Pt. 4c

Date of writing report 5th December, 1956 — Received London ..... — Port Copenhagen — No. 16121.

Survey held at Kalundborg — No. of visits 4 — First date 15-3-56 — Last date 3-12-56

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

To order of

Name of Ship A/B Nordstjernan for M/S "AXEL JOHNSON" — Owners (Or Consignees) A/B Götaverken when 8-1925 — Yard No. .....

(or Contract No. if name unknown). — by ..... when ..... — Eng. Nos. 12298

Ship Built at Göteborg — Engines made at Kalundborg by A/S Motorfabriken Bukh when 1956

Auxiliary Engines ~~XXXXXXXXX~~ Total No. of sets and description (including type name) 1 off EH100 heavy oil trunk piston, solid injection

INTERNAL COMBUSTION RECIPROCATING ENGINES.

No. of cylinders per engine 1 — Dia. of cylinders 100 mm — Stroke 130 mm

2 or 4 stroke cycle 4 — Maximum approved BHP 12 at 1800 RPM — Corresponding MIP 7,15 kg/cm² — Maximum pressure 55 kg/cm²

Fuel heavy 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 none — Is welded construction used for: Bedplate? no Entablature? no — No. of exhaust gas driven blowers or superchargers per engine — — Total Internal volume of crankcase (if 20 cu. ft. or over) — — No. and total area of crankcase explosion relief devices — — Are flame guards or traps fitted? — Cooling medium for: Cylinders water — Pistons — — No. of attached pumps: F.W. cooling — S.W. cooling 1 — Lubricating oil 1 — How is engine started? by hand

SHAFTING.

Is a damper or detuner fitted? — — No. of main bearings 2 — Are bearings of ball or roller type? no — Distance between inner edges of bearings in way of cranks 161 mm — Crankshaft: ~~Built, semi-built~~, solid. — Material of crankshaft SM Steel — Approved minimum tensile strength 48 kg/cm² — Dia. of pins 60 mm — Journals 60 mm — Breadth of webs at mid throw 80 mm — Axial thickness 36 mm — If shrunk, radial thickness around eyeholes — — Dia. of flywheel 500 — Weight 75 — Are balance weights fitted? yes — Total weight — — ~~Rotor XXXXXX~~ GD² 12,1 kgm² — Dia. of flywheel shaft — — Was the solid for/ged

Has each engine been tested in shop? yes — How long at full power? 6 hours — 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) — — Date of approval of shafting 10-2-55 — Identification marks on shafting LR. CPN 1265 KH 15-3-56 — LR. MN 28-8-56.

Particulars of driven machinery 1 off centrifugal pump DESMI No. 5348

Port and No. of Certificate for Starting Air Receivers .....

AUXILIARY GAS TURBINES.

BHP per set ..... At ..... RPM of output shaft. Open or closed cycle? .....

Arrangement of turbines. (A small diagram should be attached showing gas cycle) — HP drives ..... at ..... RPM — HP gas inlet temp. ..... pressure .....; IP ,, ,, ,, ... at ..... ,, — IP ,, ,, ,, ... ,, ...; LP ,, ,, ,, ... at ..... ,, — LP ,, ,, ,, ... ,, ...

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 Material of compressor blades ..... — Are the turbines operated in conjunction with free piston gas generators? ..... turbines started? ..... — 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 ..... — How long at full power? ..... — Were they tested with driven machinery Have the turbines and attached equipment been tested in shop? ..... 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? .....

The foregoing description is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable)

MOTORFABRIKEN BUKH — 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.

The above heavy oil engine, fire pump set has been built under special survey in accordance with the Rules, the approved plans and the Secretary's letter dated 28th November, 1956.

The material used has been tested as required by the Rules.

The workmanship is good.

"The heavy oil engine set tested under full power working condition in the shop and found good.

Survey Fee Kr. 110,- — Expenses Kr. 14,- — Date when a/c rendered 6/12 1956

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

Builder

003162-003174-0234

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