

Rpt. 13.

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

No. 91131

Date of writing Report

19

When handed in at Local Office

10 DEC. 1926

19

Received at London Office

11 DEC 1926

Port of Liverpool

No. in Survey held at Birkenhead

Reg. Book.

Date, First Survey July 2ndLast Survey Dec 8th 1926

(Number of Visits.....52.....)

on the 5.5 "Almeda"

Built at Birkenhead

By whom built Cammell/Laird & Co. Ltd.

Yard No. 919

Tons { Gross 12838

Net 7850

When built 1926

Owners Messrs Blue Star Line (1920) Ltd. Port belonging to London

Electric Light Installation fitted by Sunderland Forge & Eng. Co. Ltd.

Contract No.

When fitted 1926

System of Distribution

Double Wire ✓

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.

Yes ✓

, if not compound wound state distance between each generator

Where more than one generator is fitted are they arranged to run in parallel

Yes

series with each shunt field

Yes

Are all terminals accessible and clearly marked

Yes

or short circuited

Yes

Are the lubricating arrangements of the generators as per Rule

Yes

Position of Generators

Engine Room 5th b'd

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

their respective generators in metallic contact

Yes

are the prime movers and

Main Switch Boards, where placed

Engine Room 5th b'd

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

woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards

, if situated near unprotected

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

insulated from the slab with mica or micanite and the slab similarly insulated from its framework

Yes

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

R.C. Circuit Breakers for Generators - 3rd Pole to act as equaliser, D.P.O.L

Circuit Breakers & D.P. Switches & Fuses for Feeder circuits.

Instruments on main switchboard

5

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

switches & fuses on each pole

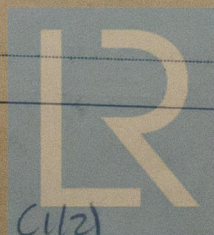
Earth lamps

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

W329-0223 (1/2)

Insulation of Cables, state type of cables, single or twin *Singles & Twins* 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 *4.5 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 *Yes*

Support and Protection of Cables, state how the cables are supported and protected *Main Cables - L.C.B. secured with Galv. Iron Clips. Accommodation Cables - L.C.B. secured with Brass Clips.*

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 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*

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 *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 *Petrol-Paraffin Generating Set & Switchboard in Emergency Dynamo Room.*

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 *h*, are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *h*, 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 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 *—*, 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 *—*

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	200	220	910	375	Compound Steam Engine	Additional 60kw ltr fitted 4.38 for Refrig plant, used in parallel with other sets (Petrol Starting)	
AUXILIARY ...								
EMERGENCY ...	1	25	220	114	800	Petrol-Paraffin Engine		
ROTARY TRANSFORMER								

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...	3	1.25	127	.112	910	80	V.I.R.	L.C.B.
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR	2	.1	19	.083	114	20	V.I.R.	-do-
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	.0225	7	.064	34	20	-do-	-do-
	BOILER ROOM								
	Emergency Supply	2	.1	19	.083	114	220	-do-	-do-
	1st Cl. Acc. Bridge - Pom. etc.	2	.15	37	.072	150	240	-do-	-do-
	-do- Upper Deck	2	.075	19	.072	90	230	-do-	-do-
	Eng. & Crew.	2	.06	19	.064	79	230	-do-	-do-
	Cargo.	2	.0225	7	.064	25	230	-do-	-do-
	Boat Lights	2	.0045	7	.029	5.7	444	-do-	-do-
	Nav. & Emergency	2	.04	19	.052	59	114	-do-	-do-
	WIRELESS	2	.007	7	.036	14	246	-do-	-do-
	SEARCHLIGHT								
	MASTHEAD LIGHT...	2	.002	3	.029	.45	600	-do-	-do-
	SIDE LIGHTS...	2	.002	3	.029	.45	90	-do-	-do-
	COMPASS LIGHTS...	2	.002	3	.029	.1	35	-do-	-do-
	POOP LIGHTS								
	CARGO LIGHTS								
	ARC LAMPS								
	HEATERS	2	.007	7	.036	13	452	-do-	-do-

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	.04	19	.062	56	340	V.I.R.	L.C.B.
	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	.007	7	.036	20	100	-do-	-do-
	VENTILATING FANS ...	13	.1	19	.083	99	230	-do-	-do-
	Oil Purifier	1	.0045	7	.029	8	50	-do-	-do-
	Refrig. Aux. etc.	12	.3	37	.103	508	124	-do-	-do-
	Galley Gear	7	.1	19	.083	98.25	480	-do-	-do-
	Laundry Gear	3	.0225	7	.064	38	440	-do-	-do-
	Forced Draught Fans	2	.25 ea.	37	.093	208 ea.	90	-do-	-do-

* All on load. Max. Working load = 240 Amps.

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.

Sunderland Forge & Engineering Co Ltd Electrical Engineers. Date 8.12.26
W. M. Arthur

COMPASSES.

Distance between electric generators or motors and standard compass 130 ft.
Distance between electric generators or motors and steering compass 130 ft.

The nearest cables to the compasses are as follows:—

A cable carrying 3.25 Ampères 12 feet from standard compass 12 feet from steering compass.

A cable carrying .1 Ampères 10 feet from standard compass led into feet from steering compass.

A cable carrying .1 Ampères led into feet from standard compass 10 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 $1\frac{1}{2}^{\circ}$ E degrees on all courses S.S.W. to W.S.W. in the case of the standard compass, and $1\frac{1}{2}^{\circ}$ W degrees on all courses E.S.E. to S.S.E. in the case of the steering compass.

GAMMELL LAIRD AND COMPANY LIMITED.

J. W. Laird
LOCAL SECRETARY.

Builder's Signature. Date 11 Dec 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.)

This Electric Light Installation has been fitted under Special Survey and is in accordance with the Rules. The Materials and Workmanship are of good quality. When tried under full working conditions the Installation was found satisfactory in every respect. In my opinion this vessel is eligible to have the notation "Electric Light" recorded in the Register Book.

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

W.D.
14/12/26

Additional boiler fitted
Total Capacity of Generators 425 Kilowatts
Total 485 KW

Total Capacity of Generators 425 Kilowatts

The amount of Fee ... £ 41 : 2/6 : When applied for, 2/12/26

Travelling Expenses (if any) £ : : When received, 21-12-26

B. S. Bedford
Surveyor to Lloyd's Register of Shipping.

Committee's Minute LIVERPOOL 7 DEC. 1926

Assigned Electric Light

When fee is paid.



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