

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 14296.

Received at London Office 28 SEP 1950

MANCHESTER.

28th August, 50 When handed in at Local Office 25th September, 50

Port of

REDDISH, STOCKPORT.

Date, First Survey 3rd May, 1950.

Last Survey 16th August, 19 50.

Number of Visits 9.

Single }  
on the Twin }  
Triple }  
Quadruple }  
Screw vessel.

Tons } Gross  
Net

Dartmouth.

By whom built Messrs. Philip & Sons Ltd.

Yard No. 1220. When built

Messrs. Anglo-Saxon Petroleum Co. Ltd.

Port belonging to

Reddish.

By whom made

Messrs. Crossley Bros. Ltd.

Engine Nos. 139527

Contract No. 142361

When made 1950.

Gateshead.

By whom made

Messrs. Clarke Chapman & Co. Ltd.

Machine No. 24148.

Contract No. 24152

When made 1950.

of Sets 2. Engine Brake Horse Power 60 x 2. M.N. as per Rule 15 x 2. Total Capacity of Generators 40. Kilowatts.

intended for essential services

**ENGINES, &c.**—Type of Engines Crossley BW.4 - Vertical Heavy Oil. 2 or 4 stroke cycle. 4. Single or double acting Single.  
 Maximum pressure in cylinders 850 lbs/sq. inch. Diameter of cylinders 5". Length of stroke 6 1/2". No. of cylinders 4 x 2. No. of cranks 4 x 2.  
 Indicated pressure 121 lbs/sq. inch. Firing order in cylinders 1, 2, 4, 3. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 12 5/8".  
 Are there a bearing between each crank No. Moment of inertia of flywheel (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>) Revolutions per minute 1,000.  
 Crank wheel dia. 24". Weight 460 lbs. Means of ignition Compression. Kind of fuel used Diesel Oil.  
 Crank Shaft, dia. of journals as per Rule Approved. Crank pin dia. 3 1/2". Crank Webs Mid. length breadth 4 1/2". Thickness parallel to axis -  
 as fitted 3 1/2". Mid. length thickness 1.13/16". Thickness round eye hole -  
 Crank wheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule General armature, moment of inertia (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>)

Means provided to prevent racing of the engine when declutched Yes. Means of lubrication Forced. Kind of damper if fitted None fitted.  
 Are the cylinders fitted with safety valves No. Are the exhaust pipes and silencers water cooled or lagged with non-conducting material

**13** Cooling Water Pumps, No. 1 - 2 1/2" Dia. x 1 3/8" Stroke. Is the sea suction provided with an efficient strainer which can be cleared within the vessel  
 Indicating Oil Pumps, No. and size 1 - 1 1/8" Dia. x 1 1/4" Stroke.

Compressors, No. 80681. No. of stages 2. Diameters 4 1/2" & 1 5/8". Stroke 3 1/4". Driven by Clutch Drive. Eng. No. 142361.  
 Suctioning Air Pumps, No. Diameter Stroke Driven by

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

**Pressure Air Receivers, No.** Cubic capacity of each Internal diameter thickness  
 Material Range of tensile strength Working pressure by Rules  
**Suctioning Air Receivers, No.** Total cubic capacity Internal diameter thickness  
 Material Range of tensile strength Working pressure by Rules

**ELECTRIC GENERATORS:**—Type Compound Wound - Continuous Rating - Enclosed Ventilated - Drip-proof.  
 Voltage of supply 110 volts. Full Load Current 182. Amperes. Direct or Alternating Current Direct.  
 Is there an alternating current system, state the periodicity Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown off Yes. Generators, are they compounded as per Rule Yes. Is there an adjustable regulating resistance fitted in series with each shunt field Yes.  
 Are the terminals accessible, clearly marked, and furnished with sockets Yes. Are they so spaced  
 Is there a test provided 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 Yes.  
 Are the generators are 100 kw. or over have they been built and tested under survey Yes - Stamped Lloyd's Test 21375 - 18.4.50 - JCW. 21411 - 29.4.50 - JCW.

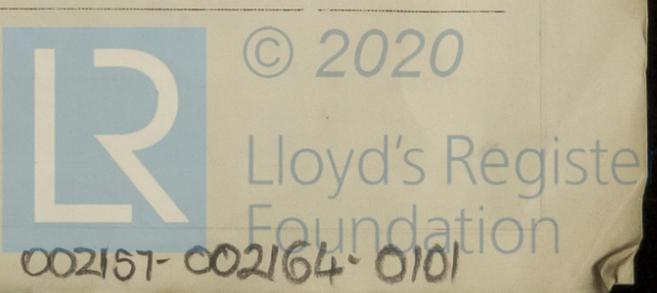
of driven machinery other than generator Hamworthy Centrifugal Pump No. 84209 - Clutch Driven by Eng. No. 139527

**S.**—Are approved plans forwarded herewith for Shafting 21.9.50. Receivers Separate Tanks  
 (If not, state date of approval)  
 Are the torsional Vibration characteristics if applicable been approved Armature shaft Drawing No.  
 (state date of approval)

**E GEAR**

The foregoing is a correct description,

CROSSLY BROTHERS LIMITED, Manufacturer.



Dates of Survey while building { During progress of work in shops - - 1950. May 3, 4, 5, 22, 29. July 11, 12. Aug. 15, 16.  
 { During erection on board vessel - - -  
 Total No. of visits

Dates of Examination of principal parts - Casings 5.5.50/3.5.50/22.5.50. Covers 3.5.50/22.5.50. Pistons 12.7.50/16.8.50. Liners 3.5.50/4.5. Piston rods

Connecting rods 3.5.50. Crank and Flywheel shafts 29.5.50. Intermediate shafts -

Crank shaft { Material O.H. Steel. Tensile strength 46.4 Tons per sq. inch.  
 { Elongation 22.5% on 2". Identification Marks Lloyd's 4033 - THS - 29.5.50  
 " " EBE 523.A and 544.A.

Flywheel shaft, Material Identification Marks

Identification marks on Air Receivers

Is this machinery duplicate of a previous case If so, state name of vessel

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) The foregoing engines have been constructed under Special Survey in accordance with the Rules and approved plans.

The materials and workmanship are good. On completion of erection, the engine, direct coupled to their respective generators, have been examined under working conditions on the test bed, developing full generator load for 4 hours and 10% overload for 1 hour, and found satisfactory.

The clutch driven Air Compressor and Sea Water Pump have also been tried under running conditions and found satisfactory.

These Auxiliary sets are, in my opinion, suitable for installation in a vessel to be classed with this Society.

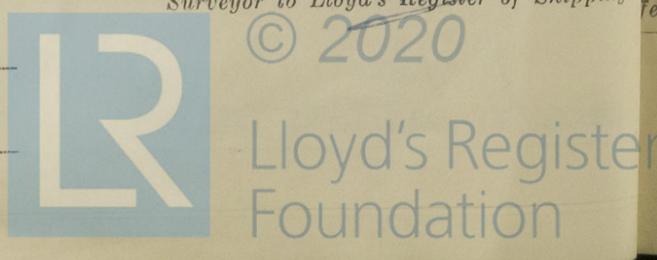
Attached herewith Crankshaft Forging Report F.6221, Generator Certificate C.32465 and C.32466, Hamworthy Air Compressor Cert. D.3540, Hamworthy Centrifugal Pump Cert. D.3870 and Engine Certificate C.9124/5.

The amount of Fee ... £ 8 : 0 : 0. { When applied for 25/9/1950 (R.M.)  
 Travelling Expenses (if any) £ 1 : 0 : 0. { When received 19

Committee's Minute FRI. 17 AUG 1951

Assigned See F.E. Welch rpt.

Surveyor to Lloyd's Register of Shipping. *Wm. R. Amanton*



214,401-T. (MADE AND PRINTED IN ENGLAND)  
 (The Surveyors are requested not to write on or below the space for Committee Minute.)