

Rpt. 13.

No. 46872

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 24 AUG 1927

Date of writing Report

19

When handed in at Local Office 22-8-1927

Port of

GLASGOW.

No. in Survey held at
Reg. Book.

Yroon

Date, First Survey

and

Last Survey

11. 7. 1927

(Number of Visits)

on the

SS. THE DUKE

Tons

Gross 820

Net

Built at

Yroon

By whom built

Ailsa S.B. Co.

Yard No.

400

When built

1924

Owners

J. Hay and Sons

Port belonging to

Glasgow.

Electric Light Installation fitted by

Contract No.

When fitted

System of Distribution

Double wire distributing fuse box.

Pressure of supply for Lighting

110

volts, Heating

volts, Power

volts.

Direct or Alternating Current, Lighting

direct

Power

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

one

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 5 Sect 2

Position of Generator

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 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

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

Same compartment

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

none

and

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 micaite 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

D. P. Main

Switch and fuse for generator and S. P. switches and D. P. fuses for each outgoing circuit

Instruments on main switchboard

ammeters

1

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

Earth lamp

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

Sect 6 Rule 3

25824
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 2.5'
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
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 V. I. R. Lead covered in tubing
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 VIII Yes
Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements none
Joints in Cables, state if any, and how made, insulated, and protected no joints
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, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed lead 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 none
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 4 Sect 10
Secondary Batteries, are they constructed and fitted as per Rule Yes
Fittings, are all fittings on weather decks, in storerooms and engine rooms and where 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 no, how are the cables led no
where are the controlling switches situated no
Searchlight Lamps, No. of no, whether fixed or portable no, are their fittings as per Rule no
Arc Lamps, other than searchlight lamps, No. of no, are their live parts insulated from the frame or case no, are their fittings as per Rule no
Motors, are their working parts readily accessible no, are the coils self-contained and readily removable for replacement no, are the brushes, brush holders, terminals and lubricating arrangements as per Rule no, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material no, are they protected from mechanical injury and damage from water, steam or oil no, are their axes of rotation fore and aft no, 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 no, if not of this type, state distance of the combustible material horizontally or vertically above the motors no and no
Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule no
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 no
If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office no

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	1	3	110	28	350	for life steam engine direct coupled	-	-
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER								

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... ..	2	.0100	4	.044	28 ✓	20	V. I. R.	Lead covered in tubing
	EQUALISER CONNECTIONS ...								
	AUXILIARY GENERATOR ...								
	EMERGENCY GENERATOR ...								
	ROTARY TRANSFORMER... ..								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	.0020	3	.029	6 ✓	20	V. I. R.	Lead covered in tubing
	BOILER ROOM								
	ACCOMMODATION								
	Engineers Accommodation	2	.0020	3	.029	4 ✓	40	V. I. R.	Lead covered in tubing
	Officers " "	2	.0020	3	.029	6.5 ✓	96	" " "	" " "
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MOTOR CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length ft. (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—								
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR								
	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 CLAUD HAMILTON, LIMITED

W. A. Hamilton
Director.

Electrical Engineers.

Date 15th Aug 27.

COMPASSES.

Distance between electric generators or motors and standard compass

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying 6.5 Amperes feet from standard compass 15 feet from steering compass.

A cable carrying 4 Amperes feet from standard compass 50 feet from steering compass.

A cable carrying Amperes feet from standard compass feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power

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 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.

AILSA SHIPBUILDING CO., LIMITED.

W. A. Hamilton

General Manager.

Builder's Signature.

Date 17th Aug 1927

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 fitted on board under special survey. Tested under full working conditions and found satisfactory. The workmanship was found to be good and sound.

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

Elec. Light
W. A. Hamilton

27/8/27

Total Capacity of Generators 3 Kilowatts.

The amount of Fee ... £ 5 0 0 : { When applied for, 25.7.27

Travelling Expenses (if any) £ 10 6 : { When received, 3.8.27

J. Rankin
Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 23 AUG 1927

Assigned

Elec. Light.

W. A. Hamilton



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Foundation