

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

16 APR 1930

Received at London Office

Date of writing Report 17.3.1930 When handed in at Local Office 15.4.1930 Port of GLASGOW

No. in Survey held at GLASGOW Date, First Survey 17.1.30 Last Survey 18.3.1930
 Reg. Book. 42333 on the S.S. ST PATRICK (Number of Visits...10) Gross 1922 Tons

Built at GLASGOW By whom built A. STEPHEN & SON LTD Yard No. 525 When built 1930

Owners THE GREAT WESTERN RLY CO. Port belonging to LONDON

Electric Light Installation fitted by MESSRS A. STEPHEN & SON LTD Contract No. 525 When fitted 1930

Is the Vessel fitted for carrying Petroleum in bulk No.

System of Distribution Two wire

Pressure of supply for Lighting 110 volts, Heating 110 volts, Power 110 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 rating Yes, are they compound wound Yes

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

Where more than one generator is fitted are they arranged to run in parallel No. independently, 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

Position of Generators Two in Tunnel abaft Engine Room, One on main Deck

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

Nil and Nil, are the generators protected from mechanical injury and damage from water, steam or oil Yes

are their axes 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 direct coupled

Main Switch Boards, where placed Forward bulkhead of Tunnel abaft adjacent to generators, & Dynamo panel near generator on main Deck

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 Nil and Nil

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

if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework Insulating Material

and is the frame effectively earthed Yes Are the fittings as per Rule regarding:— 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

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

D.P. Circuit Breakers for each Generator, S.P. Selector switches and D.P. fuses for each outgoing circuit, One D.P. Circuit Breaker with selector switch for galley circuit.

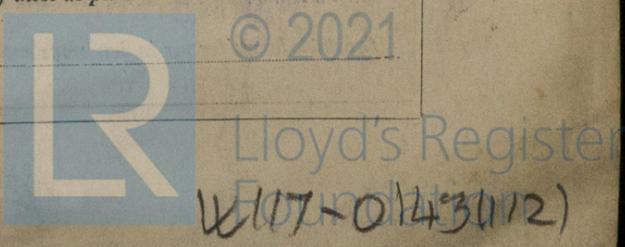
Instruments on main switchboard 3 ammeters 1 voltmeters — synchronising device for paralleling purposes

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Two earth

indicating lamps and switches

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

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



Cables: Single, twin, concentric, or multicore Single are the cables insulated and protected as per Tables IV or V of the Rules Yes

Fall of Pressure, state maximum between his bars and any point of the installation under maximum load 2.5 Volts

Cable Sockets and other connections: are the ends of all cables having a sectional area of 0.04 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 nil.

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 run through accommodation.

Support and Protection of Cables, state how the cables are supported and protected L.C. Cables run on perforated iron plate.
R.C.A.B. run on perforated in Engine and Boiler Rooms.

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 VIII Yes

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 nil

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 Partitions, 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 Lead

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

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 nil

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 Located in Wheel House
 has each navigation lamp an automatic indicator as per Rule Yes

Secondary Batteries, are they constructed and fitted as per Rule nil.

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 nil.

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected nil
 how are the cables led —

where are the controlling switches situated —

Searchlight Lamps, No. of nil whether fixed or portable —, are their fittings as per Rule —

Arc Lamps, other than searchlight lamps, No. of nil, 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 axes of rotation fore and aft Yes
 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 totally enclosed, if not of this type, state distance of the combustible material horizontally or vertically above the motors nil and —

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

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

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

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of Poles	RATED AT			Revs. per Min.	DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts	Volts	Amperes			Fuel Used.	Flash Point of Fuel.
MAIN	2	50	110	455	575	Direct coupled to Steam Eng.	—	—
AUXILIARY	1	24	110	218	600	" " Diesel Engine	Diesel Oil	Over 150° F.
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	No. per Pole	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
		Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.				
MAIN GENERATOR	1	7535	91	103	455	461	75	V.I.R.	L.C.	
EQUALISER CONNECTIONS										
AUXILIARY GENERATOR	1	3024	37	103	218	240	210	"	R.C.A.B.	
EMERGENCY GENERATOR										
ROTARY MOTOR TRANSFORMER GENERATOR										
ENGINE ROOM	1	03960	19	052	46.7	64	30	"	"	
BOILER ROOM										
AUXILIARY SWITCHBOARDS	1	01462	7	052	30.3	37	486	"	R.C.A.B. & L.C.	
Navigation & Boat Lts.	1	50670	91	093	300	384	201	"	"	
Domestic Apparatus										
ACCOMMODATION	1	07592	19	072	72.5	94	366	"	"	
	1	02214	7	064	31.3	46	294	"	"	
Heaters Eng. Office	1	03960	19	052	53.1	64	150	"	"	
WIRELESS	1	00455	7	029	5	18.2	297	"	"	
SEARCHLIGHT										
MASTHEAD LIGHT	1	00194	3	029	55	4.8	211	"	"	
SIDE LIGHTS	1	00194	3	029	55	4.8	60	"	"	
COMPASS LIGHTS	1	00194	3	029	55	4.8	50	"	"	
POOP LIGHTS	1	00194	3	029	55	4.8	564	"	"	
CARGO LIGHTS	1	03960	19	052	44.2	64	150	"	"	
ARC LAMPS										
HEATERS Public Room	1	03960	19	052	18.1	64	150	"	"	

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
		No. per Pole	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP										
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP & Bilge	1	1	03960	19	052	49	64	108	V.I.R.	R.C.A.B.
CIRC. SEA WATER PUMPS										
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR										
FRESH WATER PUMP	2	1	03960	19	052	32	64	45	"	"
ENGINE TURNING GEAR										
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS	1	1	01462	7	052	21.95	37	66	"	"
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR	5	1	10090	19	083	100	118	150	"	"
VENTILATING FANS	1	1	11080	37	064	9.4	150	180	"	"
Lighting Lamps & Ore Heating										

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.

ALEXANDER STEPHEN & SONS, LIMITED.

A. M. Stephen Director

Electrical Engineers.

Date

COMPASSES.

Distance between electric generators or motors and standard compass

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying 55 Ampères 12 feet from standard compass 6 feet from steering compass.

A cable carrying 14 Ampères 8 feet from standard compass 15 feet from steering compass.

A cable carrying 27 Ampères 10 feet from standard compass 6 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 no degrees on any course in the case of the standard compass, and no degrees on any course in the case of the steering compass.

FOR ALEXANDER STEPHEN & SONS, LIMITED.

A. M. Stephen Director

Builder's Signature.

Date

9/4/30.

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 load conditions and found satisfactory. The materials and workmanship were found to be good and sound.

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

Elec. Light

J. B. Rankin

2/5/30.

Total Capacity of Generators 124 Kilowatts.

The amount of Fee ... £32.14.0 When applied for, 27.3.19.30

Travelling Expenses (if any) £ : : 27.5.19.30 When received, 27.5.19.30

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

Committee's Minute GLASGOW 15 APR 1930

Assigned Elec Light

Im. 1223.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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