

28 JAN 1925

Rpt. 13.

No. 44328

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report 12.1.1925 When handed in at Local Office 26.1.1925 Port of GLASGOW.

No. in Survey held at CLYDEBANK. Date, First Survey 8.9.24 Last Survey 12.1.1925
Reg. Book. (Number of Visits.....7)

49253. on the S.S. ORONSAY. Tons { Gross 2000.
Net 1144.45

Built at CLYDEBANK. By whom built MESSRS J. BROWN & CO Yard No. 500 When built 1924.

Owners THE ORIENT. ST. NAV. CO LTD Port belonging to Glasgow.

Electric Light Installation fitted by MESSRS JOHN BROWN & CO LTD Contract No. 500 When fitted 1924.

System of Distribution TWO WIRE INSULATED ✓

Pressure of supply for Lighting 220 ✓ volts, Heating 220 volts, Power 220 volts.

Direct or Alternating Current, Lighting DIRECT ✓ Power 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 overload YES, are they compound wound YES ✓

are they over compounded 5 per cent. —, if not compound wound state distance between each generator —

Where more than one generator is fitted are they arranged to run in parallel YES, is an adjustable regulating resistance fitted in series with each shunt field YES

Are all terminals accessible and clearly marked YES, are they so spaced or shielded that they cannot be accidentally earthed, or short circuited YES Are the lubricating arrangements of the generators as per Rule YES

Position of Generators IN DYNAMO ROOM ON FLAT ON G DECK ABOVE ENGINE ROOM

is the ventilation in way of the generators satisfactory YES, are they clear of all inflammable material YES

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators — and —, are the generators protected from mechanical injury and damage from water, steam or oil YES

are their axis of rotation fore and aft YES

Earthing, are the bedplates and frames of the generating plant efficiently earthed YES are the prime movers and their respective generators in metallic contact YES

Main Switch Boards, where placed 3 MAIN IN DYNAMO ROOM AND AUXILIARY BOARDS THROUGHOUT THE SHIP

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard —

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes YES

are they protected from mechanical injury and damage from water, steam or oil YES, if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards — and —

are they constructed wholly of durable, incombustible non-absorbent materials YES, is all insulation of high dielectric strength and of permanently high insulation resistance YES

if semi-insulating material is used, are all conducting parts connected to one pole insulated from the slab with mica or micanite and the slab similarly insulated from its framework YES, and is the frame effectively earthed YES

Are the following fittings as per Rule, viz.: — spacing or shielding of live parts

YES, accessibility of all parts YES, absence of fuses on back of board YES, proportion of omnibus

bars YES, individual fuses to voltmeter, pilot or earth lamp YES, connections of switches YES

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches TWO WING DYNAMOS CONTROLLED BY ELECTRICALLY OPERATED D.P. CIRCUIT BREAKERS, ONE MID DYNAMO CONTROLLED BY HAND OPERATED D.P. CIRCUIT BREAKER. ALL THREE EQUALISING SWITCHES ON MID. BOARD, TWO ELECTRICALLY INTERLOCKED WITH WING BREAKERS AND ONE MECHANICALLY INTERLOCKED WITH MID BOARD. EACH OUTGOING CIRCUIT OVER 200AMPS. IS CONTROLLED BY A D.P. CIRCUIT BREAKER AND EACH OUTGOING CIRCUIT UNDER 200AMPS IS CONTROLLED BY AN S.P. SWITCH AND D.P. FUSES.

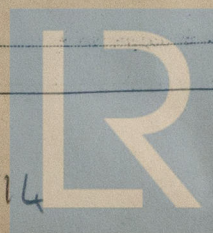
Instruments on main switchboard PORT BOARD 1 MID D² 3 ammeters PORT BOARD 1 MID D² 3 voltmeters (DUPLICATE CONTROL OF WING REGULATING RESISTANCES BY CHAIN AND SPROCKET ON MID BOARD. synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system ON EACH OF THE THREE BOARDS

ARE 2 LAMPS IN SERIES WITH SWITCHES AND CABLE BETWEEN LAMPS CONNECTED TO EARTH.

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules YES

Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule YES



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W107-0014

Insulation of Cables, state type of cables, single or twin SINGLE are the cables insulated and protected as per Tables III or IV of the Rules YES.

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 6.8 VOLTS TO FARTHEST LAMP

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.007 square inch and above provided with soldering sockets YES

Paper Insulated Cables, If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound YES

Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage YES

Support and Protection of Cables, state how the cables are supported and protected MAIN RUNS ARE ARMoured AND BRAIDED AND RUN ON STEEL GIRDERS STEEL PLATING SECURED BY CLIPS. IN MACHINERY SPACES THESE ARE LEAD COVERED AND RUN ON STEEL GIRDERS OR ON STEEL PLATING AND SECURED BY CLIPS. BRAIDED IN PASSENGER ACCOMMODATION, ARMoured AND BRAIDED IN PORTABLE ACCOMMODATION

If cables are run in wood casings, are the casings and caps secured by screws YES, are the cap screws of brass YES, are the cables run in separate grooves YES. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VI —

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements YES

Joints in Cables, state if any, and how made, insulated, and protected NONE

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands YES

Bushes in Beams and Non-watertight Positions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed YES state the material of which the bushes are made FIBRE IN PASSENGER ACCOMMODATION LEAD IN MACHINERY SPACES AND IN OPEN SPACES ARE SUPPLIED FROM THIS BOARD.

Earthing Connections, state what earthing connections are fitted and their respective sectional areas —

are their connections made as per Rule —

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule YES

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven AN EMERGENCY DYNAMO IS FITTED ON A DECK AFT OF ENGINE HATCH AND IS DIRECTLY DRIVEN BY A HEAVY FUEL OIL ENGINE CIRCUITS FOR LIGHTING THE PASSAGES AND PUBLIC ROOMS AND ALL STAIRS AND ALL MACHINERY SPACES ARE SUPPLIED FROM THIS BOARD.

Navigation Lamps, are these separately wired YES, controlled by separate switch and separate fuses YES

are the fuses double pole YES, are the switches and fuses grouped in a position accessible only to the officers on watch YES

has each navigation lamp an automatic indicator as per Rule YES, are separate screens provided for the use of oil and electric side lights YES

are separate oil lanterns provided for the mast head lights and side lights YES

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight YES

are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected —

FITTINGS PROTECTED BY CAST IRON SHROUD AND ISOLATED DISTRIBUTION BOX IN PERMANENT ACCOMMODATION

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected NO

how are the cables led —

where are the controlling switches situated —

Searchlight Lamps, No. of 1, whether fixed or portable PORTABLE, are their fittings as per Rule YES

Arc Lamps, other than searchlight lamps, No. of NONE, are their live parts insulated from the frame or case —, are their fittings as per Rule —

Motors, are their working parts readily accessible YES, are the coils self-contained and readily removable for replacement YES

are the brushes, brush holders, terminals and lubricating arrangements as per Rule YES, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material YES

are they protected from mechanical injury and damage from water, steam or oil YES are their axis of rotation fore and aft —

if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type YES, if not of this type, state distance of the combustible material horizontally or vertically above the motors — and —

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed as per Rule YES

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule —

Ships carrying Oil having a Flash Point less than 150° F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings —

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office —

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	3	400	220	1820	500	STEAM TURBINE THROUGH GEARING		
AUXILIARY								
EMERGENCY	1	36	220	164	324	HEAVY FUEL OIL ENGINE (HOT BULB)		
						2 CYLINDER 60 HP		
ROTARY TRANSFORMER								

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current Ampères.	Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATORS 3.	6	2.25	28 Bars	4 1/2 x 1/4	1820 EACH	36	PORCELAIN INSULATOR	MESHED WIRE GUARD
	AUXILIARY GENERATOR	2	24650	37	.093	164	30	RUBBER	ARMoured AND BRAIDED
	EMERGENCY GENERATOR	2	24650	37	.093	164	30	RUBBER	ARMoured AND BRAIDED
	ROTARY TRANSFORMER	4	40640	61	.093	438	2 EACH 267	D°	D° D°
A	FOR AUXILIARY SWITCHBOARDS	4	40640	61	.093	438	2 " 303	D°	D° D°
	ENGINE ROOM SEA								
	BOILER ROOM						2 EACH 187	D°	D° D°
B	FOR MID	4	49850	61	.103	444	2 " 140	D°	D° D°
C	AFT MID	4	24650	37	.093	298	2 " 213	D°	D° D°
D	AFT	4	60620	91	.093	539	2 " 237	D°	D° D°
E	EMERGENCY	2	40640	61	.093	198	2 " 157	D°	D° D°
F	REFRIGERATING	8	40620	91	.093	810	4 " 360	D°	D° D°
G	GALLEY FUSEBOARD	4	30240	37	.103	423	4 " 55	D°	LEAD COVERED
H	FAN ROOM PORT	4	19640	37	.083	277	4 " 90	D°	ARMoured AND BRAIDED
J	D° STB D°	4	19640	37	.083	277	4 " 100	D°	D°
K	ENGINE ROOM PORT	4	30240	37	.103	322	4 " 82	D°	LEAD COVERED
L	D° STB D°	4	30240	37	.103	287	4 " 70	D°	D° D°
M	D° AFT D°	2	30240	37	.103	170	2 " 135	D°	D° D°
	WIRELESS	2	.00701	7	.036	15	750	RUBBER	LEAD COVERED
	SEARCHLIGHT	2	.06000	19	.064	60	500	D°	WOOD CASING
	MASTHEAD LIGHT	4	.00194	3	.029	.9	850	D°	LEAD COVERED
	SIDE LIGHTS	4	"	3	.029	.9	60	D°	D°
	COMPASS LIGHTS	4	"	3	.029	.4	40	D°	WOOD CASING
	POOP LIGHTS	2	"	3	.029	.2	270	D°	D°
	CARGO LIGHTS	56	"	3	.029	3.5 EACH	210	D°	ARMoured AND BRAIDED
	ARC LAMPS	148	.00455	7	.029	9.1 EACH	90	RUBBER	WOOD CASING
	HEATERS	36	.00299	3	.036	4.5 " 837.35	60	D°	D°
	OVENS	12	.10090	19	.083	837.35	105	D°	LEAD COVERED

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current Ampères.	Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	AIR PUMP MAIN	2	.19640	37	.083	132 EACH	134	RUBBER	LEAD COVERED
	AUX. PUMP	1	.07592	19	.072	58.5	80	D°	D°
	MAIN BILGE LINE PUMPS	1	.02214	7	.064	34	120	D°	D°
	AUX. CIRCULATING PUMP	1	.10090	19	.083	81	132	D°	D°
	GENERAL SERVICE PUMP						66	D°	D°
	EMERGENCY BILGE PUMP	1	.07592	19	.072	75	700	D°	ARMoured AND BRAIDED
	SANITARY PUMP	2	.19640	37	.083	123 EACH	100	D°	LEAD COVERED
	CIRC. SEA WATER PUMPS	2	.02314	7	.064	31	48	D°	D°
	HOTWELL	2	.07592	19	.072	71	168	D°	D°
	CARGO FRESH WATER PUMPS	3	.74350	91	.103	342 EACH	132	D°	D°
	AIR COMPRESSORS	4	.02314	7	.064	31	104	D°	D°
	FRESH WATER PUMPS							D°	D°
	ENGINE TURNING GEAR	1	.07592	19	.072	39	150	D°	D°
	ENGINE REVERSING GEAR							D°	D°
	LUBRICATING OIL PUMPS	2	.07592	19	.072	77 EACH	198	D°	D°
	(PRESSURE PUMPS)	4	.01046	7	.044	20 "	20	D°	D°
	OIL FUEL TRANSFER PUMPS	2	.03	19	.024	40 "	190	D°	D°
	WINDLASS BOAT WINCHES	6	.03960	19	.052	49.5 "	200	D°	D°
	WINCHES, FORWARD	8	.07592	19	.072	98 "	270	D°	ARMoured AND BRAIDED
	WINCHES, AFT	2	.07592	19	.072	98 "	210	D°	D° D°
	STEERING GEAR	2	.24650	37	.093	185 "	760	D°	D° D°
	WORKSHOP MOTOR	1	.01046	7	.044	18	120	D°	LEAD COVERED
	VENTILATING FANS FORCED DRAUGHT	6	.10090	19	.083	91 EACH	560	D°	ARMoured AND BRAIDED
	CARGO SPACE FANS	2	.03960	19	.052	46 "	180	D°	WOOD CASING
	VENT. FANS	74	.04462	7	.052	21.5 TO 2	270	D°	LEAD COVERED
	CAPSTAN MOTORS	2	.30240	37	.103	22.1 EACH	360	D°	ARMoured AND BRAIDED
	BATH PUMPS	2	.03960	19	.052	47 "	104	D°	LEAD COVERED
	GALLEY MOTORS	12	.00455	7	.029	10 TO 2	100	D°	D°
	DOUGH MIXER	1	.00701	7	.036	18	160	D°	D°
	STORES LIFTS	2	.01046	7	.044	30 EACH	135	D°	WOOD CASING
	PASSENGER LIFT	1	.01462	7	.052	26	30	D°	D°
	LAUNDRY MOTORS	4	.00701	7	.036	12	80	D°	D°
			.00455	7	.029	8.7 EACH	60	D°	LEAD COVERED

All Conductors are of annealed copper conforming to British Standard Specification No. 7.

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

John Brown & Company, Limited.

John Brown & Company, Limited.
Glasgow Secretary

Electrical Engineers.

Date

16/1/25

COMPASSES.

Distance between electric generators or motors and standard compass 185 FT

Distance between electric generators or motors and steering compass 190 FT

The nearest cables to the compasses are as follows:—

A cable carrying 2 Amperes 1 feet from standard compass 1 feet from steering compass.

A cable carrying 11 Amperes 8 feet from standard compass 12 feet from steering compass.

A cable carrying 23 Amperes 16 feet from standard compass 20 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 Aug. course in the case of the standard compass, and NIL degrees on Aug. course in the case of the steering compass.

John Brown & Company, Limited.

John Brown & Company, Limited.
Glasgow Secretary

Builder's Signature.

Date

16/1/25

Is this installation a duplicate of a previous case? No. If so, state name of vessel

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

This installation has been fitted on board under special survey. Tested under full working conditions and found satisfactory in every way. The workmanship was found to be of a high standard

It is submitted that this vessel is eligible for THE RECORD. Elec. light.

Total Capacity of Generators 1236 Kilowatts

The amount of Fee ... £ 62.8.0. When applied for, 21.2.1925.

Travelling Expenses (if any) £ :

When received, See debit book.

Committee's Minute GLASGOW 27 JAN 1925

Assigned

Elec Light.

W.D. Paul
29/1/25

J.S. Rankin
Surveyor to Lloyd's Register of Shipping.

Imp. 22—Transfer.
(The Surveyors are requested not to write on or below the space for Committee's Minute.)

A.L.
26/1/25



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