



## REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 14610.

5 JUL 1951

Received at London Office

MANCHESTER.

14 JUL 1951

7th June, 1951. When handed in at Local Office 29th June, 1951. Port of

Survey held at MANCHESTER.

Date, First Survey

18th January, 51.

Last Survey

25th May, 1951.

Number of Visits

11.

Single  
on the Twin  
Triple  
Quadruple  
Birkenhead.

Screw vessel

S.S. EVA PERON

Tons { Gross  
Net

Engine

No. 1206.

When built 1951.

By whom built Cammell Laird &amp; Co.,

Port belonging to

Engines

65636

When made 1951.

By whom made National Gas &amp; O.E. Co. Ltd.

Generator

42217

When made 1951.

By whom made Sunderland Forge &amp; Eng. Co.

Generator

42218

When made 1951.

Engine Brake Horse Power

150 x 2 M.N. as per Rule

75.

Total Capacity of Generators

75 x 2 Kilowatts

Total - 300.

Total - 150.

tended for essential services. Yes.

NGINES, &amp;c.—Type of Engines National R4A Heavy Oil.

2 or 4 stroke cycle

4.

Single or double acting

Single.

Pressure in cylinders

850 lbs/sq. inch.

Diameter of cylinders

9".

Length of stroke

12"

No. of cylinders

4.

No. of cranks

4.

Firing order in cylinders

1.3.4.2.

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge

10 1/2".

a bearing between each crank

Yes.

Moment of inertia of flywheel (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>)1,490,000 lb ins<sup>2</sup>

Revolutions per minute

500.

Weight

3260 lbs.

Means of ignition

Compression.

Kind of fuel used

Diesel.

Shaft, dia. of journals

as per Rule

6.622".

Crank pin dia.

6.372".

Crank Webs

Mid. length breadth

7 3/4".

Thickness parallel to axis

-

Mid. length thickness

2 3/4".

shrink

Thickness round eyehole

-

Shaft, diameter

as per Rule

Intermediate Shafts, diameter

as per Rule

General armature, moment of inertia (16 m<sup>2</sup> or Kg.-cm.<sup>2</sup>)89,500 lb ins<sup>2</sup>

Means provided to prevent racing of the engine when declutched

-

Means of lubrication

Forced.

Kind of damper if fitted

-

Cylinders fitted with safety valves

Yes.

Are the exhaust pipes and silencers water cooled or lagged with non-conducting material

Watercooled.

Water Pumps, No.

1 - Cent. 2,500 G.P.H.

Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Driving Oil Pumps, No. and size

1 - Gear type. 850 G.P.H.

Compressors, No.

No. of stages

Diameters

Stroke

Driven by

Driving Air Pumps, No.

Diameter

Stroke

Driven by

RECEIVERS:—Have they been made under Survey

Yes.

State No. of Report or Certificate C.16007/8.

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

internal surfaces of the receivers be examined

What means are provided for cleaning their inner surfaces

a drain arrangement fitted at the lowest part of each receiver

Pressure Air Receivers, No.

Cubic capacity of each

Internal diameter

thickness

s, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure by Rules

Air Receivers, No.

2.

Total cubic capacity (11 cu.ft. x 2)

Internal diameter

20"

thickness

7/16".

s, lap welded or riveted longitudinal joint

Riveted.

Material

M.S.

Range of tensile strength

28/32

Working pressure by Rules

350 lbs/sq.in.

TRIC GENERATORS:—Type Open Type, Drip Proof, Compound Wound.

e of supply

220.

volts.

Full Load Current

341.

Amperes.

Direct or Alternating Current

Direct.

nating current system, state the periodicity

-

Has the Automatic Governor been tested and found as per Rule when full load is suddenly thrown

off

Yes.

Generators, are they compounded as per Rule

Yes.

is an adjustable regulating resistance fitted in series with each shunt field

Yes.

terminals accessible, clearly marked, and furnished with sockets

Yes.

Are they so spaced

led that they cannot be accidentally earthed, short circuited, or touched

Yes.

Are the lubricating arrangements of the generators as per Rule

Yes.

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.

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

of driven machinery other than generator

S.—Are approved plans forwarded herewith for Shafting

27th July, 1949.

Receivers

11.1.49.

Separate Tanks

-

orsional Vibration characteristics if applicable been approved

(If not, state date of approval)

27.7.49.

Armature shaft Drawing No.

E GEAR AS PER RULE REQUIREMENTS.

The foregoing is a correct description, and the particulars of the installation as fitted are as approved for Torsional Vibration Characteristics.

Manufacturer.

THE NATIONAL GAS AND OIL ENGINE Co. Ltd.



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01099-01109-0203



Dates of Survey while building { During progress of work in shops - - 1951. Jan. 18, 22, 23, 29, 31. March 13, 28. April 19, 23, 24. May 25.  
During erection on board vessel - - -  
Total No. of visits 23.1.51. 23.1.51. 23.1.51. 18.  
Dates of Examination of principal parts - Cylinders 13.3.51. Covers 19.4.51. Pistons 29.3.51. Liners 31.1.51.  
23.1.51. 22.1.51.  
Connecting rods 23.1.51. Crank and Flywheel shafts 29.3.51. Intermediate shafts  
Crank shaft { Material O.H. Steel. Tensile strength 44.0, 44.0 Tons/sq. in.  
Elongation 25%, 26% Identification Marks Lloyd's Lloyd's  
7248 7229  
14.11.50 14.11.50.  
Flywheel shaft, Material Identification Marks  
Identification marks on Air Receivers Lloyd's Nos. 316, 317 W.P. 350. T.P. 575. L.R.W. 30.10.50.

Is this machinery duplicate of a previous case Yes. If so, state name of vessel Cammell Laird Contract 1203. See Mch.

GENERAL REMARKS (State quality of workmanship, opinions as to class, etc.) These engines have been constructed under

Survey of tested materials in accordance with the Secretary's letters and Rule Requirements.

materials and workmanship are good. The engines were found satisfactory when tested at the building

Works under the following conditions of loading and coupled direct to their electric generator:

4 Hours at 100% Load.

$\frac{1}{2}$  Hour at 120% Load.

$\frac{1}{2}$  Hour at 110% Load.

Torsional vibration characteristics have been approved for a service speed of 500 R.P.M.

The diesel generator sets are, in my opinion, suitable to be installed in a vessel classed by the Society for the purpose intended.

Attached hereto Mch. Rpt. 6 No. F.6725, Air Receiver Certs. C.16007/8, Serck Radiators Certs. C.9566 & C.9573 and Generator Test Certs.

*These generator sets have been properly installed in the vessel and tried under full working conditions with satisfactory results.*

*L. R. W. 14.11.50*

The amount of Fee ... £ 15 : 0 : 0. When applied for 19

Travelling Expenses (if any) £ 1 : 18 : 6. When received 19

Committee's Minute

Assigned

*L. R. W. 14.11.50*  
Surveyor to Lloyd's Register of Shipping



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