

BEL 16213

Rpt. 4c.

## REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 133355

Date of writing Report APRIL 4<sup>th</sup> 1956 When handed in at Local Office APRIL 4<sup>th</sup> 1956 Port of LONDON Received at London Office 22 NOV 1956

No. in Survey held at BEDFORD Date, First Survey JAN. 10<sup>th</sup> 56 Last Survey MAR. 29<sup>th</sup> 1956

No. in Reg. Book. 10334 on the Single Twin Triple Quadruple Screw vessel ONDO Number of Visits 11

built at BELFAST By whom built HARLAND & WOLFF LTD. Yard No. 155A When built ✓

owners MESSRS ELDER Dempster Lines Ltd. Port belonging to ✓

il Engines made at BEDFORD By whom made W.H. ALLEN & SONS LTD. Contract No. K3/12589 When made 1956

enerators made at BEDFORD By whom made DO Contract No. E3/12594 When made 1956

o. of Sets FOUR Engine Brake Horse Power 214 EACH M.N. as per Rule ✓ Total Capacity of Generators 500 Kilowatts.

Set intended for essential services YES

IL ENGINES, &c.—Type of Engine VERTICAL A. R. S. INJECT. NORMALLY ASPIRATED stroke cycle 4 Single or double acting SINGLE

Maximum pressure in cylinders 800 lbs. sq. in. Diameter of cylinders 9" Length of stroke 12" No. of cylinders 6 No. of cranks 6

Mean indicated pressure 107.2 lbs. sq. in. Firing order in cylinders 1-3-5-6-4-2 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 10 9/16"

Is there a bearing between each crank YES Moment of inertia of flywheel 18.42 5200. Revolutions per minute 500

Flywheel dia. 42.5" Weight 2600 lbs. Means of ignition COMPRESSION Kind of fuel used SHELL GAS OIL

Crank Shaft, dia. of journals 5.19" as per Rule ✓ Crank pin dia. 6.125" Crank Webs 10.125" Mid. length breadth 2.75" shrunk Thickness parallel to axis 18. FT. 2

as fitted 6.75" Intermediate Shafts, diameter as per Rule General armature, moment of inertia 140

Flywheel Shaft, diameter as per Rule as fitted ✓ Means of lubrication FORCED Kind of damper if fitted ✓

Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled or lagged with non-conducting material YES

Boiling Water Pumps, No. ONE - F.W. PUMPER ENGINE Is the sea suction provided with an efficient strainer which can be cleared within the vessel ✓

Lubricating Oil Pumps, No. and size ONE - ENGINE DRIVEN ROTARY TYPE GEAR PUMPER ENGINE - CAPACITY 1000 GPH

Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

Diverging Air Pumps, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓

AIR RECEIVERS:—Have they been made under Survey ✓ State No. of Report or Certificate ✓

Each receiver, which can be isolated, fitted with a safety valve as per Rule ✓

Are the internal surfaces of the receivers be examined ✓ What means are provided for cleaning their inner surfaces ✓

Is there a drain arrangement fitted at the lowest part of each receiver ✓

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 ✓

Working Air Receivers, No. FOUR Total cubic capacity 200 FT. Internal diameter 18" thickness 5/16"

Seamless, lap welded or riveted longitudinal joint SEAMLESS Material 9H. STEEL Range of tensile strength 30 TONS Working pressure by Rules 300 lbs.

ELECTRIC GENERATORS:—Type Report

Pressure of supply ✓ volts. Full Load Current ✓ Amperes. Direct or Alternating Current ✓

Alternating current system, state the periodicity ✓ Was the Automatic Governor been tested and found as per Rule when full load is suddenly thrown on and off ✓ Generators, are they compound as per Rule ✓ is an adjustable regulating resistance fitted in series with each shunt field ✓

Are all terminals accessible, clearly marked, and furnished with sockets ✓ Are they so spaced ✓

Is it yielded that they cannot be accidentally earthed, short circuited, or touched ✓ Are the lubricating arrangements of the generators as per Rule ✓

Are the generators under 100 kw. full load rating, have the makers supplied certificates of test ✓ and do the results comply with the requirements ✓

Are the generators 100 kw. or over have they been built and tested under survey ✓

Are the driven machinery other than generator ✓

INS.—Are approved plans forwarded herewith for Shafting ✓ Receivers ✓ Separate Tanks ✓

Torsional Vibration characteristics if applicable been approved ✓ 19th NOVEMBER 1955. Armature shaft Drawing No. E/146252

RE GEAR AS ATTACHED LIST.

The foregoing is a correct description,

W.H. ALLEN, SONS &amp; Co., Ltd.

Manufacturer.

K.F. Clarke.



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Lloyd's Register  
Foundation

004300-004307-0161



Dates of Survey while building 1956 JAN. 10. 31. FEB. 3. 7. 10. 17. 20. 23. 24. MAR. 16. 29.  
During progress of work in shops - -  
During erection on board vessel - -  
Total No. of visits 11

Dates of Examination of principal parts - Cylinder 7.2.56. 24.2.56. 3.2.56. HEADS 17.2.56. 10.2.56. 3.7.2.56. Pistons 20.2.56. 3.2.56. 20.2.56. 3.2.56. Intermediate shafts 3.2.56. 23.2.56. 9.12.55.  
Connecting rods 3.2.56. Crank and Flywheel shafts 31.1.56.

Crank shaft Material S.M.A.O.H. STEEL. Tensile strength A. 33.6 TONS. B. 34.0 TONS. C. 33.2 TONS. D. 34.4 TONS.  
Elongation 2.0 (A) 2.1 (B) 3.0 (C) 3.0 (D) 29.0. Identification Marks A. LLOYDSEB 61116.25. JLS. 21.2.56. B. LLOYDSEB 6063.18.11.55. JLS. 3.2.56. C. LLOYDSEB 6057.11.11.55. JLS. 3.2.56. D. LLOYDSEB 5964.8.11.55. JLS. 31.1.56.

Flywheel shaft, Material Identification Marks

Identification marks on Air Receivers LLOYDS TEST N.O.T. T.D.S. HYD. TEST 600/BS. W.P. 300/BS. 25.1.56

31/550265. H.3620.1.2.3. (CERTS NOT YET RECEIVED).

MOUNTINGS. LLOYDS TEST. 600/BS. 29.3.56 JLS.

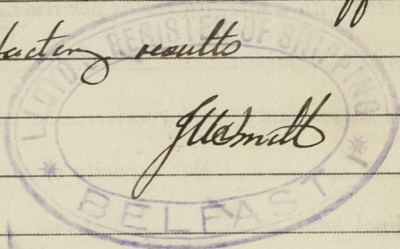
Is this machinery duplicate of a previous case YES. If so, state name of vessel HARLAND & WOLFF NO. 1546 (ELDER Dempster)

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

The above engines have been constructed under Special Survey to approved plans from materials made at works approved by the Committee. Ship trials under full overload conditions were witnessed with satisfactory results. - govern were operated & found to conform to Rule Required. Explosion relief devices were fitted to each engine as required by the Rules.

These auxiliary generating sets have been installed on board in an efficient manner and examined under full working conditions with satisfactory results

J. Smith



4 engines  
The amount of Fee ... £ 70 : 0 : 0. When applied for 16 APR 1956  
Travelling Expenses (if any) £ 6 : 15 : 0. When received 19

FRIDAY 28 DEC 1956

Committee's Minute

Assigned

See Rpt. 1.

J. Smith  
Surveyor to Lloyd's Register of Shipping.



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4.12.56