

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

11 AUG 1926

Date of writing Report

10

When handed in at Local Office

17.12.26 Port of

Beefast

No. in Survey held at

Beefast

Date, First Survey 2nd Oct

Last Survey

14th Dec 1926

Reg. Book.

(Number of Visits 6)

75761

on the

STEEL

TWIN SC.

LLANDAFF CASTLE

Tons

Gross 10900

Net 6700

When built

1926

Built at Beefast

By whom built Warkman Clark & Co. Ltd. Yard No. 488

Owners Union Castle Mail S.S. Co. Ltd.

Port belonging to London

Electric Light Installation fitted by The Sunderland Forge & Engineering 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 ✓

, 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

Main Engine Room Starboard

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

Main Engine Room beside Generators

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

In some Comp.

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

Triple Pole Overload

& Reverse Current Circuit Breakers, 3rd Pole acts as Equaliser switch.

Double Pole Switches

& Fuses on each outgoing circuit.

Instruments on main switchboard

4

ammeters

3

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

E.L. Circuits Single Wire

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
193-0107012

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 *9*
4.5

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. ✓

Support and Protection of Cables, state how the cables are supported and protected. *Metal Clips. Lead Covered Armoured & Braided in Machinery Spaces. Lead Covered & Braided in Accommodation*

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 clins, are the clins 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 —

Watertight Glands and Deck Tubes, *are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands*

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. *Emergency Generator*
on Boat Deck, Top of Engine Casing. *Double-pole Circuit Breaker.*
Generator driven by Diesel Engine.

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 drin or condensed moisture, watertight

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

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

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

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 1/2

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,

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 ...	3	60 ✓	220	273	450	Steam Engine		
AUXILIARY ...								
EMERGENCY ...	1	36 ✓	220	163.5	325	Diesel Engine		
ROTARY TRANSFORMER								

[illegible]

MOTOR CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Motors.	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.				
	BALLAST PUMP								
	MAIN BILGE LINE PUMPS ...								
	GENERAL SERVICE PUMP ...								
	EMERGENCY BILGE PUMP ...	1	.100 ✓	19	.083	70	225	VIR	Lead Covered Arm & Branded
	SANITARY PUMP								
	CIRC. SEA WATER PUMPS ...								
	CIRC. FRESH WATER PUMPS ...								
	AIR COMPRESSOR								
	FRESH WATER PUMP								
	ENGINE TURNING GEAR ...	2	.0225 ✓	7	.064	43	140	do	do.
	ENGINE REVERSING GEAR ...								
	LUBRICATING OIL PUMPS ...								
	OIL FUEL TRANSFER PUMP ...								
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR								
	WORKSHOP MOTOR	1	.0045 ✓	7	.029	16	180	do	do.
	VENTILATING FANS	6	.060 ✓	19	.064	77.6	80	do	do.
	do. do.	7	.075 ✓	19	.072	87.8	80	do	do.
	COOLER FANS	4	.0215 ✓ .0100 ✓	7	.064 .074	26.0 18.0	240	do	do.
	ASH HOISTS	2	.0045 ✓	7	.029	13.0	250	do	do.
	ENG. ROOM VENT FAN	1	.0100 ✓ .060 ✓	7	.044	21	160	do	do.
	VANGUNCO BOAT GEAR	12	2 m Perole ✓	19	.064	161	210	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.

F. PRO THE SUNDERLAND FORGE & ENGINEERING CO. LTD.

J. Thompson

Electrical Engineers.

Date

10 DEC 26

COMPASSES.

Distance between electric generators or motors and standard compass

Generators 136 feet
Motors 33 feet

Distance between electric generators or motors and steering compass

Generator 140 feet
Motor 30 feet

The nearest cables to the compasses are as follows:—

A cable carrying 5.7 Ampères 1/2 feet from standard compass 10 feet from steering compass.

A cable carrying 1.4 Ampères 2 feet from standard compass 2 feet from steering compass.

A cable carrying Ampères feet from standard compass 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 Any course in the case of the standard compass, and Nil degrees on Any course in the case of the steering compass.

PRO WORKMAN, CLARK & CO., LIMITED

W. St. Johnstone
ASSISTANT SECRETARY.

Builder's Signature.

Date 17.12.26.

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 made under special survey. The material and workmanship is good. It has been examined under working conditions on board the vessel with satisfactory results. In my opinion the vessel is eligible for notation "fitted for electric light".

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

J. W. D.
22/12/26

Total Capacity of Generators 96 Kilowatts

The amount of Fee ... £ 31 : 6 : 17-12-1926

Travelling Expenses (if any) ... : 22-12-26

R. Lee Ainslie

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec. Light



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Foundation