

Rpt. 4c.

# REPORT ON OIL ENGINE ELECTRIC GENERATOR SETS.

No. 113796

Date of writing Report 7 MAY 1946 19 When handed in at Local Office 7 MAY 1946 Port of LONDON Received at London Office MAY 1946

No. in Survey held at Reg. Book. Date, First Survey 11 Dec 1945 Last Survey 12 April 1946

on the <sup>Single</sup> ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel *Fairfield No 720 for C. P. S. SINCE BEAVERLAKE* Number of Visits 10 Tons {Gross 9824 Net 5818}

Built at *GLAZGOW PORT GLASGOW* By whom built *Kempson & Co. Ltd. LONDON* Yard No. *120 1603* When built 1946

Owners *Canadian Pacific Railway* Port belonging to *LONDON*

Oil Engines made at *Bedford* By whom made *W.H. Allen Sons Ltd* Contract No. *K2/42312 K2/54708* When made 1946

Generators made at *"* By whom made *"* Contract No. *"* When made *"*

No. of Sets 3 Engine Brake Horse Power 600 Nom. Horse Power as per Rule 150 Total Capacity of Generators 400 Kilowatts.

OIL ENGINES, &c.—Type of Engines *Diesel* 2 or 4 stroke cycle 2 Single or double acting *Single*

Maximum pressure in cylinders *800 lbs* Diameter of cylinders *290 7/8* Length of stroke *470 7/8* No. of cylinders 6 No. of cranks 6

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *392 7/8* Centre Brg only there a bearing between each crank *yes*

Revolutions per minute *300* Flywheel dia. *1500 7/8* Weight *4750 lbs* Means of ignition *Compressor* Kind of fuel used *Diesel*

Crank Shaft, dia. of journals as per Rule *230 7/8* as fitted Crank pin dia. *200 7/8* Crank Webs Mid. length breadth *320 7/8* Thickness parallel to axis Mid. length thickness *93 7/8* shrunk Thickness round eye-hole

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thickness of cylinder liners *16 7/8*

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

Cooling Water Pumps, No. *one Centrifugal* Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Lubricating Oil Pumps, No. and size *one Rotary Gear type*

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

Scavenging Air Pumps, No. Diameter Stroke Driven by

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

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

Can the internal surfaces of the receivers be examined What means are provided for cleaning their inner surfaces

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

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. 3 Total cubic capacity *11.2 cuft* Internal diameter *2'-0"* thickness *3/8"*

Seamless, lap welded or riveted longitudinal joint *mitted* Material *Steel* Range of tensile strength *26/30* Working pressure by Rules *350 lbs*

ELECTRIC GENERATORS:—Type *Open*

Pressure of supply *225* volts. Full Load Current *1780* Amperes. Direct or Alternating Current *D.C.*

If alternating current system, state the periodicity 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 and do the results comply with the requirements

If the generators are 100 kw. or over have they been built and tested under survey *yes*

PLANS.—Are approved plans forwarded herewith for Shafting *18-5-37* Receivers *19-5-44* Separate Tanks

SPARE GEAR *8 Exhaust Valves 8 Exhaust Valve springs 3 High Air Valves 3 Relief Valves*

*2 Fuel Injectors, 7 Nozzles, 3 Injection pipes, 35 piston & 6 scraper rings, 3 Gudgeon pins bushes, 1 Big end Brg, Bolts, 2 Bonn. Rod Big end Assy, 6 Liner & Cyl Hd Joints, 24 Rubber Joints for Liner, 1 Main Brg & Brg Hd Studs & nuts*

*2 Main Brg Studs Nuts 1 CW pump spindle bearing 1 Camshaft chain, 1 Brg Hd Assy without Valves, 1 Gov. spring 1 Cooling Water pump chain*

*1 Set of spares for Dynamo, 2 Brush Holders + set of brushes.*

The foregoing is a correct description,

W.H. ALLEN SONS & Co. Ltd. Manufacturer.

K.H. Clarke. 21.2.46.



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011273-011274-0151

Dates of Survey while building: During progress of work in shops - - 1945: Dec 11, 14, 15, 21, 25. (1946) Jan 1, 15, 22 Feb 26 Apr 12  
 During erection on board vessel - - -  
 Total No. of visits 10 (in shops)

Dates of Examination of principal parts—Cylinders 14-12-45, 22-1-46, 27-2-46 Covers 15-12-45, 22-12-45, 23-12-45, 15-1-46, 1-2-46, 26-2-46 Pistons 15-12-45, 25-12-45, 3-2-46, 26-2-46 Piston rods ✓

Connecting rods 1-1-46 Crank and Flywheel shafts 11-12-45, 5-1-46, 11-1-44 Intermediate shafts ✓

Crank shaft Material Steel Tensile strength SETN 255, LLOYDS FW 610, 19-10-45, 11-12-45 SET I 255, LLOYDS T.T 3168, 23-10-45, 11-1-44 SET J 909, LLOYDS RS. 4354, 30-10-45, 5-1-46 Elongation Identification Marks

Flywheel shaft, Material Identification Marks  
 Is this machinery duplicate of a previous case Identification Marks

Identification marks on Air Receivers: (1) E3051 LLOYDS TEST 700lb W.P. 350lb. JNB. 19-11-43 (2) E4175 LLOYDS TEST 700lb W.P. 350lb.

JNB. 19-5-44. (3) E.4176. LLOYDS TEST 700lb W.P. 350lb. JNB. 19-5-44 - Copies of Not Certs No C 2574, C.2573 and C1974 attached

Is this machinery duplicate of a previous case yes If so, state name of vessel Fairfield No 718 + 719.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The generator sets have been constructed under Special Survey in accordance with the requirements of the Rules, and Approved Plans; the steel was made at Works approved by the Committee; the workmanship is good and on completion the sets were tested upon the bench under full and overload conditions with satisfactory results.

The torsional calculations have been approved 15-6-45  
Torsographs approved

The sets have been despatched to Glasgow for fitting on board the vessel.

Forging Rpts No 42490 (SHF) + F3785, F6040 (Bun) attached

These engines have been efficiently installed in the vessel & tested under full working conditions. Please see Greenock FK of 'N' 23407 for recommendations

Charles W. Greenock  
Greenock

11, 11, 12.—T (MADE AND PRINTED IN ENGLAND). (The Surveyors are requested not to write on or below the space for Committee Minute.)

The amount of Fee £ 3 SETS 67:14:0 When applied for 1947 19  
 Travelling Expenses (if any) £ 3:17:11 When received 19

GLASGOW 12 NOV 1946

R.W. Coomber  
 Surveyor to Lloyd's Register of Shipping.



Committee's Minute

Assigned SEE ACCOMPANYING MACHINERY REPORT.