

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

THU OCT 26 1922

Date of writing Report 25.10.22 When handed in at Local Office 25 Oct 1922 Port of WEST HARTLEPOOL

No. in Survey held at West Hartlepool Date, First Survey 15 Aug Last Survey 12 Oct 1922
Reg. Book. (Number of Visits 108)

78479 on the 55' bity of Evansville Tons { Gross 6553.31
Net 4158.78

Built at Hartlepool By whom built Messrs Wm. Gray & Co. Yard No. 919 When built 1922

Owners Ellerman (Hall) Lines, Ltd Port belonging to Liverpool

Electric Light Installation fitted by Messrs Clarke Chapman & Co. Contract No. When fitted 1922

System of Distribution Double Wire

Pressure of supply for Lighting 100 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 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 —, 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 In recess after end of Engine Room on second deck, 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 near 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, 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 Yes ✓, 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 —, 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 Double Pole

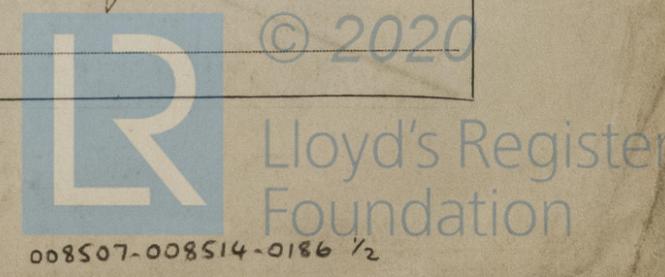
Switch & fuses on Dynamo mains & single pole switches with double pole fuses on each outgoing circuit.

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 Earth lamps coupled to earth through switches.

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 of the Rules yes

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 3.5 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

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 In live deck lead covered, armoured & braided cables through beams or clipped to underside of deck & in galvanized iron pipe across well deck. In accommodation lead covered cables secured by brass clips.
If cables are run in wood casings, are the casings and clips 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

Joints in Cables, state if any, and how made, insulated, and protected none made

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

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 fitted

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 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 no

where are the controlling switches situated

Searchlight Lamps, No. of, 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, are the coils self-contained and readily removable for replacement

are the brushes, brush holders, terminals and lubricating arrangements as per Rule, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material

are they protected from mechanical injury and damage from water, steam or oil, are their axis of rotation fore and 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, 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

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule steel masts

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	1	20	100	200	300	Open Type 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. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
1	MAIN GENERATOR	2	24.650	37	12	200	20	Pure Rubber	Taped & Braided
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
2	ENGINE ROOM	2	0.2214	7	16	23.35	20	Pure Rubber	Lead Covered Armoured & Braided
3	Navigation	2	0.0701	7	20	8.18	320	"	"
4	Foremast	2	0.0701	7	20	6.14	55	"	"
5	Saloon	2	0.0465	1	14	5.6	240	"	"
6	Lower Aft.	2	0.0701	7	20	7.4	400	"	"
7	Half Watt Mast Lamps	2	0.2214	7	16	20	40	"	"
8	Half Watt Barge Lamps	2	0.0701	7	20	10.3	40	"	"
9	WIRELESS	2	0.2214	7	16	25	145	Pure Rubber	Lead Covered Armoured & Braided
	SEARCHLIGHT								
	MASTHEAD LIGHT	2	0.0194	3	22	1.1	130	"	In Iron Pipes
	SIDE LIGHTS	2	0.0194	3	22	1.1	16	"	Braided & Compounded
	COMPASS LIGHTS	2	0.0152	1	18	5	45	"	Lead Covered
	STEER LIGHT	2	0.0152	1	18	1.1	690	"	Lead Covered, Armoured & Braided.
	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. Amperes.	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								
	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 Clarke, Chapman & Co., Ltd.

W. Taylor Director Electrical Engineers.

Date *October 20th 1922.*

COMPASSES.

Distance between electric generators or motors and standard compass *150 feet.*

Distance between electric generators or motors and steering compass *143 feet.*

The nearest cables to the compasses are as follows:—

A cable carrying *.5* Ampères *12* feet from standard compass *6* feet from steering compass.

A cable carrying *.5* Ampères *6* feet from standard compass *12* 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 *yes.*

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 *all* course in the case of the standard

compass, and *Nil* degrees on *all* course in the case of the steering compass.

FOR WILLIAM GRAY & CO. LIMITED.

W. Gray 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 under special survey and is in accordance with the requirements of the Rules.

The materials and workmanship are good.

On completion it was tried under full working conditions satisfactorily.

This vessel is entitled in my opinion to have the record of electric light.

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

A.H.B.
30/10/22

Total Capacity of Generators *20* Kilowatts

The amount of Fee ... £ *17 : 10* : *17 Oct 22*

Travelling Expenses (if any) £ : : *18 Oct 22*

R. D. Shilston
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

1m. 3.22.—Transfer.
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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