

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 133

Date of writing Report 20<sup>th</sup> Nov. 1935 When handed in at Local Office 20<sup>th</sup> Nov. 1935 Port of Winterthur  
 No. in Survey held at Winterthur Date, First Survey 19<sup>th</sup> March 35 Last Survey 31<sup>st</sup> Oct. 1935  
 Reg. Book.

on the <sup>Single</sup> ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel "DUNEDIN STAR"  
 Built at Birkenhead By whom built Messrs. Cammell Laird & Co. Yard No. 1009 When built  
 Owners Messrs. The Blue Star Line Ltd. Port belonging to London  
 Oil Engines made at Winterthur By whom made Messrs. Sulzer Bros. Ltd. Contract No. 19254, 19260 When made 1935  
 Generators made at By whom made Contract No. When made  
 No. of Sets 3 Engine Brake Horse Power 500 each Nom. Horse Power as per Rule 228 Total Capacity of Generators Kilowatts.

**OIL ENGINES, &c.** Type of Engines Sulzer solid injection engines 2 or 4 stroke cycle 4 Single or double acting Single  
 Maximum pressure in cylinders 780 lb. <sup>2</sup> Diameter of cylinders 290 mm. Length of stroke 440 mm. No. of cylinders 18 (3 engs) No. of cranks 18 (3 engs)  
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 322 mm. Is there a bearing between each crank Yes  
 Revolutions per minute 375 Flywheel dia. 1800 mm. Weight 5500 kg. Means of ignition Compression Kind of fuel used heavy fuel oil  
 Crank Shaft, dia. of journals as per Rule 179 mm. as fitted 210 mm. Crank pin dia. 180 mm. Crank Webs Mid. length breadth 276 Mid. length thickness 93 Thickness parallel to axis shrunk Thickness around eye-hole  
 Flywheel Shaft, diameter as per Rule 179 mm. as fitted 265 mm. Intermediate Shafts, diameter as per Rule as fitted Thickness of cylinder liners 27 mm.  
 Is a governor or other arrangement fitted to prevent racing of the engine when disengaged 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 Yes  
 Cooling Water Pumps, No. 1 Reserve for cooling fuel valves. Is the sea suction provided with an efficient strainer which can be cleared within the vessel  
 Lubricating Oil Pumps, No. and size 1 Gear wheel pump each engine. Capacity 1.1 litres per second.  
 Air Compressors, No. No. of stages Diameters Stroke Driven by  
 Scavenging Air Pumps, No. 1 Tandem DA each engine Diameter 290/300 mm. Stroke 180 mm. Driven by crankshaft

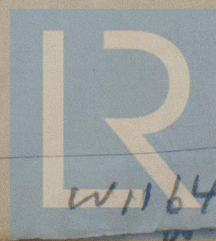
**AIR RECEIVERS:** Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes  
 Can the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Hole 125 mm. dia.  
 Is there a drain arrangement fitted at the lowest part of 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.** 2 Total cubic capacity 500 litres Internal diameter 374 mm. thickness 8 mm.  
 Seamless, lap welded or riveted longitudinal joint seamless Material S.M. steel Range of tensile strength 55 to 61.3 kg. mm<sup>2</sup> Working pressure by Rules 654 lb. <sup>2</sup>

**ELECTRIC GENERATORS:** Type  
 Pressure of supply volts. Load Amperes Direct or Alternating Current  
 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  
**Generators, do they comply with the requirements regarding rating** are they compound wound  
 are they over compounded 5 per cent see <sup>Report attached</sup> if not compound wound state distance between each generator  
 is an adjustable regulating resistance fitted in series with each shunt field Are all terminals accessible, clearly marked, and furnished with sockets  
 are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched Are the lubricating arrangements of the generators as per Rule  
 PLANS. Are approved plans forwarded herewith for Shafting 18-2-35. Receivers 24-10-33. Disseldorf. Separate Tanks.

SPARE GEAR See separate list

These Generator Sets have been satisfactorily installed & examined  
 under working conditions & found satisfactory.

The foregoing is a correct description,  
 Sulzer Brothers  
 Limited  
 Manufacturer.



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 Foundation

W1164-0162



Dates of Survey while building { During progress of work in shops - - } 19-3-35 to 31-10-35 - 30 visits.  
{ During erection on board vessel - - - }  
{ Total No. of visits - - - }

Dates of Examination of principal parts—Cylinders 23-8-35, 3-9-35, 23-8-35, 3-9-35 23-8-35, 3-9-35, 23-8-35, 3-9-35  
Covers 13-9-35. Pistons 13-9-35. Piston rods 13-9-35.

Connecting rods 26-8-35, 3-9-35, 13-9-35. Crank and Flywheel shaft 23-8-35, 3-9-35, 13-9-35. Intermediate shaft

Crank and Flywheel shafts, Material Annealed & M. Ingot Steel. Identification Mark Lloyd's 11137, M.B. 18-4-35. Lloyd's 11151  
M.B. 6-5-35, Lloyd's 15916, K.H. 1-7-35.

Intermediate shafts, Material Identification Marks

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.) These auxiliary engines have been constructed under special survey in accordance with the requirements of the Rules, the Secretary's letters and the approved plans. Materials and workmanship good. Full power trials of engines in shop satisfactory.

The engines have been dispatched to Messrs. Cammell Laird & Co. Ltd., Birkenhead, to be installed in the vessel.

These three Ansal Engines have been satisfactorily installed & examined under full load & found satisfactory

J. D. Milton.

The amount of Fee ...

£ 1425/-

When applied for, 31<sup>st</sup> Oct 1935.

Travelling Expenses (if any) £

When received, 2<sup>nd</sup> Nov 1935.

Committee's Minute

Assigned

W. S. Tallis  
Surveyor to Lloyd's Register of Shipping.



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Foundation

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