

Rpt. 13.

No. 49280

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 12.11.1929

Date of writing Report 22.5.29 When handed in at Local Office 10.6.29 Port of GLASGOW.

No. in Survey held at GLASGOW
Reg. Book.

Date, First Survey 22.4.29 Last Survey 13.5.29

(Number of Visits 6)

99854 on the S.S. BENWYVIS.

Tons {
Gross
Net

Built at GLASGOW.

By whom built MESSRS C. CONNELL & CO Yard No. 414

When built 1929.

Owners MESSRS W. THOMSON & CO.

Port belonging to LEITH.

Electric Light Installation fitted by MESSRS H. T. ROBERTSON & CO

Contract No. 414 When fitted 1929.

System of Distribution

Double Wire

Pressure of supply for Lighting

100

volts, Heating

volts, Power

100

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 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

No

, 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

Yes

Position of Generators

Stand side above Eng. Store

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

Alongside Generator

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, 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 micanite 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

, 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 Switches & Fuses.

D.P. Change Over Devices Switches & D.P. 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

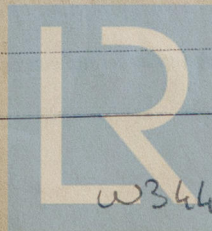
Two lamps in series earthed

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

Yes



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Lloyd's Register
Foundation

W344-0150 (1/2)

12 JUN 1929

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	12	100	120	500	Compound Steam Engine		
AUXILIARY								
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. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	MAIN GENERATOR	2 pair	1	19	0.52	143	2.5 R.	Lead covered
	EQUALISER CONNECTIONS							
	AUXILIARY GENERATOR							
	EMERGENCY GENERATOR							
	ROTARY TRANSFORMER							
	AUXILIARY SWITCHBOARDS							
	ENGINE ROOM	2	0.2	4	0.64	23	9	" "
	BOILER ROOM	2	0.1	4	0.44	26	250	" Armoured
	ACCOMMODATION	2	0.1	4	0.44	16	80	" "
	Engineers	2	0.1	4	0.44	16	80	" "
	WIRELESS	2	0.1	4	0.44	15	100	" "
	SEARCHLIGHT	2	0.4	19	0.52	60	500	" "
	MASTHEAD LIGHTS	2 pair	0.03	1	0.64	2	300	" "
	SIDE LIGHTS	2	0.03	1	0.64	2	60	" Lead covered
	COMPASS LIGHTS	2	0.03	1	0.64	2	20	" "
	POOP LIGHTS	2	0.03	1	0.64	2	200	" Armoured
	CARGO LIGHTS	2	0.6	19	0.64	46	60	" "
	ARC LAMPS							
	HEATERS							

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.
	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							

Refrigerator 1 0.4 19 0.52 59 60 2.5 R. Lead & Resided

085 P4

Cables: Single, twin, concentric, or multi-core *both* 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 volts*

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 *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 in 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 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 *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 *yes* state the material of which the bushes are made *brass tube*

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 *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*

Secondary Batteries, are they constructed and fitted as per Rule *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 *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 *yes*

how are the cables led *yes*

where are the controlling switches situated *yes*

Searchlight Lamps, No. of *1*, whether fixed or portable *portable*, are their fittings as per Rule *yes*

Arc Lamps, other than searchlight lamps, No. of *1*, 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 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 *yes*, if not of this type, state distance of the combustible material horizontally or vertically above the motors *yes*

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted 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*

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.

H. T. Robertson & Co.

Electrical Engineers.

Date *1st June '29*

COMPASSES.

Distance between electric generators or motors and standard compass *100 ft*

Distance between electric generators or motors and steering compass *100 ft*

The nearest cables to the compasses are as follows:—

A cable carrying *6* Amperes *10* feet from standard compass *10* feet from steering compass.

A cable carrying *.3* Amperes *into* feet from standard compass *into* 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 *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 *every* course in the case of the standard compass, and *nil* degrees on *every* course in the case of the steering compass.

For CHARLES CONNELL & CO., Limited.

J. W. Ballum

SECRETARY.

Builder's Signature.

Date *4 June 1929*

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, etc.)

This installation has been fitted on board under special survey. Tested under full working conditions and found satisfactory. The materials and workmanship were found to be good and sound.

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

Elec. light

Run

13.6.29

Total Capacity of Generators *24* Kilowatts.

The amount of Fee ... *£ 19.10.0* : *3/6/29*

Travelling Expenses (if any) £ : : *6/6/29*

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

Committee's Minute *GLASGOW 11 JUN 1929*

Assigned *Elec. Light* *WMM*



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