Rpt. 4c

Date of writing 17.2.58. Received London ..... Port Ipswich No. 137352

Survey held at Colchester No. of visits 6 First date 22.11.57. Last date 17.2.58.

FIRST ENTRY REPORT ON AUXILIARY INTERNAL COMBUSTION ENGINES

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

Ship Built at Haarlem Holland *by* Haarlem sche Scheepsbouw *when* ..... *Yard No.* 552

Auxiliary Engines ~~or Gas Turbines~~ made at Colchester *by* Davey, Paxman & Co. Ltd. *when* 1958 *Eng. Nos.* 55331/2

Total No. of sets and description (including type name) Two 6 YHXZ Type Diesel 4 SC.SA Supercharged

INTERNAL COMBUSTION RECIPROCATING ENGINES. *No. of cylinders per engine* 6 *Dia. of cylinders* 7" *Stroke* 7.3/4"
2 or 4 stroke cycle 4 *Maximum approved BHP* 355 *at* 1200 *RPM Corresponding MIP* 165 psi *Maximum pressure* 1100 psi
Fuel Diesel *Are cylinders arranged in Vee or other special formation?* Vee Formation *If so, No. of crankshafts per engine* one *Is engine of opposed piston type?* no *No. and type of mechanically driven scavenge pumps or blowers per engine* none *No. of exhaust gas driven blowers or superchargers per engine* one *Is welded construction used for: Bedplate?* no *Entablature?* no *Total Internal volume of crankcase (if 20 cu. ft. or over)* under 20 cu. ft. *No. and total area of crankcase explosion relief devices* 3=27 sq. inches *Are flame guards or traps fitted?* Guards *Cooling medium for: Cylinders* water *Pistons* oil *No. of attached pumps: F.W. cooling* one *S.W. cooling* one *Lubricating oil* one *How is engine started?* air motor.

SHAFTING. *Is a damper or detuner fitted?* yes *No. of main bearings* 4 *Are bearings of ball or roller type?* no *Distance between inner edges of bearings in way of cranks* 7.6" *Crankshaft: Built, semi-built, solid.* *Material of crankshaft* EN. 26 U *Approved minimum tensile strength* 55 tons/sq.ins *Dia. of pins* 4½" *Journals* 5" *Breadth of webs at mid throw* 7" *Axial thickness* 1.25/32 *If shrunk, radial thickness around eyeholes* - *Dia. of flywheel* 30.1/4" *Weight* 635lb *Are balance weights fitted?* Yes *Total weight* 177lb. *Rad. of gyration* 7-13" *Dia. of flywheel shaft* -
Has each engine been tested in shop? yes *How long at full power?* 4 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)* 3.12.57. 392B.
Date of approval of shafting 14.10.57. *Identification marks on shafting* 55331 - Lloyd's IPS. M.1977E DP. 455 FYW. 29.10.57.
55332 - Lloyd's IPS. M.1977D.DP. 453 FYW. 29.10.57
Particulars of driven machinery These engines are stated to be for driving electrical generators which are to be supplied by the Shipbuilders in Holland.
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* .....
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 (or as approved as applicable)

pp ASSISTANT TO COMMERCIAL MANAGER
FOR DAVEY PAXMAN & CO. 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 two diesel engines intended for driving auxiliary machinery, have been built under Special Survey, in accordance with plans approved and the requirements of the Rules. Steel used in the manufacture has been made at works approved by the Committee under the supervision of the Society's Surveyors. The workmanship is good throughout, and on completion each engine was brake tested, at full load and 10% overload, when the governors were operated and all found in order. These engines are in my opinion eligible for inclusion in ✠LMC when satisfactorily installed on board.

Survey Fee .....
Expenses Co-ordination of inspection and T.
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

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