

## REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 14697

Date of writing Report 19 When handed in at Local Office 19 Port of Copenhagen Received at London Office 25 JUN 1954

No. in Reg. Book. Survey held at Høleby & Copenhagen Date, First Survey 19/10/53. Last Survey 20<sup>th</sup> May 1954

✓ on the ~~Double~~ <sup>Single</sup> Screw vessel M/V "INGER SKOU" Number of Visits 5

Built at Copenhagen By whom built A/S Burmeister & Wain Yard No. 415 When built 1954

Owners Ove Skou Port belonging to Copenhagen

Oil Engines made at Høleby By whom made A/S Burmeister & Wain Engine No. 4676 When made 1954

Generators made at Copenhagen By whom made A/S Titan Generator No. 215256 When made 1954

No. of Sets 1 B.H.P. of each Set 20 M.N. of each Set as per Rule 4.0 Capacity of each Generator 12 Kilowatts

Is Set intended for essential services Yes

OIL ENGINES, &c.—Type of Engines DM. 213 MTH-18 Trunk piston type Solid injection 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 65 kg/cm<sup>2</sup> Diameter of cylinders 130 mm Length of stroke 180 mm No. of cylinders 2 No. of cranks 2

Mean indicated pressure 6.7 kg/cm<sup>2</sup> Span of bearings (i.e., distance between inner edges of bearings in way of a crank) 164 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>) 135

Flywheel dia. 820 mm Weight 201 Kg. " " " balance wts. " " " 0 Revolutions per minute 750

Crank Shaft, Solid forged dia. of journals 79.2 mm as per Rule. 85 mm as fitted. Crank pin dia. 85 mm Crank Webs Mid. length breadth 188 mm Mid. length thickness 42 mm Thickness parallel to axis shrunk Thickness round eye-holes

Flywheel Shaft, diameter as per Rule. Generator armature, moment of inertia (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>)

Are means provided to prevent racing of the engine Yes Means of lubrication Forced Kind of damper if fitted None

Are the cylinders fitted with safety valves No Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Lagged

Cooling Water Pumps, No. and how driven 1-Direct 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 1.20 m<sup>3</sup>/h

Air Compressors, No. 1 No. of stages 1 Diameters 1 Stroke 1 Driven by 1

Scavenging Air Pumps or Blowers, No. 1 How driven 1

AIR RECEIVERS:—Have they been made under Survey Yes State No. of Report or Certificate 1225

(other than main engines) State full details of safety devices Safety valve, fusible plug.

Can the internal surfaces of the receivers be examined and cleaned Yes

Is there a drain arrangement fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. 1 Cubic capacity of each 45 litres Internal diameter 270 mm thickness 8 mm

Seamless, lap welded or riveted longitudinal joint Elec. welded Material S.M. Steel Range of tensile strength 27.2 tps. Working pressure 25 atmos.

Starting Air Receivers, No. 1 Total cubic capacity 45 litres Internal diameter 270 mm thickness 8 mm

Seamless, lap welded or riveted longitudinal joint Elec. welded Material S.M. Steel Range of tensile strength 27.2 tps. Working pressure 25 atmos.

ELECTRIC GENERATORS:—Type Compound

Pressure of supply 220 volts. Full Load Current 54.5 Amperes. Direct or Alternating Current Direct

If alternating current system, state the periodicity Yes 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 Yes

Details of driven machinery other than generator Emergency starting air compressor No 1640 driven through a clutch

PLANS.—Are approved plans forwarded herewith for Shafting 12/5/51 & 24/4/53 Receivers 20/2/53 Separate Tanks

(If not, state date of approval) Have Torsional Vibration characteristics if applicable been approved No Armature shaft Drawing No.

(State date of approval and name of previous duplicate case, if any) Has the spare gear required by the Rules been supplied Yes

The foregoing is a correct description,

AKTIESELSKABET BURMEISTER &amp; WAIN'S MASKIN- OG SKIPSBYGGERI

Manufacturer.



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Dates of Survey while building  
During progress of work in shops - - 19/10/53, 4/11/53  
During erection on board vessel - - 19/54, 26/4, 10/5, 20/5  
Total No. of visits 5

Dates of Examination of principal parts - Cylinders 4/11/53 Covers 4/11/53 Pistons 4/11/53 Piston rods ✓

Connecting rods 4/11/53 Crank and Flywheel shafts 4/11/53 Intermediate shafts ✓

Crank shaft Material S.M.I. Steel Tensile strength 46.1 Kg/cm<sup>2</sup>  
Elongation 36.4% Identification Marks Lloyds No. 7215 G.S. 4/11/53

Flywheel shaft, Material ✓ Identification Marks ✓

Identification marks on Air Receivers Lloyds test 50 atmos. W.P. 25 atmos No. 1225 K.H. 20/2/54

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.)

This oil engine generator set has been built and installed on board the vessel under Special Survey, in accordance with the Rules, the approved plans, and the Secretary's letters.

The material used has been tested in accordance with the Rules and the workmanship is good

On completion the generator set was tested under full power working conditions in the shop and after installation on board the vessel and found in efficient condition

The amount of Fee ... Kr. 150<sup>00</sup>  
Starting Air Vessel Kr. 80<sup>00</sup>  
Travelling Expenses (if any) Kr. 25<sup>00</sup>

When applied for 24.6 19 54  
When received 19

Committee's Minute

Assigned See Rpt. 4b.

FRIDAY 30 JUL 1954

Surveyor to Lloyd's Register of Shipping.



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