

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

WED. MAY. 30 1923

Received at London Office.....

Date of writing Report 21 - 4 - 1923 When handed in at Local Office 10 Port of GLASGOW

No. in Survey held at GLASGOW Date, First Survey 19. 1. 1923 Last Survey 18. 4. 1923  
Reg. Book. (Number of Visits.....) 6919

58722 on the M.V. "EDIBA" Tons { Gross 6800 Net 4220

Built at GOVAN By whom built HARLAND & WOLFF, LD Yard No. 582 G When built 1923

Owners ELDER, DEMPSTER & CO. LR Port belonging to LONDON

Electric Light Installation fitted by HARLAND & WOLFF, LR Contract No. 582 G. When fitted 1923

System of Distribution Double wired System

Pressure of supply for Lighting 220 volts, Heating 220 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 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 yes, 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 Generators Port 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 Boards, where placed Specially constructed Switchboard Platform at aft

End 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. Triple Pole Switches

for Main Generators, Positive, Negative, & Equalizing Blades

Double Pole Switches on all outgoing circuits

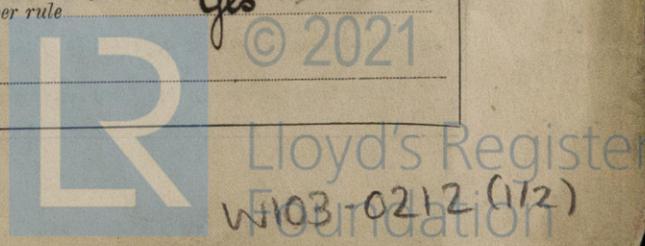
Instruments on main switchboard 3 ammeters. 2 voltmeters. ~ synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system. Earth Ramps,

Switches, & 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 & Twin 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 4.1 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 clipped direct to wood Bulkheads & on perforated plating elsewhere except Main Deck run which is in sheet iron troughing

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 jointing of L.S. & L.S.A.B. Cables made in special joint box each cable over .007 sq. in. section, having a separate sweating terminal

**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 All portable fittings having metal handles & Radiators, earthed with 3.036 copper wire.

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 Emergency Lights fitted in Engine Rm. Supply :- 1-25 Volt Battery.

**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 stacked in close proximity to them; if so, how are they protected cast iron handles

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 yes, whether fixed or portable yes, are their fittings as per Rule yes

**Arc 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 Majority fore aft.

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

**Lighting 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.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	3	100	220	455	300	Diesel Engine	Persian	Open 2204° F. Closed 184° F.
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. Amps.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	3+-	.75	91	.103	455	180	Rubber	Braided & Fireproofed
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM PORT L.T.S.	2	.007	7	.036	10	108	Rubber	L.S.A.B.
	ENGINE ROOM STAR L.T.S.	2	.007	7	.036	9.5	98	"	"
	Navigation Lighting	2	.007	7	.036	7.5	372	"	"
	Accommodation	2	.022	7	.064	40	124	"	"
	Cargo	2	.022	7	.064	35	124	"	"
	Heating Ford.	2	.120	37	.064	123	306	"	L.S.A.B. & L.C.
	" aft	2	.075	19	.064	96	124	"	L.S.A.B.
	Looking Ford	2	.06	19	.064	42	320	"	L.S.A.B. & L.C.
	" aft	2	.06	19	.064	59	124	"	L.S.A.B.
	WIRELESS	2	.007	7	.036	6.5	936	Rubber	L.S.A.B. & L.C.
	SEARCHLIGHT								
	MASTHEAD LIGHT	2	.003	3	.036	.6	300	"	"
	SIDE LIGHTS	2	.003	3	.036	.6	60	"	L.C.
	COMPASS LIGHTS	2	.003	3	.036	.3	30	"	"
	POOP LIGHTS								
	CARGO LIGHTS	2	.003	3	.036	5	200	"	L.S.A.B. & L.C.
	ARC LAMPS								
	HEATERS	2	.003	3	.036	5	20	"	L.C.

**MOTOR CONDUCTORS.**

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amps.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP	1	.075	19	.072	88	120	Rubber	L.S.A.B.
	MAIN BILGE LINE PUMPS	2	.04	19	.052	60	322	"	"
	GENERAL SERVICE PUMP								
	EMERGENCY BILGE PUMP								
	SANITARY PUMP	1	.04	19	.052	60	182	"	"
	CIRC. SEA WATER PUMPS	1	.04	19	.052	60	182	"	"
	CIRC. FRESH WATER PUMPS	2	.04	19	.052	60	322	"	"
	AIR COMPRESSOR	2	.2	37	.093	360	338	"	Braided & Fireproofed
	FRESH WATER PUMP	1	.007	7	.036	14	120	"	L.S.A.B.
	ENGINE TURNING GEAR	2	.04	19	.052	42	360	"	"
	ENGINE REVERSING GEAR	2	.04	19	.052	42	380	"	"
	LUBRICATING OIL PUMPS	3	.04	19	.052	64	170	"	"
	OIL FUEL TRANSFER PUMP	1	.04	19	.052	64	228	"	"
	WINDLASS	1	.15	37	.072	230	660	"	"
	WINCHES, FORWARD	6	.15	37	.072	230	460	"	"
	WINCHES, AFT	5	.25	37	.093	230	264	"	"
	STEERING GEAR	1	.1	19	.052	98	514	"	"
	WORKSHOP MOTOR LATHE	1	.003	3	.036	12	100	"	"
	VENTILATING FANS	2	.007	7	.036	12	80	"	"
	CO <sub>2</sub> Compressor	1	.075	19	.072	288	200	"	"
	Bain Pump	1	.007	7	.036	15	120	"	"
	Oil Purifier	1	.003	3	.036	12	100	"	"
	Stamlock Steer Jaws	1	.003	3	.036	12	100	"	"
	Drilling Machine	1	.003	3	.036	12	100	"	"

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 Dickinson*  
 Managing Director.

Electrical Engineers.

Date *9th May 1923*

COMPASSES.

Distance between electric generators or motors and standard compass *90 feet*

Distance between electric generators or motors and steering compass *90 feet*

The nearest cables to the compasses are as follows:—

A cable carrying *7.5* Ampères *10* feet from standard compass *6* feet from steering compass.

A cable carrying *6* Ampères *8* feet from standard compass *8* feet from steering compass.

A cable carrying *3* Ampères *6* feet from standard compass *6* 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 *all the* 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 Dickinson*  
 Managing Director.

Builder's Signature.

Date *9th May 1923*

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 in our 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.*  
*23.4.23*

Total Capacity of Generators *300* Kilowatts

The amount of Fee ... *£39.0.0* : *23.4.23*

Travelling Expenses (if any) £ : *12.5.23*

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

Committee's Minute *GLASGOW 29 MAY 1923*

Assigned *Elec. Light.*

*HC.*  
*28.5.23.*

Im. 822.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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