

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office.....

Date of writing Report **29.5.1928** When handed in at Local Office **22.6.1928** Port of **GLASGOW.**

No. in Survey held at **GLASGOW.** Date, First Survey **4.6.28** Last Survey **29.6.1928**
Reg. Book. (Number of Visits.....5.....)

HOSEY, on the **DELFINA MITRE.** Tons { Gross
Net

Built at **GLASGOW.** By whom built **MESSRS R & J. INGLIS LTD** Yard No. **815** When built **1928**

Owners **ENTRE RIOS RAILWAY CO LTD** Port belonging to **IBICUY.**

Electric Light Installation fitted by **MESSRS HARLAND & WOLFF LTD** Contract No. **815** When fitted **1928**
(GOYAN)

System of Distribution **Two wire -**

Pressure of supply for Lighting **220 -** volts, Heating **-** 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 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 **yes -**, 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 **at forward end of main motor 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 **Forward end of main motor room, starboard side.**

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

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. Circuit**

Breaker interlocked with D. P. Equalising switch for each generator

and D. P. Switch & Fuses for each outgoing circuit.

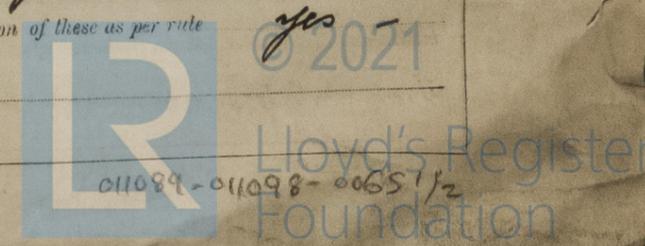
Instruments on main switchboard **two -** ammeters **two -** voltmeters **-** synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system **Two-way**

switch and voltmeter.

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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Cables: Single, twin, ~~concentric~~ or multicore 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

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

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, secured by brass clips throughout, except on engine platforms where L.C. & V.B. cables are fitted.
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 no

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 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 lead

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 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, in Pilot House, has each navigation lamp an automatic indicator as per Rule yes

Secondary Batteries, are they constructed and fitted as per Rule none

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 yes, watertight, bulkhead type fittings with guards., 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 yes, where are the controlling switches situated yes

Searchlight Lamps, No. of 1, whether fixed or portable yes, 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 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

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

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	55	220	250	400	Diesel Engine	Light. Inc.	150° F.
AUXILIARY								
EMERGENCY								
ROTARY TRANSFORMER					Nominal			

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	2	180	37	.064	250	146	Rubber	Lead Casch
	EQUALISER CONNECTIONS	2	180	37	.064	250	146	Rubber	Lead Casch
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM	2	.0070	4	.036	8.5	20	"	"
	BOILER ROOM	2	.0045	4	.029	14.8	160	"	"
	ACCOMMODATION	2	.0045	4	.029	8.0	260	"	"
	Navigation	2	.0045	4	.029	8.0	260	"	"
	WIRELESS								
	SEARCHLIGHT	2	.0030	3	.036	4.5	20	Rubber	Lead Casch
	MASTHEAD LIGHT	2	.0020	3	.029	24	40	"	Lead Casch in Combud
	SIDE LIGHTS	2	.0020	3	.029	24	64	"	Lead Casch
	COMPASS LIGHTS	2	.0020	3	.029	14	20	"	"
	POOP LIGHT	2	.0020	3	.029	24	592	"	"
	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	1	.0030	3	.036	11	62	Rubber	Lead Casch.
	MAIN BILGE LINE PUMPS	1	.0400	19	.052	48	66	"	"
	GENERAL SERVICE PUMP	1	.0400	19	.052	48	66	"	"
	EMERGENCY BILGE PUMP	1	.0400	19	.052	48	66	"	"
	SANITARY PUMP	1	.0400	19	.052	48	66	"	"
	CIRC. SEA WATER PUMPS	2	.0100	4	.044	29	60	"	"
	CIRC. FRESH WATER PUMPS	2	.0100	4	.044	29	60	"	"
	AIR COMPRESSOR	1	.0030	3	.036	4	130	"	"
	FRESH WATER PUMP	1	.0030	3	.036	4	130	"	"
	ENGINE TURNING GEAR	2	.0045	4	.029	17	74	"	"
	ENGINE REVERSING GEAR	2	.0045	4	.029	17	74	"	"
	LUBRICATING OIL PUMPS	2	.0145	4	.052	33	64	"	"
	OIL FUEL TRANSFER PUMP	1	.0030	3	.036	6	30	"	"
	WINDLASS	1	.1000	19	.083	145	360	"	"
	WINCHES, FORWARD	1	.0400	19	.052	48	66	"	"
	WINCHES, AFT	1	.0400	19	.052	48	66	"	"
	STEERING GEAR	1	.0400	19	.052	48	66	"	"
	(a) MOTOR GENERATOR	1	.0225	4	.064	50	430	"	"
	(b) MAIN MOTOR	1	.0225	4	.064	50	430	"	"
	WORKSHOP MOTOR	1	.0225	4	.064	50	430	"	"
	VENTILATING FANS	1	.0030	3	.036	6	80	"	"
	Lathe	1	.0030	3	.036	6	80	"	"
	Drill	1	.0030	3	.036	6	80	"	"
	Oil Purifier	1	.0030	3	.036	6	80	"	"
	Capstan	1	.0400	19	.052	48	66	"	"

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 HARLAND & WOLFF, LTD
John Dickenson
 Managing Director

Electrical Engineers.

Date

COMPASSES.

Distance between electric generators or motors and standard compass

none fitted
80 ft.

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying *12.6* Ampères - feet from standard compass *6* feet from steering compass.

A cable carrying *4.5* Ampères - feet from standard compass *5* feet from steering compass.

A cable carrying *.6* Ampères - feet from standard compass *3* 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 - degrees on - course in the case of the standard compass, and *nil* degrees on *all the* course in the case of the steering compass.

FOR HARLAND & WOLFF, LTD
John Dickenson
 Managing 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 load conditions and found satisfactory. The materials & workmanship were found to be good and sound.

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

3/7/28

Total Capacity of Generators *110* Kilowatts.

The amount of Fee ... £ *32.0.0* :
 Travelling Expenses (if any) £ : :
 When applied for, *21.6.1928*
 When received, *29.6.28*

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

Committee's Minute **GLASGOW 26 JUN 1928**

Assigned *Elec. Light.*



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Im. 127.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)

23-6-28