stroke cycle 4. Maximum approved BHP 204 at 600 RPM Corresponding MIP 104. Maximum pressure 730 +/- 3%. Fuel Diesel Oil. Are cylinders arranged in Vee or other special formation? No. If so, No. of crankshafts per engine. Is engine of opposed piston type? No. No. and type of mechanically driven scavenge pumps or blowers per engine. No. No. of exhaust gas driven blowers or superchargers per engine. None. Is welded construction used for: Bedplate? No. Entablature? No. Total internal volume of crankcase (if 20 cu. ft. or over) 47.6. No. and total area of crankcase explosion relief devices 12 - 285 sq. in. Are flame guards or traps fitted? No. Cooling medium for: Cylinders Water. Pistons None. No. of attached pumps: F.W. cooling One S.W. cooling One. Lubricating oil Gear. How is engine started? Comp. Air.

SHAFTING. Is a damper or detuner fitted? No. No. of main bearings 7. Are bearings of ball or roller type? No. Distance between inner edges of bearings in way of cranks 9.3/16". Crankshaft: Built, semi-built, solid. Material of crankshaft Steel. Approved minimum tensile strength 30 tons. Dia. of pins 4 3/4". Journals 6". Breadth of webs at mid throw 8". Axial thickness 2 1/2". If shrunk, radial thickness around eyeholes. - Dia. of flywheel 3'9". Weight 12.3 cwts. Are balance weights fitted? No. Total weight. Rad. of gyration. - Dia. of flywheel shaft 6". Has each engine been tested in shop? Yes. How long at full power? Was it tested with driven machinery attached? Yes. Was the governing tested and found satisfactory? Yes. Date of approval of torsional vibration characteristics (for engines of 150 BHP and over) 13/4/56. Date of approval of shafting 20.12.58 Identification marks on shafting LL.11161. RG.6871. LL.4692. LL.11129. RG.6818. Particulars of driven machinery 130 kW. DC. Thomas B. Trige Generators Nos. 3018461.2.3.

AUXILIARY GAS TURBINES. BHP per set. At. RPM of output shaft. Open or closed cycle? Arrangement of turbines. HP drives. at. RPM HP gas inlet temp. pressure. IP. at. LP. at. No. of air compressors per set. Centrifugal or axial flow type? Material of turbine blades. No. of air coolers per set. No. of heat exchangers per set. How are turbines started? Are the turbines operated in conjunction with free piston gas generators? Total No. of free piston gas generators. Dia. of working pistons. Dia. of compressor pistons. No. of double strokes per minute at full power. Gas delivery pressure. Gas delivery temperature. Have the turbines and attached equipment been tested in shop? How long at full power? Were they tested with driven machinery attached? Particulars of gearing. Particulars of driven machinery. Date of approval of plans. Identification marks.

ELECTRIC GENERATORS. Port and No. of Certificate for generators of 100 Kw. and over. For generators under 100 Kw., has Makers' Certificate been obtained? Are Certificates attached? No.

The foregoing description is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable) Ruston & Hornsby, Limited. Manufacturer

Is this machinery duplicate of a previous case? No. If so, which?

GENERAL REMARKS. State if the machinery has been constructed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible. These Engines have been built under Special Survey in accordance with the Approved Plans and the Regulations of the Society, materials and workmanship being good. On completion, the generating sets were seen under working conditions in the Shops and the governing tested, all with satisfactory results. The set has been despatched for installation in the vessel. Explosion relief device fitted on each crankcase door.

Survey Fee £17.10s. Expenses Nil. Date when a/c rendered. Engineer Surveyor to Lloyd's Register

Declaration to be signed by Surveyor at fitting-out Port:- The above described machinery has been fitted on board the at in a proper manner and found satisfactory when tested on the (date) under full working conditions.

Engineer Surveyor to Lloyd's Register Lloyd's Register Foundation 01988 - 01994 - 0291