

## REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 1027/

Received at London Office JUL 17 1937

Date of writing Report 10 When handed in at Local Office 10 Port of Copenhagen

No. in Survey held at Copenhagen Date, First Survey 10<sup>th</sup> October 1936 Last Survey 26 June 1937

Reg. Book. on the ~~Single~~ ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel "REGINA"

Built at Copenhagen By whom built Messrs. Burmeister & Wain Yard No. 625 When built 1937

Owners Hansen-Tangen Port belonging to Kristiansand.

Oil Engines made at Copenhagen By whom made Messrs. Burmeister & Wain Engines No. 2805-06 When made 1937

Generators made at Odense By whom made Messrs. Thomas B. Thirge Dynamos No. 228653-54 When made 1937

No. of Sets 2 Engine Brake Horse Power 2 x 180. Nom. Horse Power as per Rule Total Capacity of Generators 2 x 120 Kilowatts.

OIL ENGINES, &c.—Type of Engines Diesel, trunk type, solid injection 2 or 4 stroke cycle 2 Single or double acting single

Maximum pressure in cylinders 49 kg/cm<sup>2</sup> Diameter of cylinders 220 mm Length of stroke 370 mm No. of cylinders 3 No. of cranks 3

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 276 mm Is there a bearing between each crank Yes

Revolutions per minute 400. Flywheel dia. 1200 mm Weight 1550 kg. Means of ignition Compression Kind of fuel used Crude oil

Crank Shaft, dia. of journals as per Rule 124 mm as fitted 150 mm Crank pin dia. 150 mm Mid. length breadth 290 mm Thickness parallel to axis 85 mm

Flywheel Shaft, diameter as per Rule 124 mm as fitted 150 mm Intermediate Shafts, diameter as per Rule as fitted Thickness of cylinder liners 18 mm

Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication forced.

Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material lagged.

Cooling Water Pumps, No. 1 off. Centrifugal Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Lubricating Oil Pumps, No. and size 1 off for each engine. Gearwheel pump. Capacity 5.5 Tons per hour.

Air Compressors, No. 1 off for each engine No. of stages 2. Diameters A=280 mm B=250 mm Stroke 190 mm Driven by the engine, direct.

Scavenging Air Pumps, No. 1 off for each engine. Diameter Rotary Stroke Capacity 22.5 m<sup>3</sup>/min Driven by chain from shaft.

AIR RECEIVERS:—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 covers fitted.

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 off. Total cubic capacity 250 litres Internal diameter 380 mm thickness 11 mm

Seamless, lap welded or riveted longitudinal joint lap welded Material S.M. Steel Range of tensile strength 43.1 kg/mm<sup>2</sup> Working pressure by Rules 36.2 kg/mm<sup>2</sup>

ELECTRIC GENERATORS:—Type D.C. drip proof, ventilated.

Pressure of supply 220 volts. Load 2 x 545 Amperes. Direct or Alternating Current Direct.

If alternating current system, state frequency of periods per second

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes

Generators, do they comply with the requirements regarding rating Yes are they compound wound Yes

are they over compounded 5 per cent. Yes, if not compound wound state distance between each generator

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

PLANS. Are approved plans forwarded herewith for Shafting Yes Receivers Separate Tanks

PREPARE GEAR as per accompanying list, sheets No 8-9-10-11-12-13.

The foregoing is a correct description,  
BURMEISTER & WAIN MASKIN-OG SKIBSBYGGERI

Manufacturer.



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Lloyd's Register  
Foundation

003659 - 003670 - 0165/12



Dates of Survey while building { During progress of work in shops - - 19/10 - 27/10 - 27/11 - 14/12 - 15/12 - 17/12 - 21/12 - 22/12 1936. - 11/1 - 2/2 - 6/2 - 18/2 - 24/2 - 19/3 - 13/3 - 24/3 - 27/3 - 5/4 27/4 - 10/5 - 13/5 - 24/5 - 9/6 - 12/6 - 24/6 1937. Total No. of visits 25.

Dates of Examination of principal parts - Cylinders with Covers 14/12/1936. 11/1-9/2/1937 Pistons 5/4/1937 Piston rods ✓

Connecting rods 19/10 - 27/10/1936. - 2/2/1937 Crank and Flywheel shaft 27/11 - 22/12/1936 - 6/2 - 18/2/1937 Intermediate shaft ✓

Crank and Flywheel shafts, Material S. M. F. Steel. Identification Mark 607ai No 3540 CN. 18.2.37.

Intermediate shafts, Material ✓ Identification Marks ✓

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

General Remarks State quality of workmanship, opinions as to class, etc.

These engines have been constructed under special survey and in accordance with the Society's Rules, the approved plans and the requirements contained in the Secretary's letter E. dated 7/10/36.

The materials has been tested and examined as required by the Rules and found satisfactory and the workmanship is of good description.

On completion the engines with their generators were tested under working conditions and found to be working satisfactory.

1m431 - Transfer.  
(The Surveyors are requested not to write on or below the space for Committee Minutes)

The amount of Fee ... £ : : When applied for, ✓ 19.  
Travelling Expenses (if any) £ : : When received, 19.

Committee's Minute TUE. 27 JUL 1937  
Assigned Leo F.E. Mohr rpt.

Surveyor to Lloyd's Register of Shipping.

Rpt. 9a.

Port of Copenhagen Continuation of Report No. 1029 dated 5<sup>th</sup> July 1937 on the

Twin Se. "REGINA"

List of Auxiliary Machinery.

2 off centrifugal cooling water pumps, 230 k/h. each.  
2 " cog wheel lubricating oil pumps 200 k/h. each } Electrically  
1 " bilge & sanitary pump, 2 plungers 2 x 26 k/h. }  
1 " cog wheel oil fuel transfer pump 30 k/h. } Driven  
1 " centrifugal cooling w. pump for aux. engines }  
2 " donkey feed pumps, duplex, 5 1/2" x 3 1/2" x 8 }  
1 " ballast pump, duplex, 9" x 10" x 10" } Steam Driven  
1 " oil fuel transfer pump, duplex 135 x 125 x 125 mm }

Midships Pump room

2 off cargo pumps, duplex, 380 k/h. each }  
1 " shipping pump, duplex 7 1/2" x 7 1/2" x 10" } Steam Driven.

Forward pump room

1 off ballast pump, duplex, 7 1/2" x 7 1/2" x 10"  
1 " oil fuel pump, duplex 10 x 8 x 10"

2 off 3 cylinder 2 S.C.S.A. Diesel engines each direct coupled to a 120 KW D.C. generator supplying current at 220 volts pressure for the electric light transformer and the following electromotors

2 off 30 compound wound electromotors for cooling water pumps  
2 off 60 HP - - - - - for lubr. oil pumps  
1 " 12 HP - - - - - " oil fuel transfer pump  
1 " 11 HP - - - - - " bilge & sanitary pump  
2 " 8 HP series - - - - - " for turning gears  
1 " 22 HP - - - - - " steering gear  
1 " 3 HP compound - - - - - " aux. cooling w. pumps  
3 " 3.5 HP - - - - - " separators & water trap motor  
1 " 8.5 HP - - - - - " CO<sub>2</sub> compressor  
1 " 2 HP - - - - - " CO<sub>2</sub> cooling w. pump.  
1 " 2.5 HP - - - - - " 15 KW transformer

1 off steam driven 15 KW auxiliary generator, 110 volts & 137 amps connected to the light switch board

The foregoing is a correct description  
AKTIESELSKABET  
BURMEISTER & WAINSKIN- OG SKIBSBYGGERI  
A. Hummel