

No. 126707

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

Received at London Office

Survey Report *March 14th 1953* When handed in at Local Office *MARCH 14th 1953* Port of *London*

Survey held at *Bedford* Date, First Survey *Sept. 30th 1952* Last Survey *March 14th 1953* Number of Visits *6*

Single *on the Twin Triple* Screw vessel *"SHEAF ROYAL"* Tons Gross *12305* Net *4348*

Sunderland By whom built *Wm Dwyer and Son Ltd* Yard No. *285* When built

Wm Souther & Co Ltd Port belonging to

By whom made *W.H. Allen Sons & Co Ltd* Contract No. *K2/45497* When made *1952*

By whom made *The Sunderland Forge & Engineering Co Ltd* Contract No. When made *1952*

Engine Brake Horse Power *222* M.N. as per Rule Total Capacity of Generators *150* Kilowatts.

tended for essential services *yes*

NGINES, &c.—Type of Engines *Vertical Aulon injection diesel* 2 or 4 stroke cycle *4* Single or double acting *Single*

Pressure in cylinders *750 lps.* Diameter of cylinders *240 1/2* Length of stroke *300 1/2* No. of cylinders *5* No. of cranks *5*

indicated *85.74 PSI* Firing order in cylinders *1-3-5-4-2* Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *282 1/2*

a bearing between each crank *yes* Moment of inertia of flywheel *(16 m² or Kg. cm²)* *9000 HK²* Revolutions per minute *600*

Weight *3500 lb* Means of ignition *Compressor* Kind of fuel used *Red Gas Oil*

Shaft, dia. of journals *133 1/2* as per Rule *140 1/2* as fitted Crank pin dia. *150 1/2* Crank Webs *204 1/2* Mid. length breadth *70 1/2* Mid. length thickness *70 1/2* Thickness parallel to axis *shrunk* Thickness round eyehole

Intermediate Shafts, diameter *as per Rule* General armature, moment of inertia *(16 m² or Kg. cm²)* *1470 HK²*

Means of lubrication *Forced* Kind of damper if fitted

Are the exhaust pipes and silencers water cooled or lagged with non-conducting material *yes*

Water Pumps, No. *One Fresh Water* Is the sea suction provided with an efficient strainer which can be cleared within the vessel *yes*

Operating Oil Pumps, No. and size *One engine driven gear type per engine*

Compressors, No. *yes* No. of stages *yes* Diameters *yes* Stroke *yes* Driven by *yes*

ing Air Pumps, No. *yes* Diameter *yes* Stroke *yes* Driven by *yes*

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

receiver, which can be isolated, fitted with a safety valve as per Rule *yes*

Internal surfaces of the receivers be examined *yes* What means are provided for cleaning their inner surfaces *yes*

Pressure Air Receivers, No. *yes* Cubic capacity of each *yes* Internal diameter *yes* thickness *yes*

Material *yes* Range of tensile strength *yes* Working pressure by Rules *yes*

ing Air Receivers, No. *One per engine* Total cubic capacity *5 cu ft each* Internal diameter *18"* thickness *5/16"*

Material *Steel* Range of tensile strength *26/30 tons* Working pressure by Rules *30 tons*

CTRIC GENERATORS:—Type *Open Type Drop Proof*

ure of supply *110* volts. Full Load Current *1363* Amperes. Direct or Alternating Current *Direct Current*

Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown *yes*

Generators, are they compounded as per Rule *yes* is an adjustable regulating resistance fitted in series with each shunt field *yes*

Are they so spaced *yes*

Are the lubricating arrangements of the generators as per Rule *yes*

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

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

Receivers. Separate Tanks.

NS.—Are approved plans forwarded herewith for Shafting *yes* Armature shaft Drawing No. *46970*

Torsional Vibration characteristics if applicable been approved *yes* (state date of approval) *17th January 1952*

RE GEAR *As per attached List*

The foregoing is a correct description,

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

Manufacturer.

K.A. Clarke.



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011757-011765-0218

Dates of Survey while building { During progress of work in shops - - 1952 Sep. 30 Oct 31 Nov. 4. 7. 14. 1953 Mar. 14
During erection on board vessel - -
Total No. of visits 6 (in shops)

Dates of Examination of principal parts—Cylinders 4-11-52, 7-11-52 Covers 7-11-52 14-11-52 Pistons 31-10-52 Piston rods ✓

Connecting rods 31-10-52 Crank and Flywheel shafts 19-9-50 4-11-52 Intermediate shafts ✓

Crank shaft { Material Steel
Tensile strength A: LLOYDS FB 2137 6-6-50 D229/3 19-9-50
B LLOYDSEB 3450 8-7-52 4-11-52
Elongation ✓ Identification Marks ✓

Flywheel shaft, Material ✓ Identification Marks ✓

Identification marks on Air Receivers (2) 81/490463 LLOYDS J.B.T. 10-3-52 H.T. 600lb WP 300lb N° H1905 + H190

Certs enclosed with Rpt.

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.) The Diesel Generator 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 good, on completion the generator sets were tested upon the bench under full and overload conditions with satisfactory results.

At, Sunderland.

This machinery has been securely fitted on board the vessel - tested and found satisfactory.

John Lundgren
11/12/53.

The amount of Fee 2 Sels £ 35 : 0 : 0 ✓ When applied for 1/4/ 19 53

Travelling Expenses (if any) £ 1 : 5 : 0 ✓ When received 19

TUESDAY 29 DEC 1953

Committee's Minute

Assigned See Rpt. 42

W. Boomer & J. L. Smith
Surveyor to Lloyd's Register of Shipping



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