

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 18 AUG 1926

Date of writing Report 9. 8 1926 When handed in at Local Office 16. 8 - 1926 Port of GLASGOW.

No. in Survey held at PORT GLASGOW. Date, First Survey May 18 Last Survey June 10 1926
Reg. Book. (Number of Visits 4)

SSA01. on the DREDGER "GARSTOKIA" Tons { Gross 459
Net

Built at PORT GLASGOW. By whom built MESSRS FERGUSON BROS. LTD Yard No. 278 When built 1926.

Owners THE L. M & S. RAILWAY CO. LTD Port belonging to LONDON.

Electric Light Installation fitted by MESSRS J. CHARTERS. Contract No. 278 When fitted 1926.

System of Distribution Double wire looping in system without jointing

Pressure of supply for Lighting 110 volts, Heating ✓ volts, Power 110 volts.

Direct or Alternating Current, Lighting DC. Power DC.

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 One generator, 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 Generator Engine Room Port side Forward, is the ventilation in way of the generator 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 > 12" and > 48", 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 Engine Room Port side Forward on E.R. Store Bulkhead.

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 > 12" and > 48",

are they constructed wholly of durable, incombustible non-absorbent materials Enamelled Slate, is all insulation of high dielectric strength and of permanently high insulation resistance Micanite, 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 Both poles insulated, 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 One D.P. switch + 2 S.P. H.O. Fuses for Dynamo, Five S.P. Circuit switches each with two S.P. H.O. Fuses.

Instruments on main switchboard One ammeter & One voltmeter ✓ 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 One set earth lamps with switches and fuses + - - - -

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



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 < 4 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 None

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 Carried on perforated steel cable trays or clipped direct to steel work & wood work.

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 None

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 Double wire

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 Non Propelling controlled by separate switch and separate fuses are the fuses double pole , are the switches and fuses grouped in a position accessible only to the officers on watch

has each navigation lamp an automatic indicator as per Rule , are separate screens provided for the use of oil and electric side lights are separate oil lanterns provided for the mast head lights and side lights

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 in storerooms

Guarded fittings 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

where are the controlling switches situated

Searchlight Lamps, No. of None, whether fixed or portable , are their fittings as per Rule

Arc 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 - workshop

are they protected from mechanical injury and damage from water, steam or oil Drip Proof 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 Drip Proof, 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

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	<u>ONE</u>	<u>6</u>	<u>110</u>	<u>55</u>	<u>600</u>	<u>Single Cylinder Steam Engine</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
AUXILIARY	<input checked="" type="checkbox"/>							
EMERGENCY	<input checked="" type="checkbox"/>							
ROTARY TRANSFORMER	<input checked="" type="checkbox"/>							

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.
				No.	Diameter.				
	MAIN GENERATOR...	<u>1</u>	<u>.06</u>	<u>19</u>	<u>.064</u>	<u>55</u>	<u>25</u>	<u>P.V.I.R.</u>	<u>Lead covered.</u>
	AUXILIARY GENERATOR	<input checked="" type="checkbox"/>							
	EMERGENCY GENERATOR	<input checked="" type="checkbox"/>							
	ROTARY TRANSFORMER...	<input checked="" type="checkbox"/>							
	AUXILIARY SWITCHBOARDS	<input checked="" type="checkbox"/>							
	ENGINE ROOM	<input checked="" type="checkbox"/>							
	BOILER ROOM	<u>1</u>	<u>.00532</u>	<u>3</u>	<u>18 SWG</u>	<u>13.4</u>	<u>12</u>	<u>do</u>	<u>do</u>
	DECK CLUSTERS	<u>1</u>	<u>.0125</u>	<u>7</u>	<u>18 SWG</u>	<u>25.5</u>	<u>12</u>	<u>do</u>	<u>do</u>
	FORWARD	<u>1</u>	<u>.00532</u>	<u>3</u>	<u>18 SWG</u>	<u>9.9</u>	<u>90</u>	<u>do</u>	<u>do</u>
	SPARE								
	WIRELESS								
	SEARCHLIGHT								
	MASTHEAD LIGHT								
	SIDE LIGHTS								
	COMPASS LIGHTS								
	POOP LIGHTS								
	CARGO LIGHTS								
	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.
				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	<u>1</u>	<u>.0125</u>	<u>7</u>	<u>18 SWG</u>	<u>26.7</u>	<u>160</u>	<u>P.V.I.R.</u>	<u>Lead covered.</u>
	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.



Electrical Engineers. Date

COMPASSES.

Distance between electric generators or motors and standard compass **NON-PROPELLING**

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying Ampères feet from standard compass 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

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.

FERGUSON BROTHERS (Port-Glasgow) LTD.

Robert Ferguson DIRECTOR 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 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. 20th Aug 1926*

A.L.S. 13/8/26.

Total Capacity of Generators 6. Kilowatts

The amount of Fee £ 60.00 : *@ 4pk.* When applied for.
 Travelling Expenses (if any) £ 10/6 : *6/8/26. m.m.* When received.

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

Committee's Minute **GLASGOW 17 AUG 1926**

Assigned *Elec. Light.*

1m. 9.21.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)

