Rpt. 4c

Date of writing report 19-1-1959 Received London 29 JAN 1959 Port of Amsterdam 26 MAY 1960 No. 22562

Survey held at Zwolle No. of visits 10 First date 27/1/1958 Last date 14/1/1959

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

Name of Ship ..... *Owners* .....
(Or Contract No. if name unknown). *(Or Consignees)*

Ship Built at Vlissingen *by* Messrs. De Schelde *when* ..... *Yard No.* ~~298~~ 297

Auxiliary Engines or Gas Turbines made at Zwolle *by* Messrs.Gebr.Stork & Co. *when* 1959 *Eng. Nos.* 7401/2/3

Total No. of sets and description (including type name) Three Ricardo engines type AR216

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* 270 *at* 620 *RPM Corresponding MIP* 7,85 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* one *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:* ~~[illegible]~~ solid. *Material of crankshaft* SM steel *Approved minimum tensile strength* actual 62 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 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)* 3/10'56
Date of approval of shafting 3/10/56 *Identification marks on shafting* Lloyds AUG 8696 HKS 707285 - 16-11-56 Bus No 359 J
Particulars of driven machinery Generator Smit Slikkerveer " AUG " HKS 707286 - 16-11-56
Nos.45241/2/3 - 180 Kw. " AUG " HKS 707292 - 16-11-56
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* 5.2.59
(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* Rotterdam (Port of fitting out).
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)

Koninklijke Machinefabriek Gebr. Stork & Co. N.V.

Manufacturer

Is this machinery duplicate of a previous case? yes *If so, which?* de Schelde Yard No. 292

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 and all found satisfactory. In my opinion these engines merit the approval of the Committee.

Turn-over tax f. 31,--
Survey Fee f. 678,--
Expenses " 66,--
Date when a/c rendered 26/1/1959

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 ..... *at* ..... *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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