

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

10 MAR 1944

Received at London Office.....

Date of writing Report 2nd MARCH 1944 When handed in at Local Office 7.3.44 Port of GLASGOW

No. in Survey held at PORT GLASGOW Date, First Survey 14th DECEMBER 1943 Last Survey 2nd MARCH 1944
Reg. Book. (Number of Visits.....)

37906 on the 'GEOLOGIST' Tons { Gross 6202
Net 3663

Built at PORT GLASGOW By whom built LITHGOWS LTD Yard No. 989 When built 1944

Owners CHARENTE S.S. CO LTD Port belonging to LIVERPOOL

Electrical Installation fitted by CAMPBELL & ISHERWOOD LTD Contract No. 989 When fitted 1944

Is vessel fitted for carrying Petroleum in bulk — Is vessel equipped with D.F. Yes E.S.D. — Gy.C. ONLY Sub.Sig. —

Have plans been submitted and approved Yes System of Distribution Single wire hull return Voltage of supply for Lighting 110

Heating — Power 110 Direct or Alternating Current, Lighting D.C. Power D.C. If Alternating Current state periodicity — Prime Movers,

has the governing been tested and found as per Rule when full load is suddenly thrown on and off Yes Are turbine emergency governors fitted with a trip switch as per Rule — Generators, are they compound wound Yes, are they level compounded under working conditions Yes,

if not compound wound state distance between generators — and from switchboard — Where more than one generator is fitted are they arranged to run in parallel No, are shunt field regulators provided Yes Is the compound winding connected to the negative or positive pole Negative

Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing — Have certificates of test for machines under 100 kw. been supplied Yes and the results found as per rule Yes Are the lubricating arrangements and the construction of the generators as per rule Yes Position of Generators In engine-room

is the ventilation in way of generators satisfactory Yes are they clear of inflammable material Yes, if situated near unprotected combustible material state distance from same horizontally — and vertically —, are the generators protected from mechanical injury and damage from water, steam and oil Yes, are the bedplates and frames earthed Yes and the prime movers and generators in metallic contact Yes Switchboards, where are main switchboards placed In engine-room near generators

are they in accessible positions, free from inflammable gases and acid fumes Yes, are they protected from mechanical injury and damage from water, steam and oil Yes, if situated near unprotected combustible material state distance from same horizontally — and vertically —, what insulation material is used for the panels Slidings, if of synthetic insulating material is it an Approved Type Yes, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule — Is the frame effectually earthed Yes

Is the construction as per Rule Yes, including accessibility of parts Yes, absence of fuses on the back of the board Yes, individual fuses to pilot and earth lamps, voltmeters, etc., Yes locking of screws and nuts Yes, labelling of apparatus and fuses Yes, fuses on the "dead" side of switches Yes Description of Main Switchgear for each generator and arrangement of equaliser switches 1 - 200 AMP S.P. Knife pattern switch with fuse

and for each outgoing circuit 75 AMP S.P. C.O. switches with fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 2 ammeters 2 voltmeters — synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the equaliser connection — Earth Testing, state means provided —

Switches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an approved type Yes, are all fuses labelled as per Rule Yes If circuit breakers are provided for the generators, at what overload current did they open when tested —, are the reversed current protection devices connected on the pole opposite to the equaliser connection —, have they been tested under working conditions, and at what current did they operate — Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule Yes

Cables, are they insulated and protected as per the appropriate Tables of the Rules Yes, if otherwise than as per Rule are they of an approved type W.E. state maximum fall of pressure between bus bars and any point under maximum load LIGHTING. 2.38 VOLTS. POWER. 1.94 VOLTS. are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets Yes Are paper insulated and varnished cambric insulated cables sealed at the ends —

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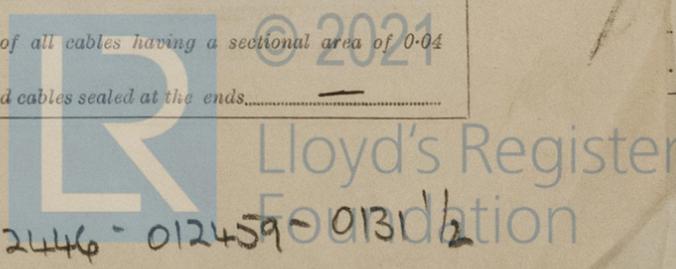
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with insulating compound _____ or waterproof insulating tape _____ Are all the cable runs in accessible positions, not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical damage *Yes*, are cables laid under machines or floorplates _____, if so, are they adequately protected _____ Are cables in machinery spaces, galleys, laundries, etc., lead covered *Yes* or run in conduit _____ State how the cables are supported and protected *MAINS: L.C. cables in steel pipe.*

MACHINERY SPACE: L.C. S.W.A. cable clipped to steelwork.

ACCOMMODATION: L.C.B. cable clipped to woodwork.

Are all lead sheaths, armouring and conduits effectually bonded and earthed *Yes* Refrigerated chambers, are the cables and fittings as per Rule _____

Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands *Yes*, where unarmoured cables pass through beams, etc., are the holes effectually bushed *Yes* and with what material *Lead* Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule *Yes* Emergency Supply, state position _____ and method of control _____

Navigation Lamps, are they separately wired *Yes* controlled by separate _____

SINGLE pole switches *Yes* and fuses *Yes* Are the switches and fuses in a position accessible only to the officers on watch *Yes*, is an automatic indicator fitted *Yes* Secondary Batteries, are they constructed and fitted as per Rule _____, are they adequately ventilated _____ what is the battery capacity in ampere hours _____

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof *Yes* Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present _____, if so, how are they protected _____

and where are the controlling switches fitted _____, are all fittings suitably ventilated *Yes*, are all fittings and accessories constructed and installed as per Rule *Yes* Searchlight Lamps, No. of *1*, whether fixed or portable *Portable, Suez Canal Projector* are their fittings as per Rule *Yes* Heating and Cooking, is the general construction as per Rule _____, are the frames effectually earthed _____, are heaters in the accommodation of the convection type _____ Motors, are all motors constructed and installed as per Rule *Yes* and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil *Yes*, if situated near unprotected combustible material state minimum distance from same horizontally _____ and vertically _____ Are motors coupled to oil fuel transfer and unit pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment _____

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing _____ Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule _____ Control Gear and Resistances, are they constructed and fitted as per Rule *Yes* Lightning Conductors, where required are they fitted as per Rule _____ Ships carrying Oil having a Flash Point less than 150° F. Have all the special requirements of the Rules for such ships been complied with _____, are all fuses of the cartridge type _____ are they of an approved type _____ Are the fittings for pump rooms, tween deck spaces, etc., in accordance with the special requirements for such ships _____ Are the cables lead covered as per Rule _____ Spare Gear, if the vessel is for open sea service have spares been provided as per Rule *Yes*, are they suitably stored in dry situations *Yes* Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory *Yes*

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	15	110	136	450	STEAM ENGINE		
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
		No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATORS	15	1	37/088	136	296	12	V.C.	L.C.B.
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER MOTOR								
" " GENERATOR								

MAIN DISTRIBUTION CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
	No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
AUX. SWITCHBOARDS AND SECTION BOARDS							
FORE & AFT CARGO	1	19/052	47	64	5	RUBBER	L.C.
GYRO COMPASS & REFRIGERATOR	1	7/064	38	46	6	RUBBER	L.C.
AFT & MIDSHIP ACCOMMODATION	1	7/064	29	46	6	RUBBER	L.C.

LIGHTING AND HEATING, ETC., CABLES.

WIRELESS	1	7/064	15	31	60	RUBBER	L.C.B.
NAVIGATION LIGHTS	1	7/028	5.6	15	60	RUBBER	L.C.B.
LIGHTING AND HEATING							
SALOON & NAVIGATION	1	7/064	23	46	126	RUBBER	L.C.B.
FORWARD CARGO	1	7/064	22.7	46	216	RUBBER	L.C.B.
AFT CARGO	1	7/044	20	31	108	RUBBER	L.C.B.
MIDSHIP ACCOMMODATION	1	7/044	17.8	31	68	RUBBER	L.C.B.
AFT ACCOMMODATION	1	7/036	11.7	24	162	RUBBER	L.C.B.
ENGINE ROOM	1	7/064	28.4	46	6	RUBBER	L.C.B.
SEARCHLIGHT (SUZ CANAL PROJECTOR)	1	7/064	40	46	150	RUBBER	L.C.B.
GYRO COMPASS (WIRING ONLY)	1	7/036	12	24	150	RUBBER	L.C.B.

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATED WITH.	HOW PROTECTED.
			No. in Parallel Per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
DOMESTIC REFRIGERATOR	1	3	1	7/044	26	31	66	RUBBER	L.C.B.
FORWARD ASH HOIST	1	3	1	7/044	26	31	90	RUBBER	L.C.

The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.

All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.

The foregoing is a correct description.

CAMPBELL & ISHERWOOD LTD.

P. Schipke Director

Electrical Engineers.

Date 6-3-1944

COMPASSES.

Minimum distance between electric generators or motors and standard compass *Seven feet*

Minimum distance between electric generators or motors and steering compass *Ten feet*

The nearest cables to the compasses are as follows:—

A cable carrying *5.6* Ampères *9* feet from standard compass *7* feet from steering compass.

A cable carrying *2.3* Ampères *led into* ~~feet from~~ standard compass *led into* ~~feet from~~ steering compass.

A cable carrying Ampères feet from standard compass feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power *Yes*

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted *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

John M. Gardiner Secretary

Builder's Signature.

Date *6/3/44*

Is this installation a duplicate of a previous case *Yes* If so, state name of vessel *S.S. 'PROSPECTOR'*

Plans. Are approved plans forwarded herewith *No* If not, state date of approval *19th November 1943*

Certificates. Are certificates of test for motors engaged on essential services and generators forwarded herewith *Yes*

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

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

Notes

None

14.3.44

P. 7.

7-3-44

Total Capacity of Generators *30* Kilowatts.

The amount of Fee ... £ *22* : *10* : *0* When applied for, *at 22/10*

Travelling Expenses (if any) £ *-* : *12* : *0* When received, *19*

J. M. Gardiner
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW 7 MAR 1944

Assigned

500,438—Transfer. (MADE AND PRINTED IN ENGLAND.) (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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