

as no

Rpt. 13.

No 80689

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

25 NOV 1926

NEWCASTLE ON TYNE

Date of writing Report 19 When handed in at Local Office 24/11/1926 Port of

No. in Survey held at Newcastle Date, First Survey 10 Aug Last Survey 21 Nov 1926
Reg. Book, Supp. "Rohna" (Number of Visits 17)

90707 on the "Rohna" Tons { Gross Net

Built at Newcastle By whom built Hawthorn Leslie & Co. Ltd. Yard No. 542 When built 1926

Owners British India Steam Nav Co. Port belonging to London

Electric Light Installation fitted by Hawthorn Leslie & Co. Ltd. Contract No. 542 When fitted 1926

System of Distribution Double wire system ✓
Pressure of supply for Lighting 105 ✓ volts, Heating — volts, Power 105 ✓ 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 ✓, 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 Engine room starboard side ✓
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 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 ✓

Main Switch Boards, where placed Engine room starboard side ✓
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, non-ignitable 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 insulated from the slab with mica or micrite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework yes ✓, 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 ✓, 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 Main switches are double pole with fuses, all outgoing circuits fitted with two way s. pole switches & double pole fuses.

Instruments on main switchboard 2 ✓ ammeters 2 ✓ 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 Earth lamps coupled to earth through switches & fuses ✓

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 bus bars and any point of the installation under maximum load 4 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

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 Cables run on metal trays, secured by brass clips with brass screws & nuts

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 none made

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, when 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 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 Emergency generator fitted in deckhouse on Boat Deck, generator direct coupled to "Aster" paraffin engine. Double pole C.O.S. fitted for main board on emergency supply.

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

Secondary Batteries, are they constructed and fitted as per Rule Yes

Fittings, are all fittings on weather decks, in stowholds 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 W.T. coated fittings with glass & heavy lid over.

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected none fitted

where are the controlling switches situated

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

Arc Lamps, other than searchlight lamps, No. of 0, are their live parts insulated from the frame or case Yes, are their fittings as per Rule Yes

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 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 and fitted as per Rule Yes

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

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 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	100	105	952	350	Steam engine		
AUXILIARY								
EMERGENCY	1	16	105	152	1000	Petrol-paraffin	paraffin	
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 GENERATOR.. No. 1	6	4985	61	.103	952	40	V. I. R.	Lead covered
	Emergency Connections No. 2	6	4985	61	.103	952	60	do	do
	AUXILIARY GENERATOR	2	3024	37	.103	152	20	do	do
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS...								
	ENGINE ROOM	2	.0396	19	.052	30	120	do	Lead cov. arm & braided
	BOILER ROOM	2	.0396	19	.052	38.5	150	do	do
	ACCOMMODATION 2 nd class	2	.0396	19	.052	24.5	280	do	do
	Emigrants	2	.0396	19	.052	24.5	280	do	do
	Crew Spaces	2	.02214	19	.064	16.3	500	do	do
	1 st class officers	2	.06	19	.064	46.0	300	do	do
	Emergency stowage	2	.1168	37	.064	167.5	300	do	do
	Emergency lighting	2	.02214	7	.064	30.5	360	do	Lead covered
	Emergency bulk lights	2	.02214	7	.064	18.0	10	do	Lead cov. arm & braided
	Navigation table	2	.0396	19	.052	18.0	160	do	do
	Deck lights								
	WIRELESS	2	.02214	7	.064	34	150	do	Lead covered
	SEARCHLIGHT								
	MASTHEAD LIGHT...	2	.00194	3	.029	1.0	400	do	Lead cov. arm & braided
	SIDE LIGHTS...	2	.00194	3	.029	1.0	80	do	Lead covered
	COMPASS LIGHTS...	2	.00194	3	.029	1	20	do	do
	STERN DECK LIGHTS	2	.00194	3	.029	1.0	680	do	Lead cov. arm & braided
	CARGO LIGHTS	2	.0396	19	.052	28.4	300	do	do
	ARC LAMPS								
	HEATERS								

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current "in area"	Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter				
	BALLAST PUMP								
	MAIN BILGE LINE PUMPS								
	GENERAL SERVICE PUMP								
	EMERGENCY BILGE PUMP	1	.07592	19	.072	90	280	V. I. R.	Lead cov. arm & braided
	SANITARY PUMP								
	CIRC. SEA WATER PUMPS								
	CIRC. FRESH WATER PUMPS								
	AIR COMPRESSOR								
	FRESH WATER PUMP								
	ENGINE TURNING GEAR								
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS								
	OIL FUEL TRANSFER PUMP								
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR								
	(a) MOTOR GENERATOR...								
	(b) MAIN MOTOR								
	WORKSHOP MOTOR	1	.01462	7	.052	13.5	100	do	do
	VENTILATING FANS 70"	1	.01462	7	.052	20.0	160	do	do
	Ventilation								
	1 st & 2 nd class Accommodation	8	.1478	37	.072	148	300	do	do
	Cattle Spaces	6	.1478	37	.072	124	320	do	do
	Machine Room Fore	4	.1168	37	.064	100	320	do	do
	" " Aft	2	.07592	19	.072	68	300	do	do
	1 st & 2 nd class Accommodation Aft	6	.1009	19	.083	100	180	do	do
	Eng. Room Lift	1	.02214	7	.064	24	160	do	do

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.

R. & W. HAWTHORN, LESLIE & CO. LIMITED

John T. Bailey

Electrical Engineers.

Date *23rd Nov 1926*

COMPASSES.

Distance between electric generators or motors and standard compass *125 feet* ✓

Distance between electric generators or motors and steering compass *120 feet* ✓

The nearest cables to the compasses are as follows:—

A cable carrying *.1* Ampères *on the* feet from standard compass *12* feet from steering compass. ✓

A cable carrying *.1* Ampères *12* feet from standard compass *on the* feet from steering compass. ✓

A cable carrying *18* Ampères *16* feet from standard compass *7* 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 *all* courses in the case of the standard compass, and *nil* degrees on *all* courses in the case of the steering compass.

R. & W. HAWTHORN, LESLIE & CO. LIMITED

John T. Bailey

Builder's Signature.

Date *23rd Nov 1926*

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. _____)

The above installation is in accordance with the Society's Rules. The vessel is eligible in my opinion for notation elec light wireless

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

A. 26/11/26

Total Capacity of Generators *216* ✓ Kilowatts.

The amount of Fee ... £ *36 : 18* : { When applied for, *28/10/1926*

Travelling Expenses (if any) £ : : { When received, *30/10/1926* *W.T.*

W.T. Budget

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned *Ele Light*

Im. 128.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



© 2019

Lloyd's Register Foundation