

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

Received at London Office

15 OCT 1934

Writing Report 19 When handed in at Local Office 13/10/19 Port of Belfast
in Survey held at Belfast Date, First Survey Visits included in 4.8 machy. Last Survey 19
Book. Number of Visits

59 on the Single Twin Triple Quadruple Screw vessel "ASTURIAS" Tons } Gross } Net }

at Belfast By whom built Harland & Wolff Ltd. Yard No. 507 When built 1925
Royal Mail Lines Ltd. Port belonging to Belfast

Engines made at By whom made Harland & Wolff Ltd. Contract No. 507 When made 1925
By whom made do. Contract No. 507 When made 1925

of Sets 4 Engine Brake Horse Power ea. 560 Nom. Horse Power as per Rule 22640 Total Capacity of Generators 1480 Kilowatts.

ENGINES, &c. Type of Engines Harland & Wolff - B.W. Type Diesel 2 or 4 stroke cycle 4 Single or double acting Single
Maximum pressure in cylinders 500 lbs. Diameter of cylinders 500 mm. Length of stroke 750 mm. No. of cylinders 4 No. of cranks 4
Pitch of bearings, adjacent to the Crank, measured from inner edge to inner edge 688 mm. Is there a bearing between each crank Yes
Revolutions per minute 168 Flywheel dia. 2,800 mm. Weight 10,000 Kgrs. Means of ignition Compression Kind of fuel used Diesel Oil

Crank Shaft, dia. of journals as per Rule 295 mm. as fitted 300 mm. Crank pin dia. 200 mm. Crank Webs Mid. length breadth 540 mm. Thickness parallel to axis 195 mm.
shrunk Mid. length thickness 195 mm. Thickness around eye-hole 137.5 mm.

Wheel Shaft, diameter as per Rule as fitted crankshaft Intermediate Shafts, diameter as per Rule as fitted Thickness of cylinder liners 36 mm.

governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication forced
The cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Yes

Lubricating Oil Pumps, No. and size One of 10 Tons/hr Three 360 x 315 x 72 mm. 330 mm. Crankshaft
Compressors, No. One No. of stages Two Diameters 120 x 106 mm. Stroke 100 mm. Driven by Electric Motor

Engining Air Pumps, No. Diameter Stroke Driven by

RECEIVERS: - Is each receiver, which can be isolated, fitted with a safety valve as per Rule Fusible plug on each receiver - safety valve on Compressor
The internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces open ends

Pressure Air Receivers, No. Four Two Cubic capacity of each 150 lbs. 290 lbs. Internal diameter 295 mm. 416 mm. thickness 15 mm. 17.5 mm.
less, lap welded or riveted longitudinal joint Yes Material Steel Range of tensile strength 28/32 Tons Working pressure by Rules 1415 lbs. 1180

Electric Air Receivers, No. Ten Total cubic capacity 2900 lbs. Internal diameter 416 mm. thickness 17.5 mm.
less, lap welded or riveted longitudinal joint Yes Material Steel Range of tensile strength 28/32 Tons Working pressure by Rules 1180 lbs.

ELECTRIC GENERATORS: Type Compound Wound Dynamos
Voltage of supply 206 volts. Load 1800 Amperes. Direct or Alternating Current direct

Alternating current system, state frequency of periods per second
The Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes
Generators, do they comply with the requirements regarding rating Yes are they compound wound Yes

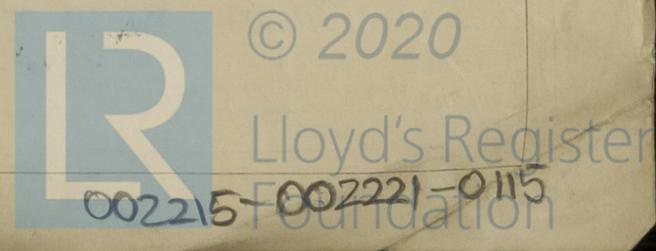
They over compounded 5 per cent. Yes, if not compound wound state distance between each generator
Adjustable regulating resistance fitted in series with each shunt field Yes Are all terminals accessible, clearly marked, and furnished with sockets Yes

They so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched Yes Are the lubricating arrangements of the generators as per Rule Yes
ANS. Are approved plans forwarded herewith for Shafting 28.2.34 Receivers Separate Tanks
(If not, state date of approval)

FREE GEAR See list attached to Main Engines' Report.

The foregoing is a correct description,

Manufacturer.



Dates of Survey while building { During progress of work in shops - -)
 { During erection on board vessel - - -)
 Total No. of visits

Dates of Examination of principal parts—Cylinders 30.5.34 6.8.34 Covers as Cyls. Pistons as Cyls. Piston rods

Connecting rods 22.5.34 18.6.34 Crank and Flywheel shaft 22.5.34 18.6.34 Intermediate shaft

Crank and Flywheel shafts, Material ✓ Identification Mark ✓

Intermediate shafts, Material ✓ Identification Marks ✓

Is this machinery duplicate of a previous case ✓ If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)

These auxiliary engines were built under survey by the Board of Trade. The whole of the machinery has now examined, the scankings compared with the designs, new liners have been fitted to the cylinders and these and dynamos placed in good working order. Anti-vibrating gear has been fitted to these engines and they have been tried out under full electrical loads with satisfactory results. The original air lines have been modified in accordance with the approved plans and the relief valves adjusted. In my opinion the auxiliary engines and dynamos are eligible for service in a classed vessel.

100,428—Transfer. (The Surveyors are requested not to write on or below the space for Committee Minute.)

The amount of Fee £	:	:	When applied for,
			19.....
Travelling Expenses (if any) £	:	:	When received,
			19.....

R Lee Amess
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute **TUE. 10 OCT 1934**

Assigned *see J. E. Macky*

Rpt. 13.

RE

Date of writing

No. in Ship Reg. Book

71859 on

Built at

Owners

Electric Light

Is the Vessel

System of

Pressure of

Direct or Alternating

If alternating

Has the Auto

Generators,

are they over

Where more than

series with each

Are all terminals

short circuited,

Position of

is the ventilator

if situated near

are their axes

Earthing, are

their respective

Main Switch

a fuse on each

Switchboard

are they protected

woodwork or other

are they constructed

permanently laminated

with mica or other

and is the frame

Yes

bars Yes

Main Switch

Current

D.P. Over

Instruments

Earth Testin

some

Switches, Ci

Joint Boxes



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