

Rpt. 4c.

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 13965

Date of writing Report 8.4.54 When handed in at Local Office 10.4.54 Port of TRIESTE Received at London Office 20 APR 1954

No. in Survey held at TRIESTE Date, First Survey 29th March 1954 Last Survey See Rpt. 4b

Reg. Book. 40464 on the Single Screw vessel. "MARE ADRIACUM" Tons 20451 Gross 12455 Net

Built at TRIESTE By whom built Cantieri Riuniti dell'Adriatico Yard No. 1773 When built 1954 - 3

Owners Fratelli d'Amico Port belonging to TRIESTE

Oil Engine made at TRIESTE By whom made Cantieri Riuniti dell'Adriatico Contract No. 5595 When made 1954

Generators made at Monfalcone By whom made do Contract No. 78329 When made 1953

No. of Sets 1 Engine Brake Horse Power 150 M.N. as per Rule 30 Total Capacity of Generators 100 Kilowatts. also two turbo sets at 450 KW each

Is Set intended for essential services No. (Emergency or harbour use).

**OIL ENGINES, &c.**—Type of Engines C.R.D.A. - Sulzer 4BH22 2 or 4 stroke cycle 4 Single or double acting S.A.

Maximum pressure in cylinders 60 kg/cm<sup>2</sup> Diameter of cylinders 220 mm Length of stroke 320 mm No. of cylinders 4 No. of cranks 4

Mean indicated pressure 6.775 kg/cm<sup>2</sup> Firing order in cylinders 1, 2, 4, 3, Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 238 mm

Is there a bearing between each crank yes Moment of inertia of flywheel 1450 Kg.-cm.<sup>2</sup> P.D. 2 Revolutions per minute 500

Flywheel dia. 1500 mm Weight 956 Kg. Means of ignition Comp.n Kind of fuel used Diesel oil

Crank Shaft, dia. of journals as appd. Crank pin dia. 145 mm Crank Webs as appd. Mid. length breadth 190 mm Thickness parallel to axis —

Flywheel Shaft, diameter as appd. Intermediate Shafts, diameter as appd. 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 decoupled 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 yes

Cooling Water Pumps, No. 6 Attached 6 Detached — Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

Lubricating Oil Pumps, No. and size worked from engine, 5 T/HR. Also hand operated pump Capacity 4 M<sup>3</sup> per Hr. at 30 Kg/cm<sup>2</sup>

Air Compressors, No. 1 No. of stages — Diameters — Stroke — Driven by Small Diesel engine

Scavenging Air Pumps, No. — Diameter — Stroke — Driven by —

**AIR RECEIVERS:**—Have they been made under Survey yes State No. of Report or Certificate Genoa A11

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 Through upper flange

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 — Material — Range of tensile strength — Working pressure by Rules —

Starting Air Receivers, No. 1 Total cubic capacity 100 Lts. Internal diameter 303 mm thickness 7.5 mm

Seamless, lap welded or riveted longitudinal joint seamless Material S.M.S. Range of tensile strength 60.7 Kg/cm<sup>2</sup> Working pressure by Rules 40 kg/cm<sup>2</sup>

**ELECTRIC GENERATORS:**—Type C.R.D.A. Protected Self Ventilated

Pressure of supply 220 volts. Full Load Current 454 Amperes. Direct or Alternating Current D.C.

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 — and do the results comply with the requirements —

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

Details of driven machinery other than generator None

**PLANS.**—Are approved plans forwarded herewith for Shafting 28.2.1953 Receivers — Separate Tanks —

Have Torsional Vibration characteristics if applicable been approved 28.2.1953 Armature shaft Drawing No. 5688-15

**SPARE GEAR** Cylinder liner, piston, cylinder cover and numerous small items.

The foregoing is a correct description,  
CANTIERI RIUNITI DELL'ADRIATICO  
Fabbrica Macchine S. Andrea  
guca Manufacturer.

DUAL CLASS  
L.H. & I.



Lloyd's Register Foundation

013186-013191-0114

117. 0481.

Dates of Survey while building: During progress of work in shops - -) -; During erection on board vessel - -) See 4a; Total No. of visits -

After bench tests: Dates of Examination of principal parts—Cylinders Sept. 1953, Covers Sept. 1953, Pistons Sept. 1953, Piston rods Sept. 1953; Connecting rods Sept. 1953, Crank and Flywheel shafts Sept. 1953, Intermediate shafts -

Crank shaft: Material E.F.S., Tensile strength 54.5 Kg/cm<sup>2</sup>; Elongation On 4d 33%, Identification Marks SS 2429 AG; DYNAMO Flywheel shaft, Material 45.8 Kg/cm<sup>2</sup>, Identification Marks LLOYD'S 6069 SG

Identification marks on Air Receivers: No. 2. 128583; LLOYD'S TEST 80 Kg/cm<sup>2</sup>; WP 40 Kg/cm<sup>2</sup>

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 engine of this auxiliary generator set has been constructed under special survey of tested materials in accordance with the Secretary's letters, approved plans and the Society's Rule requirements.

The workmanship and materials are good.

This engine, together with two turbo generator sets rated at 450 KW each (See Genoa Cert. N° M305) have been installed on board the vessel in an efficient manner and found satisfactory when tried under full working conditions.

In my opinion these engines are eligible for full classification.

DUAL CLASS L.R. & F.S.I.

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less 15% Lit 33,150.-; The amount of Fee... £ 1,650; Car fund " £ 1,650; Travelling Expenses (if any) £ 1,094; Rev Tax 3%

When applied for 10.4 19.74; When received 19

FRIDAY 28 MAY 1954

Committee's Minute; Assigned See Rpt. 4.

J.F. Wilson, Surveyor to Lloyd's Register of Shipping.

