

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 130194

Date of writing Report Oct 13<sup>th</sup> 1954. When handed in at Local Office Oct 13<sup>th</sup> 1954. Port of London. Received at London Office 20310 1954

Survey held at Bedford. Date, First Survey Aug 13<sup>th</sup>. Last Survey Oct 13<sup>th</sup> 1954. Number of Visits 10

On the Single Screw vessel Scottish Hawk. Tons Gross 483. Net -.  
At Greenock Dockyard. By whom built W. H. Allen & Sons Ltd. Yard No. 1058 When built -

Engines made at Bedford. By whom made W. H. Allen & Sons Ltd. Contract No. K3/54689 When made 1954.  
Generators made at Bedford. By whom made W. H. Allen & Sons Ltd. Contract No. E3/54693 When made 1954

Number of Sets 2. Engine Brake Horse Power 225 h.p. as per Rule -. Total Capacity of Generators 300 Kilowatts.  
Set intended for essential services Yes

ENGINES, &c.—Type of Engines Vertical air injection diesel 4 stroke cycle 4 Single or double acting Single  
Maximum pressure in cylinders 800 lb/sq. in. Diameter of cylinders 9" Length of stroke 12" No. of cylinders 6 No. of cranks 6

Indicated pressure 972 lb/sq. in. Firing order in cylinders 135642 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 ( $16 \frac{ft^2}{lb}$ ) 5200 Revolutions per minute 550

Wheel dia. 42 1/2" Weight 2600 lb. Means of ignition Compression Kind of fuel used Pool Fuel Oil  
Crank Shaft, dia. of journals as per Rule 5.19" as fitted 6.75" Crank pin dia. 6.125" Crank Webs Mid. length breadth 10.125" Thickness parallel to axis -  
Mid. length thickness 2.75" shrunk Thickness round eye hole -

Wheel Shaft, diameter as per Rule - as fitted - Intermediate Shafts, diameter as per Rule - as fitted - General armature, moment of inertia ( $16 \frac{ft^2}{lb}$ ) 1600  
Means provided to prevent racing of the engine when declutched Yes Means of lubrication Lubricated 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  
Cooling Water Pumps, No. ONE Independent of the E. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Lubricating Oil Pumps, No. and size One off engine driven rotary type gear oil pump per engine  
Compressors, No. - No. of stages - Diameters - Stroke - Driven by -

Sucking Air Pumps, No. - Diameter - Stroke - Driven by -  
RECEIVERS:—Have they been made under Survey Yes State No. of Report or Certificate -

Each receiver, which can be isolated, fitted with a safety valve as per Rule Yes  
Are the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces -

Is there a drain arrangement fitted at the lowest part of each receiver Yes  
High Pressure Air Receivers, No. - Cubic capacity of each - Internal diameter - thickness -

Seamless, lap welded or riveted longitudinal joint Yes Material Seamless Range of tensile strength 35,000 lb/sq. in. Working pressure by Rules 300 lb/sq. in.  
Low Pressure Air Receivers, No. Two Total cubic capacity 10 cu. ft. Internal diameter 18" thickness 5/16"

Electric GENERATORS:—Type - Voltage of supply - volts. Full Load Current - Amperes. Direct or Alternating Current -  
Alternating current system, state the periodicity - Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown on 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 Yes

Are the generators shielded that they cannot be accidentally earthed, short circuited, or touched Yes Are the lubricating arrangements of the generators as per Rule Yes  
Are the generators under 100 h.p. full load rating Yes Are the maker's supplied certificates of test Yes and do the results comply with the requirements Yes

Are the generators 100 h.p. or over have they been built and tested under survey Yes  
List of driven machinery other than generator -

Are approved plans forwarded herewith for Shafting Yes (If not, state date of approval) 20th August 1953 Receivers - Separate Tanks -  
Torsional Vibration characteristics if applicable been approved Yes (state date of approval) 20th August 1953 Armature shaft Drawing No. E/146282

Are there any other GEAR As per attached list.

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



Dates of Survey while building  
 During progress of work in shops - - Aug. 13-18-20-26-30 Sept. 3-29. Oct. 1-12-13. 1954  
 During erection on board vessel - - -  
 Total No. of visits 10.

Dates of Examination of principal parts - Aug. 13<sup>th</sup> HEADS. 18-20/8/54 Pistons 26-20/8/54 LINERS. 18-20/8/54.  
FRAMES.  
 Connecting rods 18/8/54. Crank and Flywheel shafts 18-20/8/54. Intermediate shafts

Crank shaft { Material S.M.O.H. Steel. Tensile strength 33.2 TMSD.  
 Elongation 28% in 2" Identification Marks A. LLOYD'S (B.H.M.) 58.4761-14/4/54-20/8/54  
CONNECT'G RODS. S.M. Steel. Identification Marks B. " " EB.4675-19/3/54-18/8/54  
 Flywheel shaft, Material S.M. Steel. Identification Marks LLOYD'S J.H. D23(1). D25(6) 18/8/54 J.  
D24(3) C2(2)

Identification marks on Air Receivers 9/520881. LLOYD'S TEST T.D.S. (NOT) H.T. 600 W.P. 300 40° 19/7/54 H. 2881-2.  
Setting. LLOYD'S TEST-600L360-29/9/54 JLS.

Is this machinery duplicate of a previous case Yes. If so, state name of vessel Turner S.B. Co. No 466.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
The above engines have been constructed under Special Survey from materials made at works approved by the Committee. The workmanship throughout is considered satisfactory. Ship trials under full + overload conditions were witnessed with satisfactory results - Governors tried & found to Rule Requirements.

100,550-T. (MADE AND PRINTED IN ENGLAND)  
 (The Surveyors are requested not to write on or below the space for Committee Minute.)

The amount of Fee ... £ 35 : - : - When applied for 21 OCT 1954  
 Travelling Expenses (if any) £ 3 : 15 : 0 When received \_\_\_\_\_

Committee's Minute GLASGOW 26 APR 1955  
 Assigned SEE ACCOMPANYING MACHINERY REPORT

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