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# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS

No. 429.

Received at London Office 31 AUG 1950

Date of writing Report 21-11-19 49 When handed in at Local Office 2-12-19 49 Port of LEEDS.

No. in Survey held at Reg. Book. 95005 on the <sup>Single</sup> ~~Four~~ ~~Triple~~ ~~Quadruple~~ Screw vessel "OTTAWA" Date, First Survey 31-8-49 Last Survey 3-11-19 49 Number of Visits 6

Built at Glasgow By whom built John Brown & Co. Ltd. Yard No. 654 When built 1949

Owners Unitas Inc. Port belonging to Panama City

Oil Engines made at Leeds By whom made J. & H. McLaren Ltd. Engine No. 50090 Contract No. 30674 When made 1949

Generators made at Rugby By whom made British Thomson Houston Generator B.470679/1/01 Contract No. When made 1949

No. of Sets 1 Engine Brake Horse Power 110 M.N. as per Rule 27.5 Total Capacity of Generators 60 Kilowatts.

Is Set intended for essential services

OIL ENGINES, &c.—Type of Engines McLaren M.R.5 2 or 4 stroke cycle <sup>5</sup> Single or double acting Single

Maximum pressure in cylinders 750 lbs/sq. Diameter of cylinders 142 mm. Length of stroke 200 mm. No. of cylinders 5 No. of cranks 5

Mean indicated pressure 90 lbs/sq. Firing order in cylinders 1 3 5 4 2 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 178 mm.

Is there a bearing between each crank Yes Moment of inertia of flywheel (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>) Revolutions per minute 1000

Flywheel dia 2' - 9" Weight 350 lbs. Means of ignition Compression Kind of fuel used Diesel Oil

Crank Shaft, dia. of journals as per Rule approved 85 mm. Crank pin dia. 85 mm. Crank Webs Mid. length breadth 200 mm. Thickness parallel to axis shrunk Mid. length thickness 38 mm. Thickness round eyehole

Flywheel Shaft, diameter as per Rule Fitted on end of crankshaft. Intermediate Shafts, diameter as per Rule General armature, moment of inertia (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>)

Are 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 No Are the exhaust pipes and silencers water cooled or lagged with non-conducting material

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

Lubricating Oil Pumps, No. and size One Gear Type

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

Scavenging Air Pumps, No. Diameter Stroke Driven by

AIR RECEIVERS:—Have they been made under Survey Yes State No. of Report or Certificate C.10108

Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes

Can the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Hand hole

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 Welded Material Mild Steel Range of tensile strength 28-32 Tons/sq Working pressure by Rules 350 lbs/sq

Starting Air Receivers, No. 1 Total cubic capacity 5 Internal diameter 17 1/4 thickness 3/8

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules

ELECTRIC GENERATORS:—Type Compound wound, Continuous rating, Drip Proof.

Pressure of supply 110 volts. Full Load Current 550 Amperes. Direct or Alternating Current Direct

If 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

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

If the 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

If the generators are 100 kw. or over have they been built and tested under survey Cat. not found

Details of driven machinery other than generator

PLANS.—Are approved plans forwarded herewith for Shafting 21st March, 1949. Receivers 9-4-48 Separate Tanks 20-8-48

Have Torsional Vibration characteristics if applicable been approved 24/11/49 for 1000 rpm Armature shaft Drawing No.

SPARE GEAR As per Rule Requirements.

The foregoing is a correct description,

John McLaren  
J. & H. McLAREN, LTD.  
ENGINEERS, LEEDS.

Manufacturer.

and the particulars of the installation as fitted are as approved for Torsional Vibration Characteristics.

Lloyd's Register Foundation

003687-003697-0189

Dates of Survey while building { During progress of work in shops - - } 31-8-49, 8-9-49, 12-9-49, 5-10-49, 6-10-49, 3-11-49.  
 { During erection on board vessel - - }  
 Total No. of visits 6

Dates of Examination of principal parts—Cylinders 12-9-49 31-8-49  
 5-10-49 8-9-49  
 Covers 6-10-49 Pistons 3-11-49 Piston rods -  
 Connecting rods 3-11-49 Crank and Flywheel shafts 3-11-49 Intermediate shafts -

Crank shaft { Material O.H. Steel Tensile strength 50 tons/sq.in.  
 Elongation 24.0% Identification Marks L.R. 7344/3A E.R.H. 20-9-49  
 See London letter dated 19-9-49 Reference 'E'  
 Flywheel shaft, Material Identification Marks -

Identification marks on Air Receivers Lloyd's Test 700 lbs/sq.in. No.4811 R. McL. 13-10-49.

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.)

This engine has been constructed under special survey of tested materials in accordance with Approved Plans, Secretary's letters, and the requirements of the Rules.  
 The materials and workmanship are good, and the engine was found satisfactory when tested in the shop under full working conditions coupled to the Generators.  
 This generator set is, in my opinion, suitable for installation in the above vessel.

*This generator set has been efficiently installed on board the vessel & tried under full working conditions with satisfactory results.*

*J.D. Clifton  
 Glasgow.*

500.4.48.-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 ... £ 5 : 10 : 0 { When applied for 2-12- 19 49  
 Travelling Expenses (if any) £ : 10 : 0 { When received 19

*R. McCallan*

Surveyor to Lloyd's Register of Shipping.

GLASGOW 30 AUG 1950

Committee's Minute \_\_\_\_\_

Assigned SEE ACCOMPANYING MACHINERY REPORT \_\_\_\_\_

