

1 OCT 1960

Rpt. 4c

Date of writing report 27-3-1960 Received London Amsterdam Port No. 2335g Survey held at Zwolle No. of visits 12 First date 9-9-1959 Last date 22-2-1960

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship Ind Central Co Owners Y. van der Pijl, J. P. de Vries, J. A. de Vries (Or Consignees) Ship Built at Alblasserdam by Verolme Shipyard when Yard No. 633 Auxiliary Engines Gas Turbines made at Zwolle by Gebr. Stork & Co when 1960 Eng. Nos. 8115/6/7 Total No. of sets and description (including type name) Three - Stork-Ricardo type AR 216

INTERNAL COMBUSTION RECIPROCATING ENGINES. No. of cylinders per engine 6 Dia. of cylinders 210 mm Stroke 300 mm 2 or 4 stroke cycle 4 Maximum approved BHP 300 at 625 RPM Corresponding MIP 8.65 kg/cm2 Maximum pressure 55 kg/cm2 Fuel Diesel 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. of exhaust gas driven blowers or superchargers per engine - Is welded construction used for: Bedplate? no Entablature? no Total internal volume of crankcase (if 20 cu. ft. or over) 1.05 m3 No. and total area of crankcase explosion relief devices 2 - 245 cm2 Are flame guards or traps fitted? yes Cooling medium for: Cylinders fresh water Pistons uncooled No. of attached pumps: F.W. cooling - S.W. cooling - Lubricating oil one How is engine started? by 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 258 mm Crankshaft: Butyrsebaal, solid Material of crankshaft SM steel Approved minimum tensile strength 60 kg/mm2 Dia. of pins 140 mm Journals 140 mm Breadth of webs at mid throw 215 mm Axial thickness 65 mm If shrunk, radial thickness around eyeholes - Dia. of flywheel 1125 mm Weight 700 kg Are balance weights fitted? no Total weight - Rad. of gyration - Dia. of flywheel shaft - Has each engine been tested in shop? yes How long at full power? 6-8 hours Was it tested with driven machinery attached? no Was the governing tested and found satisfactory? yes Date of approval of torsional vibration characteristics (for engines of 150 BHP and over) 23/3/60 Case 468N Date of approval of shafting 23/3/60 Identification marks on shafting Lloyds AUG 8696 W.S.E. 165 - 24-1-57 W.S.E. 195 - 24-1-57 W.S.E. 187 - 24-1-57 Particulars of driven machinery

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 IP LP at LP Material of turbine blades No. of air compressors per set Centrifugal or axial flow type? Material of compressor 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 Date of approval of plans Identification marks Particulars of driven machinery

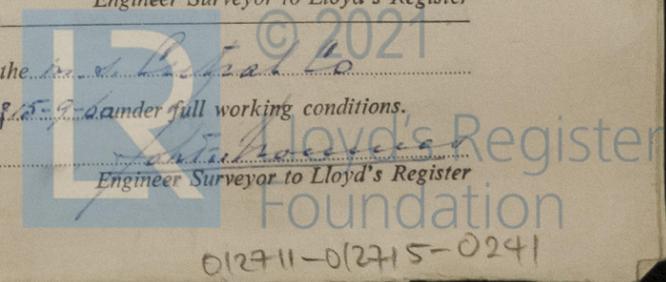
ELECTRIC GENERATORS. Port and No. of Certificate for generators of 100 Kw. and over For generators under 100 Kw., has Makers' Certificate been obtained? Are Certificates attached?

The foregoing description is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable) Koninklijke Machinefabriek Gebr. Stork & Co Manufacturer

Is this machinery duplicate of a previous case? 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 Rules, approved plans and Secretary's letters. Tested materials have been used and the workmanship is good. The engines were tested under full load conditions, using Maker's testbrakes, and all found satisfactory. In my opinion these engines merit the approval of the Committee.

turnover tax f. 32,88 Survey Fee " 744,- Expenses " 45,- Date when a/c rendered 13/4/1960 A.C. Buijze. 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 Ind Central Co at Rotterdam in a proper manner and found satisfactory when tested on the date 13-4-1960 under full working conditions.



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