

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 8673.

Received at London Office 11 NOV 1935

Date of writing Report 8<sup>th</sup> Nov. 1935 When handed in at Local Office 8<sup>th</sup> Nov. 1935 Port of Bilbao

No. in Survey held at Bilbao Date, First Survey 16<sup>th</sup> May 1933 Last Survey 21<sup>st</sup> Sept. 1935  
Reg. Book. Number of Visits 15.

24900 on the <sup>Single</sup> ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel M.V. FERNANDO POO Tons { Gross 6914 Net 3866

Built at Bilbao By whom built Cia. Euskalduna de Const. Yard No. 97 When built 1935

Owners Cia. Transmediterranea Port belonging to Valencia

Oil Engines made at Bilbao By whom made Soc. Esp. de Const. Naval Contract No. ✓ When made 1935

Generators made at Manchester By whom made Metropolitan Vickers Electrical Co. Ltd. Contract No. ✓ When made

No. of Sets 1 Engine Brake Horse Power 37.5 Nom. Horse Power as per Rule 10.7. Total Capacity of Generators 22 Kilowatts.

OIL ENGINES, &c. Type of Engines vertical crosshead type 2 or 4 stroke cycle 2 Single or double acting single

Maximum pressure in cylinders 600 kg/cm<sup>2</sup> M.P. 41.5/10<sup>0</sup> Diameter of cylinders 150 mm Length of stroke 200 mm No. of cylinders 3 No. of cranks 3

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 150.5 mm Is there a bearing between each crank Yes

Revolutions per minute 550 Flywheel dia. 800 mm Weight 205 kg Means of ignition Air Comp. Kind of fuel used crude oil

Crank Shaft, dia. of journals as per Rule 75 mm as fitted 80 mm Crank pin dia. 80 mm Crank Webs Mid. length breadth 132 mm Mid. length thickness 40 mm Thickness parallel to axis Thickness around eyehole

Flywheel Shaft, diameter as per Rule as fitted 80 mm Intermediate Shafts, diameter as per Rule as fitted Thickness of cylinder liners 14 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. 1-42 mm dia x 50% str. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Lubricating Oil Pumps, No. and size 1 gear type driven by engine (13% suct. & disch.)

Air Compressors, No. 1 No. of stages 2 Diameters 70 & 119 mm Stroke 120 mm Driven by eng. this clutch

Scavenging Air Pumps, No. 3 at lower part of pistons Diameter 150 mm Stroke 200 mm Driven by engine.

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 removable top

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 50 litres Internal diameter 190.5 mm thickness 7.5 mm

Seamless, lap welded or riveted longitudinal joint seamless Material S.P. Steel Range of tensile strength 64/65 kg Working pressure by Rules 97 kg

ELECTRIC GENERATORS:—Type Semi-enclosed, drip proof, marine

Pressure of supply 230 volts. Load 96 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 (If not, state date of approval) Receivers Cut herewith Separate Tanks Yes

SPARE GEAR 1 cylinder cover with valves, springs & accessories complete; 2 fuel injection nozzles, 2 pulverizing nozzles, 1 piston complete with rings & studs, 1 set of piston rings, 1 set of cover studs, 1 set main bearing studs & nuts, 1 bottom end bearing & 2 bolts, 3 O.F. pump plungers, 2 sets of O.F. pump valves, 1 set piston rod packing rings, 1 set of compressor piston rings, 1 set of circ. pump suct. & disch. valves, 1 spring of each size fitted, 1 ball race for governor, 1 set of spanners & special tools

Generator: 2 main pole coils, 2 aux pole coils, 2 sets of brushes, 2 sets of brush springs, 1 set of brush holders & 2 shaft bearings.

The foregoing is a correct description,  
Astilleros y Talleres de S. Lázaro y Nervión  
Andrés Duruch  
Jefe del Departamento de Maquinaria

Manufacturer.



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W1132-0138

Dates of Survey while building  
 During progress of work in shops - - 16.5.33, 21.11.33, 13.12.33, 5.2.34, 19.4.34, 26.7.34, 17.10.34, 9.11.34, 10.11.34,  
 During erection on board vessel - - - 9.7.35, 23.7.35, 24.7.35, 29.7.35, 27.8.35, 21.9.35  
 Total No. of visits 15.

Dates of Examination of principal parts—Cylinders 26.7.34 Covers 26.7.34 Pistons 13.7.34, 10.11.34 Piston rods 16.5.33, 21.11.33

Connecting rods 16.5.33, 21.11.33 Crank and Flywheel shaft 5.2.34, 19.4.34 Intermediate shaft ✓

Crank and Flywheel shafts, Material Forged open open heart steel Identification Mark LLOYD'S NO 443-19.4.34-G.D.

Intermediate shafts, Material ✓ Identification Marks ✓

Is this machinery duplicate of a previous case Yes If so, state name of vessel "Domine"

General Remarks (State quality of workmanship, opinions as to class, &c.) This Emergency generating set and auxiliary Compressor have been built under special survey in accordance with the Society's Rules & Regulations & plans herewith. The material & workmanship are good & the machinery has been satisfactorily fitted on board & tested under full load & working conditions & found satisfactory, and is eligible in my opinion to be classed.

A plan of the crankshaft & of separate oil tanks are attached also a certificate of the starting air receivers for this vessel & the sister vessel "Domine"

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

*Ch. Orison*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI, 22 NOV 1935

Assigned

*See other J.E. Rpt  
 No. 2675*



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