

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

WFO. 7 MAY. 1924

Received at London Office

Date of writing Report

19

When handed in at

6/5/24 Port of

NEWCASTLE-ON-TYNE

No. in Survey held at

NEWCASTLE-ON-TYNE

Date, First Survey 24 Oct. 1923 Last Survey 28 April 1924

(Number of Visits 22)

Reg. Book. Suffix.

41147 on the S. S. "Jilawa"

Tons { Gross 10280
Net 6400

Built at Newcastle

built Hawthorn Leslie & Co. Yard No. 530 When built 1924

Owners British India Steam Navigation Co. Ltd.

Port belonging to Glasgow

Electric Light Installation fitted by Hawthorn Leslie & Co.

Contract No. 530 When fitted 1924

System of Distribution

Double wire system

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 overload

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 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

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 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

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, 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

fitted with double pole switch + fuses, and all outgoing circuits fitted with two way single 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

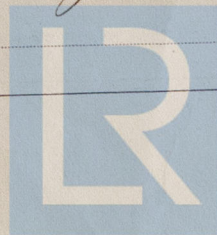
coupled to earth through switches + fuses

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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Lloyd's Register
Foundation

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 *3.89 volts*

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

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 *all cable runs in accessible positions free from accumulation of oil & water*

Support and Protection of Cables, state how the cables are supported and protected *Cables run on metal trays & clipped up with brass clips*

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 secured as per Table VI *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 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*

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

are their connections made as per Rule *yes*

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 on Boat Deck. Generator direct coupled to "Record" Paraffin Engine. Change over switches fitted for main board or 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*, 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 *none*

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*

how are the cables led *yes*

where are the controlling switches situated *yes*

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

Are Lamps, other than searchlight lamps, No. of *yes*, 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 axis 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*

yes, if not of this type, state distance of the combustible material horizontally or vertically above the motors *yes* and *yes*

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 *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	70	110	636	450	Steam engine		
AUXILIARY								
EMERGENCY	1	16	110	145	1000	Petrol-Paraffin engine	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	4	4985	61	0.103	600	100	V.I.R.	Lead covered
	MAIN GENERATOR No. 2	4	4985	61	0.103	600	60	50	50
	EMERGENCY GENERATOR	2	3024	37	0.103	145	50	50	50
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
H	ENGINE ROOM	2	02214	7	0.064	37.4	100	50	Lead cov. arm & braided
	BOILER ROOM								
P	Navigation	2	02214	7	0.064	8.8	400	50	Lead covered
M	Emergency feed	2	01462	7	0.086	16.84	200	50	50
L	Emergency board feed	2	07592	19	0.072	7.4	240	50	Lead cov. arm & braided
K	Boiler pump, Vent. fans	2	00396	19	0.052	5.2	100	50	50
F	Lat. motor	2	00396	19	0.052	4.11	120	50	50
F	Emergency lighting	2	00396	19	0.052	4.11	120	50	50
E	2 class Eng. Acc	2	0600	19	0.064	68.62	120	50	50
F	Ventilating fans	2	14780	37	0.072	101.24	480	50	50
D	1st class office Acc	2	1009	19	0.083	97.4	400	50	50
N	WIRELESS (Motor End)	2	02214	7	0.064	34	290	50	Lead covered
	SEARCHLIGHT								
	MASTHEAD LIGHT	2	00194	3	0.029	1.2	600	50	Lead cov. arm & braided
	SIDE LIGHTS	2	00194	3	0.029	1.2	92	50	Lead covered
	COMPASS LIGHTS	2	00194	3	0.029	1	20	50	50
G	POOP LIGHTS	2	02214	7	0.064	18.6	350	50	Lead cov. arm & braided
J	CARGO LIGHTS	2	02214	7	0.064	30.0	230	50	50
	ARC LAMPS								
A	HEATERS	2	1478	37	0.072	94.0	600	50	50
B		2	1964	37	0.083	163.0	600	50	50
C		2	1964	37	0.083	163.0	230	50	50

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.				
	BALLAST PUMP								
	MAIN BILGE LINE PUMPS								
	GENERAL SERVICE PUMP								
	EMERGENCY BILGE PUMP	1	1009	19	0.08	90	400	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								
	WORKSHOP MOTOR	1	00455	7	0.029	13	120	V.I.R.	50
	VENTILATING FANS 7 1/2"	2	00299	3	0.036	3	100	50	50
	Boiler fans 15"	5	01046	7	0.024	15.5	160	50	50
	50 12 1/2"	2	00299	3	0.036	8	80	50	50
	50 12 1/2"	2	00299	3	0.036	8	50	50	50

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.

Electrical Engineers.

Date 21/2/24

COMPASSES.

Distance between electric generators or motors and standard compass *main generator 174 feet Wireless motor 50 feet*

Distance between electric generators or motors and steering compass " " *182 feet* " " *56 feet*

The nearest cables to the compasses are as follows:—

A cable carrying .1 Ampères *on the* ~~feet from~~ standard compass 8 feet from steering compass.

A cable carrying .1 Ampères *on the* ~~feet from~~ ^{steering} standard compass 8 feet from ~~steering~~ ^{standard} compass.

A cable carrying 7.0 Ampères 7 feet from standard compass 5 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 *for all* courses in the case of the steering compass.

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

Builder's Signature.

Date *21st May 1924*

Is this installation a duplicate of a previous case *yes*. If so, state name of vessel *Valma*.

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 electric light, wireless

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

7/5/24

Total Capacity of Generators *156*. Kilowatts

The amount of Fee ... £ 34 : 6 : *3/5/24*

Travelling Expenses (if any) £ : : *See debit book.*

W.T. Badger

Surveyor to Lloyd's Register of Shipping.

Committee's Minute *21 MAY 1924*

Assigned