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REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 118409

Date of writing Report 15 June 1949 When handed in at Local Office 16 June 1949 Port of London Received at London Office

No. in Survey held at Bedford Date, First Survey 1st March 1949 Last Survey 10 June 1949 Number of Visits 12

on the Single Twin Triple Quadruple Screw vessel Tons Gross Net

built at Belfast By whom built Harland & Wolff Ltd Yard No. 1414 When built 1949

owners Shaw Savill & Albion Co Ltd Port belonging to

Engines made at Bedford By whom made W.H. Allen, Sons & Co Ltd Contract No. K2/75708 When made 1949

Generators made at By whom made " " " Contract No. E2/75713 When made " "

Number of Sets 2 Engine Brake Horse Power 600 each M.N. as per Rule 180 Total Capacity of Generators 400 each Kilowatts.

Set intended for essential services Yes

Oil ENGINES, &c.—Type of Engines Diesel 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 800 Diameter of cylinders 290mm Length of stroke 470mm No. of cylinders 5 No. of cranks 5

Minimum indicated pressure 90 psi Firing order in cylinders 1-4-3-2-5 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 352mm

Is there a bearing between each crank Yes Moment of inertia of flywheel (16 in² of Hg. cm.²) 20000 lbs ft² Revolutions per minute 333

Flywheel dia. 1500mm Weight 4750 lbs Means of ignition Compression Kind of fuel used Diesel

Crank Shaft, dia. of journals as per Rule 176mm as fitted 230mm Crank pin dia. 200mm Crank Webs Mid. length breadth 320mm Thickness parallel to axis shrunk

Intermediate Shafts, diameter as per Rule shrunk as fitted shrunk General armature, moment of inertia (16 in² of Hg. cm.²) 9250

Are there means provided to prevent racing of the engine when declutched Yes 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

Cooling Water Pumps, No. 2 Fresh water Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Lubricating Oil Pumps, No. and size 2 rotary gear type (1 each engine)

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

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

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

Is 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 ✓

Are they seamless, lap welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure by Rules ✓

Starting Air Receivers, No. 2 Total cubic capacity 22.9 cu ft Internal diameter 2'-0 3/4" thickness 5/16"

Are they seamless, lap welded or riveted longitudinal joint Lap welded Material Steel Range of tensile strength 26/30 tons Working pressure by Rules 300 lb

ELECTRIC GENERATORS:—Type Open Voltage of supply 220 volts. Full Load Current DC. Amperes. Direct or Alternating Current DC.

Are they alternating current system, state the periodicity ✓ Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown

and off yes Generators, are they compounded as per Rule yes 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

shielded that they cannot be accidentally earthed, short circuited, or touched yes Are the lubricating arrangements of the generators as per Rule yes

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

Do the generators are 100 kw. or over have they been built and tested under survey yes

Are there tails of driven machinery other than generator ✓

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

Have Torsional Vibration characteristics if applicable been approved 333 PPM 27/6/48 Armature shaft Drawing No. ✓

ARE GEAR / BORN ROD / PISTON + 1 cyl Head Assy, 11 Nozzles / diner 5 Gudgeon pins + bushes

Big end Brgs with Bolts 50 Piston + 20 scraper rings / set Main Brgs 3 Injectors + 3 Injector Pipes,

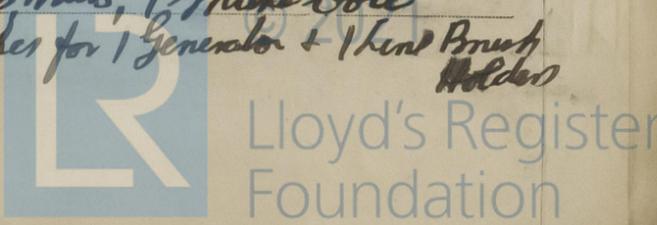
Fuel Pump 3 Fuel Pump elements, 1 Camshaft Chain, 8 cyl Hd Stud nuts, 2 Main Brg Stud nuts

sub oil Filters, 1 set Springs, 2 sets Joints, Assorted Studs Bolts nuts, 1 Shunt Coil

Series + 1 Interpole Coil, 1 Dynamo Bearing, 1 set Brushes for 1 Generator + 1 Kind Brush

The foregoing is a correct description, W.H. ALLEN, SONS & Co, Ltd. Manufacturer.

K.H. Clarke. 1-6-49.



Dates of Survey while building: During progress of work in shops - - - 1949: Mar 1, 4, 11, 15, 22, Apr 1, 5, 29, May 12, 17, 31, June 10
 During erection on board vessel - - -
 Total No. of visits: 12 (in shops)

Dates of Examination of principal parts—Cylinders: 22-3-49, 1-4-49, 5-4-49
 Covers: 13-4-49, 4-3-49
 Pistons: 15-3-49, 29-4-49
 Piston rods: —

Connecting rods: 15-3-49
 Crank and Flywheel shafts: 1-4-49, 16-5-49
 Intermediate shafts: ✓

Crank shaft: Material: Steel
 Tensile strength: A. LLOYD'S EB 1393 ✓ 31-1-49 1-4-49 (RW)
 Elongation: B. LLOYD'S EB 1489 ✓ 31-3-49 16-5-49 (RW)

Flywheel shaft, Material: ✓
 Identification Marks: ✓

Identification marks on Air Receivers: (1) 81/470172 LLOYD'S TEST H.T. 600 lb WP 300 lb T.D.S 31-5-48 EW 311 ✓
 (2) " " " " " " " " WT. 30-4-48 E-W 236

Is this machinery duplicate of a previous case? yes If so, state name of vessel: Vessel No 1202 K2/75691

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The Diesel Generator sets have been constructed under special survey in accordance with the requirements of the Rules, the steel was made at works approved by the Committee. The workmanship is good, and on completion the generator sets were tested upon the bench under full load conditions with satisfactory results.

The sets have been dispatched to Belfast for fitting on board the vessel

T.V.Cs approved for a service speed of 333 RPM. 23/6/49.

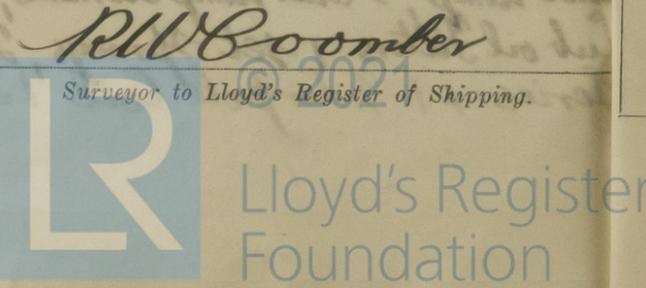
Belfast: The above Diesel generator sets have now been satisfactorily installed on board the vessel, tried under full working conditions and found in good order

N. Russell
10/3/50

The amount of Fee 2 Sets £ 60 : 0 : 0 When applied for 16 June 1949
 Travelling Expenses (if any) £ 4 : 16 : 11 When received 19

FRI. 5 MAY 1950

Committee's Minute: _____
 Assigned: Su F.E. Welch, spt.



2018.17-T. (MADE AND PRINTED IN ENGLAND)
 (The Surveyors are requested not to write on or below the space for Committee Minute.)