

REPORT ON ELECTRIC PROPELLING MACHINERY.

Received at London Office

13 NOV 1946

Date of writing Report 4TH NOVEMBER 1946 When handed in at Local Office 5.11.46 Port of GLASGOWNo. in Survey held at PORT GLASGOW Date, First Survey 22ND JULY 1946 Last Survey 28TH SEPTEMBER 1946
Reg. Book.

Number of Visits 5.11

85864 on ^{Single} ~~Four~~ ^{Triple} ~~Quadruple~~ Screw vessel

BEAVERLAKE

Tons { Gross 9824
Net 5818

Built at PORT GLASGOW

By whom built MESSRS LITHGOWS LTD.

Yard No. 1003 When built 1946

Electrical Machines made at HEATON

By whom made C.A. PARSONS & CO. LTD.

Contract No. 720

Generator Nos 2620
2623

Motor No. 2622

When made 1946

Shaft Horse Power at Full Power 9000

Total capacity of Generators 7400 kilowatts

Nom. Horse Power as per Rule 1500

Owners CANADIAN PACIFIC RAILWAY CO.

Port belonging to LONDON.

Trade for which Vessel is intended

LONDON - MONTREAL, FREIGHT.

STEAM ENGINES.—Type of Engine No. of Engines Revs. per minute

Is a Governor fitted

Is the speed variation as per Rule when load is thrown off

Is an emergency Governor fitted

Is it arranged for hand tripping

Does it trip the throttle valve as per Rule

If exhaust steam is admitted, is an

automatic shut-off fitted

Is provision made for bleeding steam

and

is a non-return or positive shut-off valve fitted

Torque Limiting.—If generator capacity exceeds motor rating, state means provided for limiting torque input to screw shaft

Lubricating Oil.—State what means are provided for emergency supply

Is the emergency reserve sufficient to maintain lubrication as per Rule

YES

Mechanical Balance.—Are the Engines and Generators balanced so as not to cause appreciable vibration

Report.—Has a separate report Rpt. 4a for the Engines been issued

FOR FULL PARTICULARS SEE

OIL ENGINES.—Type of Engines

NEWCASTLE REPORT

Revs. per minute

Is a Governor fitted

N° 103740

Is the speed variation as per Rule when load is thrown off

Is an Emergency Governor fitted

Does it operate as per Rule

Rating.—Has each Engine been tested and found to be capable of developing 10 per cent. overload for one hour as per Rule

Report.—Has a separate report Rpt. 4b for the Engines been issued

GENERATORS.—Direct or Alternating Current

No. of Generators

If alternating current state number of phases

frequency

Kilowatts per Generator

Voltage per Generator

Amperes per Generator

Do they comply with the requirements regarding insulation materials

terminals

, coolers

, thermometers

lubrication

, position in ship

YES

, temperature rise

embedded temperature detectors

shaft currents

Ventilation.—State how this is arranged (open or closed system)

If open system are ventilating arrangements satisfactory

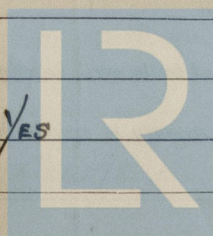
Heating when Idle.—State what provision is made

Facilities for Inspection and Repair.—Are these as per Rule

Are wear-down gauges supplied

Bilges.—Are the arrangements to prevent accumulation of bilge-water under the machines satisfactory

YES



© 2021

Lloyd's Register
Foundation
011273-011274-0147

MOTORS.—S.H.P. per Motor at full power _____ No. of Motors _____

Single or double unit _____ Voltage per Motor _____ Amperes per Motor _____

Do they comply with the requirements regarding insulation materials _____

terminals _____, coolers _____, thermometers _____, ventilation _____

heating when idle _____, shaft currents _____, facilities for inspection and repair _____

mechanical protection _____, lubrication _____, position in ship _____

A.C. Motors.—Are the laminations securely clamped around the whole of the periphery _____

and are they insulated from one another with approved material _____

Is provision made for machining the collector rings _____

Do the Motors remain in step under all normal conditions of running. **YES**

D.C. Motors.—Are the brushes staggered as per Rule _____

If the system permits overspeeding at light loads are overspeed protection devices fitted _____

EXCITATION.—Is current for excitation taken from the ship's Auxiliary Generators _____

If so state voltage _____ and excitation amperes at full power _____ kilowatts for excitation _____

State arrangements for excitation of Propulsion Generators _____

and Propelling Motors _____

If an alternative means of excitation is provided, state particulars _____

Do the Excitation Machines comply with the requirements regarding temperature rise at full power _____

and after manoeuvring as per Rule. **YES**

D.C. Systems.—Are the arrangements for Motor and Generator excitation as per Rule _____

CONTROL.—Position of Main Control Panel. **IN ENGINE ROOM ADJACENT TO MAIN ALTERNATOR**

Do the Control Panels comply with the requirements regarding position. **YES**

distance from combustible material. **YES** _____, grouping of controls _____

and instruments _____, insulating materials (state what type is used) _____

spacing and shielding of live parts _____, accessibility of parts _____

position of fuses _____, proportioning of busbars _____

locking of screws and nuts _____, labelling _____, fuses for voltmeters, etc. _____

switches and circuit breakers _____, fusible cutouts _____

proportioning of levers, connecting links, etc. _____, interlocking _____

provision for manual operation of contactors, etc. (state method employed) _____

earthing of instrument cases above 250 volts to earth _____

provision of renewable arcing tips on switches subject to arcing _____

capability of withstanding shock and inclination _____

operation with high and low voltage _____, provision for maintaining _____

alignment of operating shafts _____, rust proofing of parts _____

Overload and Short Circuit Protection.—State what means are provided _____

At what current or load is it set to operate _____ Has it been tested by tripping _____

by hand when running at full power and found satisfactory _____

Earth Detection.—Is the main circuit provided with means for detecting earths _____

Are aural and visual alarms fitted _____ Is main power interrupted by the occurrence of an earth fault _____

If a limiting resistance is connected in the earth detecting circuit what is the ohmic value _____

What earth leakage current is necessary to operate the device _____

If a switch is used to disconnect the aural signal does it automatically switch on the visual alarm _____

Are the excitation circuits provided with means for earth detection _____

Mechanical Protection.—Are circuits above 250 volts to earth protected as per Rule _____

Bridge or Deck Control.—Is bridge control provided _____

If so, from how many stations _____

Can they be operated freely without producing currents or loads in excess of the working capacity of the plant _____

and without reference to electrical instruments _____ Is an emergency control provided in the engine room _____

and can the transfer to this control be made quickly in the engine room _____

Can the emergency control be rendered mechanically independent of the bridge control _____

Instruments and Gauges.—State what Instruments are provided for each Generator _____

and for each Motor _____

and, for Steam Engines, what Gauges are provided _____

Is an Insulation Tester provided **YES**

Discharge Protection.—Are all circuits protected as per Rule _____

D.C. Systems.—If the Generators are connected in series state what means are provided to prevent reversal of rotation _____

Are the Propulsion Generators also used alternatively for other purposes _____

If so, is provision made for overload protection, voltage adjustment, etc., as per Rule _____

Reversing Switches.—Are any provided _____

If so, are they interlocked as per Rule _____

Resistances.—Are shunt resistances for synchronous motor fields insulated as per Rule _____

Temperature Alarm.—Are machines with enclosed ventilating system, etc., fitted with temperature alarm _____

Auxiliary Power.—Are essential services protected from interruption due to overloading of non-essential circuits **YES**

CONDUCTORS & CABLES.—Are all essential Conductors stranded as per Rule _____

Are the ends of Paper and Varnished Cambric Insulated Cables sealed **YES**

Are the ends of all Cables having a sectional area of 0.04 sq. in. and above provided with Cable sockets **YES**

Are all Cables carrying alternating current as per Rule **YES** Have all Cables been tested at the makers' works as per Rule **YES**

SECONDARY BATTERIES.—Are Batteries used for starting Main Propulsion Engines _____

If so, have full particulars been submitted and approved _____ Have they been tested under _____

working conditions and do they give the number of starts required by the Rules _____

Are they installed as per Rule _____ Are the charging arrangements satisfactory _____

SPARE GEAR.—If engaged on open sea service has a list of spare gear been submitted and approved _____

Is a list of the articles supplied attached to this report **YES**

Are they stored as per Rule **YES**

ELECTRIC PROPULSION EQUIPMENT CONDUCTORS.

DESCRIPTION—MAIN GENERATORS.	CONDUCTORS.		TOTAL MAXIMUM CURRENT—AMPERES.		MAXIMUM VOLTAGE TO EARTH.	INSULATED WITH.	DI-ELECTRIC THICKNESS.	HOW PROTECTED.
	No. per Pole. or Phase.	Nominal Area per Pole.	In Circuit.	Rule.				
MAIN GENERATORS ALTERNATOR	4	3" x 1/8"	1400	✓	1732 A.C.	AIR.	✓	COPPER BUSBARS SUPPORTED IN STEEL TRUNK.
GENERATOR FIELDS OF ALTERNATOR	1	"4	260	464	220	V.C.	1000V GRADE	L.C.
MAIN MOTORS (PER HALF UNIT)	2	"3	700	720	1732 A.C.	V.C.	3000V GRADE	L.C.
MOTOR FIELDS (PER HALF UNIT)	1	"15	210	246	700 A.C.	V.C.	1000V GRADE	L.C.
CONTROL CIRCUITS:								
OTHER CIRCUITS:—								
AUXILIARY ALTERNATOR	1	2" x 1/4"	200	✓	665 A.C.	AIR.	✓	COPPER BUSBARS SUPPORTED IN STEEL TRUNK.
AUXILIARY ALTERNATOR FIELD	1	"1	120	191	220	V.C.	1000V GRADE	L.C.
BOOSTER SUPPLY	1	"1	130	191	220	V.C.	1000V GRADE	L.C.
BOOSTER GENERATOR	1	"4	260	464	220	V.C.	1000V GRADE	L.C.
MAIN MOTOR VENT FAN	1	"06	114.5	135	220	V.C.	1000V GRADE	L.C.
EXCITATION SUPPLY FROM	2	"4	700	928	220	V.C.	1000V GRADE	L.C.

ALL PARTICULARS AS PER Messrs C.A. PARSONS DRAWING N° 64272

APPROVED 19/12/44

011273-011279-0147

All Conductors are of annealed copper, conforming to International Electrotechnical Commission Publication No. 28.

The Insulated Conductors have withstood the dielectric tests specified in the Rules.

The foregoing is a correct description,

Electrical Engineers.

Date

COMPASSES.—Are Single-Conductor circuits carrying continuous current arranged with lead and return Conductors fitted as close to one another as possible

YES

Have tests been made during adjustment of the Compasses to determine the effect of switching the main circuits on and off

YES.

The maximum deviation due to electric currents was found to be

NIL

degrees on

ANY

course in the case of the

Standard Compass and

NIL

degrees on

ANY

course in the case of the Steering Compass.

LITHGOWS LIMITED,

A. A. White Secretary

Builders' Signature.

Date 4th November 1946

Dates of Survey while building

During progress of work in shops -

During erection on board vessel -

1946 - July 22nd : Aug. 9th, 30th : SEPTEMBER 20th, 26th, 28th.

Total No. of visits

Six

Is this machinery duplicate of a previous case

YES

If so, state name of vessel

'BEAVER GLEN.'

General Remarks

(State quality of workmanship, opinions as to class, &c.)

The electrical propulsion equipment of this vessel has been fitted on board under Special Survey, tested under full working conditions and found satisfactory. The materials and workmanship are good.

It is eligible, in my opinion, for classification with the record *LMC 10.46

50/

The amount of Entry Fee

£

CHARGED :
AT
NEWCASTLE

When applied for,

19

Travelling Expenses (if any)

£

When received,

19

Committee's Minute

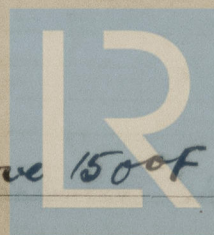
GLASGOW 12 NOV 1946

Assigned

1- LMC 10.46

Fitted for oil fuel 10.46 I.P. above 1500F

Surveyor to Lloyd's Register of Shipping.



© 2021

Lloyd's Register Foundation