Rpt. 4c

Date of writing report 3rd May, 1960 — Received London ..... — Port Gothenburg — No. 25831

Survey held at Trollhättan — No. of visits 3 — First date 16th March — Last date 25th March, 1960

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

NOTED TRO

Name of Ship "H E L G A S M I T H" *Owners* And. Smith Rederi A-B.
(Or Contract No. if name unknown). *(Or Consignees)*

Ship Built at Gothenburg *by* Eriksbergs Mek. Verkstads AB *when* 1945 *Yard No.* 327

Auxiliary Engines ~~Gas Turbines~~ made at Trollhättan *by* Nydqvist & Holm A-B. *when* 1960 *Eng. Nos.* 1431

Total No. of sets and description (including type name) 1 Diesel Oil Engine, NoHab Type K 55 E

INTERNAL COMBUSTION RECIPROCATING ENGINES. *No. of cylinders per engine* 5 *Dia. of cylinders* 180 mm. *Stroke* 300 mm.

2 or 4 stroke cycle 2 *Maximum approved BHP* 225 *at* 520 *RPM Corresponding MIP* 6.36 kg/cm² *Maximum pressure* 60 kg/cm²

Fuel Diesel oil *Are cylinders arranged in Vee or other special formation?* No

Crankshafts per engine --- *Is engine of opposed piston type?* No *If so, No. of*

per engine 1 *No. and type of mechanically driven scavenge pumps or blowers*

Used for: Bedplate? No *Entablature?* No *No. of exhaust gas driven blowers or superchargers per engine* None *Is welded construction*

Crankcase explosion relief devices 2 - 220 cm² *Total internal volume of crankcase (if 20 cu. ft. or over)* 0.75 M³ *No. and total area of*

Pistons --- *Are flame guards or traps fitted?* No *Cooling medium for: Cylinders* Fresh Water

No. of attached pumps: F.W. cooling 0 *S.W. cooling* 0 *Lubricating oil* 1 *How is engine started?* By compressed air

SHAFTING. *Is a damper or detuner fitted?* No *No. of main bearings* 6 *Are bearings of ball or roller type?* No *Distance between*

Inner edges of bearings in way of cranks 222 mm. *Crankshaft: ~~Built, Semi-built~~ solid. Material of crankshaft* S.M. Steel *Approved*

minimum tensile strength 52 kg/mm² *Dia. of pins* 120 mm. *Journals* 125 mm. *Breadth of webs at mid throw* 230 mm. *Axial*

thickness 56 mm. *If shrunk, radial thickness around eyeholes* --- *Dia. of flywheel* 890 mm. *Weight* 395 kgs. *Are balance*

weights fitted? No *Total weight* --- *Rad. of gyration* --- *Dia. of flywheel shaft* None

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)* 29.4.1960

Date of approval of shafting 29.4.1960 *Identification marks on shafting* NV No.1413 Exd OS 25.3.60 GOT.

Particulars of driven machinery 1 - 145 KW generator, No.1147386, manufactured by A-B. Elektromekano

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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. *HP drives* ..... *at* ..... *RPM HP gas inlet temp.* ..... *pressure* .....

(A small diagram should be attached showing gas cycle) *IP* " ..... *at* ..... " *IP* " " " ..... " .....

LP " ..... *at* ..... " *LP* " " " ..... " .....

No. of air compressors per set ..... *Centrifugal or axial flow type?* ..... *Material of turbine blades* .....

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* Tested by the Hälsingborg Surveyors

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)

- 6. MAJ 1960

NYDQVIST & HOLM AKTIEBOLAG
Technical Department

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.*

This auxiliary engine has been built in accordance with the Rules and approved plans. Workmanship and material used are good. The crank shaft, made to the Norske Veritas Class, has been Brinell tested, and examined and accepted as per the Secretary's letter, dated the 29th April, 1960. The Norske Veritas Certificate is attached.

The engine has been despatched to Stockholm.

Note: Part of this survey was at the request of the Manufacturers carried out by the undersigned on Friday the 25th March, 1960, between 19:00 and 21:30 o'clock.

Survey Fee Kronor 330:00,
Date Fee Kronor 70:00,
Expenses Kronor 75:00.

Date when a/c rendered 10th May, 1960.

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 ..... *in a proper manner and found satisfactory when tested on the (date)* ..... *under full working conditions.*

Engineer Surveyor to Lloyd's Register

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