

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report

19

When handed in at Local Office

29-12-1926

Port of

Belfast

No. in

Survey held at

Belfast

Date, First Survey

5<sup>th</sup> March

Last Survey

20<sup>th</sup> Dec 1926

Reg. Book.

81389 on the

T.S.S. "ROBINA".

(Number of Visits...10...)

Tons

Gross 306

Net 121

When built 1914-5.

Built at

Adrian.

By whom built

Ad. D. D. S. B. Co. Ltd.

Yard No. ✓

Owners

W. M. McCalla

Port belonging to

Adrian.

Electric Light Installation fitted by

Owners Staff

Contract No. ✓

When fitted 1926

System of Distribution

In wire. ✓

Pressure of supply for Lighting

100 ✓

volts, Heating

volts, Power

volts.

Direct or Alternating Current, Lighting

Direct ✓

Power

4 K.W. ✓

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 ✓

, is an adjustable regulating resistance fitted in

series with each shunt field ✓

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 Generator

After start side of Engine Room.

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 Board, where placed

After start side of engine room

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

✓

, and is the

frame effectively earthed

✓

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

Double pole switch & two S.P. fuses and for each outgoing circuit, S.P. switches and fuses.

Instruments on main switchboard

One

ammeters

One

volts

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

D.P. switch

2 fuses &amp; 2 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

✓

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**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 *2 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 *Yes.*

**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 *Lead covered cables on wood runners supported by metal 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 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 *Watertight cast iron boxes with porcelain insulators.*

**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 *Bea plate earth connection & insulation testing earth connection - both .042 sq. in.*

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 *Yes.*

**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 stored in close proximity to them; if so, how are they protected *No.*

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected. *All fittings in stokehold & engine room are water tight & gastight. Cables led in steel tubing where liable to damage.*

where are the controlling switches situated *on main board in engine room.*

**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.*

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 ...	<i>One</i>	<i>4</i>	<i>100</i>	<i>40</i>	<i>450</i>	<i>Vertical Single Cylinder</i>	<i>✓</i>	<i>✓</i>	
AUXILIARY ...						<i>Steam engine</i>			
EMERGENCY ...									
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.				
<i>A</i>	MAIN GENERATOR...	<i>2</i>	<i>.0214</i>	<i>✓</i>	<i>7</i>	<i>.064</i>	<i>29.4</i>	<i>RUBBER.</i>	<i>LEAD COVERED</i>
	AUXILIARY GENERATOR ...								<i>+ steel tubing.</i>
	EMERGENCY GENERATOR ...								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS ...								
	ENGINE ROOM ...								
	BOILER ROOM ...								
<i>B</i>	<i>Aft Saloon &amp; deck</i>	<i>2</i>	<i>.00299</i>	<i>✓</i>	<i>3</i>	<i>.036</i>	<i>6</i>	<i>RUBBER</i>	<i>LEAD COVERED.</i>
<i>C</i>	<i>Promenade decks</i>	<i>2</i>	<i>.00299</i>	<i>✓</i>	<i>3</i>	<i>.036</i>	<i>4.2</i>	<i>"</i>	<i>"</i>
<i>D</i>	<i>Fore Saloon, stokehold</i>	<i>2</i>	<i>.00299</i>	<i>✓</i>	<i>3</i>	<i>.036</i>	<i>5.4</i>	<i>"</i>	<i>"</i>
<i>E</i>	<i>Engine Room.</i>	<i>2</i>	<i>.00299</i>	<i>✓</i>	<i>3</i>	<i>.036</i>	<i>5.4</i>	<i>"</i>	<i>"</i>
	<i>ER &amp; stokehold.</i>								
	<i>Fore &amp; deck.</i>	<i>2</i>	<i>.00299</i>	<i>✓</i>	<i>3</i>	<i>.036</i>	<i>5.4</i>	<i>"</i>	<i>"</i>
<i>F</i>	<i>Storage.</i>	<i>2</i>	<i>.00299</i>	<i>✓</i>	<i>3</i>	<i>.036</i>	<i>5.4</i>	<i>"</i>	<i>"</i>
<i>G</i>	<i>Upper Deck.</i>	<i>2</i>	<i>.00299</i>	<i>✓</i>	<i>3</i>	<i>.036</i>	<i>2.4</i>	<i>"</i>	<i>"</i>
	WIRELESS ...			<i>✓</i>					
	SEARCHLIGHT ...			<i>✓</i>					
	MASTHEAD LIGHT...			<i>✓</i>					
	SIDE LIGHTS ...			<i>✓</i>					
	COMPASS LIGHTS ...			<i>✓</i>					
	POOP LIGHTS ...			<i>✓</i>					
	CARGO LIGHTS ...			<i>✓</i>					
	ARC LAMPS ...			<i>✓</i>					
	HEATERS ...			<i>✓</i>					
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 ...								
	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 ...								
	VENTILATING FANS ...								



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.

for and on behalf of

THE GENERAL ELECTRIC CO. LTD.

Angus R. Murray 57 Oswald Street, Glasgow, 5/5/26.  
Date 10 APR 1926

A. R. Murray

Electrical Engineers.

This refers to the switchboard only

#### COMPASSES.

Distance between electric generators or motors and standard compass

No standard compass fitted.  
65 feet.

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying 6 Ampères ✓ feet from standard compass 5 feet from steering compass.

A cable carrying Ampères feet from standard compass 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 No

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted

The maximum deviation due to electric currents was found to be degrees on course in the case of the standard

compass, and degrees on course in the case of the steering compass.

Builder's Signature.

Date.

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 is in accordance with the Rules & has been made under special survey.

The material & workmanship are good, & all has satisfactory when tested under working conditions. In my opinion, this vessel is eligible to have the notation "fitted with Electric Light."

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

JWD.

3/12/26

Total Capacity of Generators 4 Kilowatts

The amount of Fee ... £ 5 : 00 When applied for, 29-12-1926

Travelling Expenses (if any) £ : : When received, 31-12-1926

C. F. Southwell  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec. Light



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