pt. 4c.

REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 10240

Received at London Office JUN 11 1937

Date of writing Report 3rd June 1937 When handed in at Local Office ..... 19 .... Port of Copenhagen.

No. in Reg. Book. Survey held at Copenhagen and Nakskov Date, First Survey 12th June 1936 Last Survey 27th May 1937

Number of Visits 33.

..... on the ~~Single~~ Twin ~~Triple~~ ~~Quadruple~~ Screw vessel "NORDEN" Tons { Gross 4700.23. Net 2778.11.

Built at Nakskov By whom built A/S. Nakskov Skibsværft Yard No. 78 When built 1937 - 5 mo.

Owners A/S. Dampskibsselskabet "Norden" Port belonging to Copenhagen

Oil Engines made at Copenhagen By whom made A/S. Burmeister & Wain Engine ~~Contract~~ No. 2616-17 2766. When made 1937.

Generators made at Odense By whom made Thomas B. Thrige ~~Generator~~ ~~Contract~~ No. 227956. 227957. 228128. When made 1937.

No. of Sets 3. Engine Brake Horse Power 3x120 Nom. Horse Power as per Rule ✓ Total Capacity of Generators 80 Kilowatts each.

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

Maximum pressure in cylinders 49 kg/cm² Diameter of cylinders 220 m/m Length of stroke 370 m/m No. of cylinders 2. No. of cranks 2.

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

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

Crank Shaft, dia. of journals as per Rule 122 m/m as fitted 150 m/m Crank pin dia. 150 m/m Crank Webs Mid. length breadth 290 m/m Mid. length thickness 85 m/m shrunk Thickness parallel to axis 85 m/m Thickness around eyehole 67.5 m/m

Flywheel Shaft, diameter as per Rule ✓ as fitted ✓ **Intermediate Shafts**, diameter as per Rule ✓ as fitted ✓ Thickness of cylinder liners 18 m/m

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 207/Hour driven by elec. motor Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes.

Lubricating Oil Pumps, No. and size 1 x 3 direct coupled gearwheel pumps. Capacity 5.5 m³ per hour.

Air Compressors, No. None No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

Scavenging Air ~~Pumps~~ Blowers, No. 1 x 3 Rotary capacity Diameter 15.6 m³/min. Stroke ✓ 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 ✓

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 ✓

EMERGENCY Starting Air Receivers, No. 1 Total cubic capacity 100 litres. Internal diameter 336 m/m thickness 10 m/m

Seamless, lap welded or riveted longitudinal joint Lap welded Material Steel Range of tensile strength 27.4 Tons/□" Working pressure by Rules 36.6 kg/cm²

ELECTRIC GENERATORS:—Type drip proof, ventilated.

Pressure of supply 220 volts. **Load** 364. 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 Receivers Separate Tanks
(If not, state date of approval)

SPARE GEAR supplied as per Rules.

The foregoing is a correct description.

AKTIESELSKABET BURMEISTER & WAIN'S MASKIN- OG SKIBSBYGGERI

N. Rønnow

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 12/6 - 22/8 - 15/9 - 23/9 - 7/10 - 17/10 - 21/10 - 22/10 - 26/10 - 27/10 - 29/10 - 3/11 - 11/11 - 16/11 - 24/11 - 8/12 - 14/12 - 15/12 - 21/12 - 23/12 - 29/12 - 30/12 - 36. - 7 -.
{ During erection on board vessel - - - } 19/3 - 7/4 - 8/4 - 14/4 - 20/4 - 28/4 - 5/5 - 11/5 - 19/5 - 22/5 1937.
{ Total No. of visits 33.

Dates of Examination of principal parts—Cylinders with Covers 29/10 - 31/10 - 24/11 - 14/12-36 Pistons 8/12 - 23/12-36. 4/1-37 Piston rods ✓

Connecting rods 4/10 - 13/10 - 12/12-35. - 9/11 - 2/1 - 12/6-36. Crank and Flywheel shaft 22/8 - 15/9 - 23/9 - 7/10 - 27/10 - 8/12 - 21/12-36 Intermediate shaft ✓

Crank and Flywheel shafts, Material S.M. Steel. Identification Mark { Lloyds No 3375 C.V. 17.10.36
Lloyds No 3376 C.V. 17.10.36.
Lloyds No 3459 C.V. 21.12.36.

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, &c. These generator sets have been built under special survey and in accordance with the Rules.
The quality of workmanship is good.
The generator sets were tested under full load, working condition, in the shop as well as on board the vessel, and found satisfactory.
A.T.W.

The amount of Fee ... ... £ : : { When applied for, ...19....

Travelling Expenses (if any) £ : : { When received, ...19....

A.T.W. Wesberg.
Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 18 JUN 1937

Assigned See Gen F.E. 10440

1m.6/31—Transfer.

(The Surveyors are requested not to write on or below the space for Committee Minute.)