

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

Received at London Office DEC 28 1938.

Date of writing Report 19 When handed in at Local Office 19 Port of Belfast visits included in 7.2. 1938 up to 15-12-38
No. in Survey held at Belfast Date, First Survey Last Survey 15-12-38 19
Reg. Book. Number of Visits

73547 on the Single Screw vessel "DURBAN CASTLE" Tons { Gross Net
Built at Belfast By whom built Harland & Wolff Ltd Yard No. 987 When built 1938
Owners Union Castle Mail Steamship Co Port belonging to London
Oil Engines made at Belfast By whom made Harland & Wolff Ltd Contract No. 987 When made 1938
Generators made at Belfast By whom made Harland & Wolff Ltd Contract No. 987 When made 1938
No. of Sets 4 Engine Brake Horse Power 2680 Nom. Horse Power as per Rule Total Capacity of Generators 1800 Kilowatts.

OIL ENGINES, &c.—Type of Engines Harland & W. Diesel injection 2 or 4 stroke cycle 2 Single or double acting Single
Maximum pressure in cylinders 700 lbs Diameter of cylinders 280 Length of stroke 500 No. of cylinders 6 No. of cranks 6
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 358 Is there a bearing between each crank Yes
Revolutions per minute 330 Flywheel dia. 1506 Weight 2590 kgs Means of ignition Compression Kind of fuel used Diesel Oil
Crank Shaft, dia. of journals as per Rule 179 as fitted 220 Crank pin dia. 200 Crank Webs Mid. length breadth 270 Mid. length thickness 108 Thickness parallel to axis shrunk Thickness around eye hole
Flywheel Shaft, diameter as per Rule ✓ as fitted ✓ Intermediate Shafts, diameter as per Rule ✓ as fitted ✓ Thickness of cylinder liners 22
Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication forced
Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Lagged
Cooling Water Pumps, No. 2 - 1 working, 1 standby Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
Lubricating Oil Pumps, No. and size 1 - 7.5 ton/hr. on each engine
Air Compressors, No. See main engine No. of stages 2 Diameters ✓ Stroke ✓ Driven by ✓
Scavenging Air Pumps, No. One each engine 72.4 cfm/min at 330 rpm. Diameter ✓ Stroke ✓ Driven by Engine

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule
Can the internal surfaces of the receivers be examined See main report What means are provided for cleaning their inner surfaces
Is there a drain arrangement fitted at the lowest part of each receiver See main report
High Pressure Air Receivers, No. ✓ Cubic capacity of each ✓ Internal diameter ✓ thickness ✓
Seamless, lap welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure by Rules ✓
Starting Air Receivers, No. One Total cubic capacity 180 litres Internal diameter 1'-6" thickness 3/8"
Seamless, lap welded or riveted longitudinal joint Riveted Material Steel Range of tensile strength 25/32 tons Working pressure by Rules 372 lbs

ELECTRIC GENERATORS:—Type Compound wound multipole open type
Pressure of supply 220 volts. Load 1800 Amperes. Direct or Alternating Current DC
If alternating current system, state frequency of periods per second ✓
Has 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
are they over compounded 5 per cent. Yes, if not compound wound state distance between each generator ✓
is an adjustable regulating resistance fitted in series with each shunt field Yes Are all terminals accessible, clearly marked, and furnished with sockets Yes
are 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 ✓

PLANS. Are approved plans forwarded herewith for Shafting 23-6-37 Receivers 11-8-37 Separate Tanks See main eng. rpt.
(If not, state date of approval)

SPARE GEAR See attached list ✓

The foregoing is a correct description.
For HARLAND AND WOLFF, LIMITED.
A. G. Marshall Secretary.

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 10-3-38 / 10-6-38 Covers 17-12-37 / 15-3-38 Pistons 1-2-38 / 12-4-38 Piston rods ✓

Connecting rods 5-3-38 / 19-5-38 Crank and Flywheel shaft A 14-1-38 C 14-4-38 Intermediate shaft ✓
 B 22-2-38 D 25-5-38

Crank and Flywheel shafts, Material S Identification Mark A. 267. B. 267. C. 267. D. 267.

Intermediate shafts, Material ✓ Identification Marks ✓

Is this machinery duplicate of a previous case No If so, state name of vessel ✓

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

These engines have been constructed under special survey. The workmanship & materials are good. They have been efficiently installed in the auxiliary engine room & tested out under working conditions with satisfactory results. The main generators were constructed under special survey and the electrical installation tested & tested out with satisfactory results.

111,928 - Transfer.
 (The Surveyors are requested not to write on or below the space for Committee Minute.)

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

Charles G. Hunter. R. Lee Arneason.
 Surveyor to Lloyd's Register of Shipping

Committee's Minute TUE 3 JAN 1939
 Assigned See FE, machy rpt.

