

Rpt. 13.

No 80689

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

25 NOV 1920

NEWCASTLE ON TYNE

Date of writing Report

19

When handed in at Local Office

24/11/1920 Port of

No. in Survey held at

Newcastle

Date, First Survey 10<sup>th</sup> AugLast Survey 2<sup>nd</sup> Nov

1920

Reg. Book, Supp.

"Rohna"

(Number of Visits 17)

90707 on the

Tons {  
Gross  
Net

Built at Newcastle

By whom built Hawthorn Leslie &amp; 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 &amp; 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

—

—

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

—

—

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 miculate 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

double pole with fuses, all outgoing circuits fitted with two way s. pole switches &amp; 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

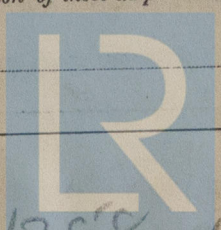
Coupled to earth through switches &amp; fuses

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



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Lloyd's Register

W258-0238 Foundation

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 —, are the cap screws of brass —, are the cables run in separate grooves —. 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

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 W.T. copper fittings with gaskets & heavily lead 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

how are the cables led

where are the controlling switches situated

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

Are Lamps, other than searchlight lamps, No. of —, 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 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

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.	Amperes.	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 Amperes.	Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR No. 1	6	0.4985	61	0.103	952	40	V. I. R.	Lead covered
	Emergency Connections No. 2	6	0.4985	61	0.103	952	60	do	do
	AUXILIARY GENERATOR	2	0.3024	37	0.103	152	20	do	do
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM								
	BOILER ROOM	2	0.0396	19	0.052	30	120	do	Lead covered & braided
	ACCOMMODATION 2nd class	2	0.0396	19	0.052	38.5	150	do	do
	Emigrants	2	0.0396	19	0.052	24.5	280	do	do
	Crew Spaces	2	0.02214	19	0.064	16.3	500	do	do
	1st class officers	2	0.06	19	0.064	46.0	300	do	do
	Emergency lighting	2	0.1168	37	0.064	16.5	300	do	do
	Emergency lighting	2	0.02214	4	0.064	30.5	360	do	Lead covered
	Emergency boat lights	2	0.02214	4	0.064	18.0	10	do	Lead covered & braided
	Langston outside Deck lights	2	0.0396	19	0.052	18.0	160	do	do
	WIRELESS	2	0.02214	4	0.064	34	150	do	Lead covered
	SEARCHLIGHT								
	MASTHEAD LIGHT	2	0.0194	3	0.029	1.0	400	do	Lead covered & braided
	SIDE LIGHTS	2	0.0194	3	0.029	1.0	80	do	Lead covered
	COMPASS LIGHTS	2	0.0194	3	0.029	1	20	do	do
	STERN LIGHTS	2	0.0194	3	0.029	1.0	680	do	Lead covered & braided
	CARGO LIGHTS	2	0.0396	19	0.052	28.5	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 am. circ.	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	0.07592	19	0.072	90	280	V. I. R.	Lead covered & 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	0.01462	4	0.052	13.5	100	do	do
	VENTILATING FANS 70"	1	0.01462	4	0.052	20.0	160	do	do
	Ventilation								
	1st & 2nd class Accommodation	8	0.1478	37	0.072	148	300	do	do
	Cattle Spaces	6	0.1478	37	0.072	124	320	do	do
	Latrine Pass Lock	4	0.1168	37	0.064	100	320	do	do
	" " Aft	2	0.07592	19	0.072	68	300	do	do
	1st & 2nd class Accommodation Aft	6	0.1009	19	0.083	100	180	do	do
	Eng. Room Lift	1	0.02214	4	0.064	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. Elec 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. Budget

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec Light

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



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