

Rpt. 13.

No. 11650

## REPORT ON ELECTRIC FITTINGS

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

TUE. 31 JUL. 1923

Date of writing Report

19

When handed in at Local Office

30.7.

1923

Port of

Middlesbrough

No. in  
Reg. Book.Survey held at *Haverlon Hill - on 4th*  
on the *S.S. "La Crescenta"*

Date, First Survey

while

Last Survey

building 19

(Number of Visits.....)

Tons {  
Gross  
NetBuilt at *Haverlon Hill - on 4th* By whom built *Furness S/B Co Ltd* Yard No. *8*When built *1923*Owners *Crescent Navigation Co Ltd* Port belonging to *London*Electric Light Installation fitted by *Messrs Furness Shipbuilding Co Ltd* Contract No.When fitted *1923*

## System of Distribution

*Double Wire Insulated*

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.

*Level*

, 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

Are all terminals accessible and clearly marked

*yes*

, are they so spaced or shielded that they cannot be accidentally earthed,

or short circuited

Are the lubricating arrangements of the generators as per Rule

*yes*

## Position of Generators

*after end 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

their respective generators in metallic contact

*yes*

Main Switch Boards, where placed

*Near Generator in 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**no*

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

*yes*

, is 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

*Not Earthed*

Are the following fittings as per Rule, viz.:— 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 switches

*D.P. Switches & Fuses for Generator, and each outgoing feeder circuit**(Fuses) porcelain K.O. Pattern*

Instruments on main switchboard

*one*

ammeters

*one*

voltage

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 16 c/p lamps**in series & middle point earthed, connected to each Bar Bar by means of Switch & Fuse*

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*

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Foundation



*Single*

**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 *Table III*

**Fall of Pressure**, state maximum between bus bars and any point of the installation under maximum load *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 *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 *Main Feeder cables are run along the underside of the Fore and Aft Gangway. All cables which are exposed, or where moisture is likely to accumulate are lead covered, armoured and braided*

**Support and Protection of Cables**, state how the cables are supported and protected *Lead covered & armoured cables are supported by means of galvanised iron clips. Lead covered cables supported by means of brass clips*

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 *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

**Joints in Cables**, state if any, and how made, insulated, and protected *Porcelain junction boxes protected by cast iron covers*

**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 *state the material of which the bushes are made* *lead*

**Earthing Connections**, state what earthing connections are fitted and their respective sectional areas *none*

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

**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 *Strong Ringed cast iron covers*

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *Gas tight fittings in Pump Room in No. 4 Conduit*

how are the cables led *Forecastle Dist. Board*

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 *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			Revs. per Min.	DRIVEN BY.	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
		Kilowatts.	Volts.	Ampères.			Fuel Used.	Flash Point of Fuel.	
MAIN ...	26546	872	100	85	360	Sunderland Forge Engine (Open Type)			
AUXILIARY ...						Generator by Sunderland Forge Co			
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.	
26646	MAIN GENERATOR...	2	.0937	19	14	85	25 ft	U. I. R.	Iron Pipes
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM ...								
	BOILER ROOM ...	2	.0225	7	.064	15	20 ft	U. I. R.	L. b. Arm & Brd
	WIRELESS ...	2	.0225	7	.064	15	220 ft	U. I. R.	L. b. Arm & Brd
	SEARCHLIGHT ...	1	.002	3	.029	1.2	300 "		
	MASTHEAD LIGHT...	1	.002	3	.029	1.2	300 "		
	SIDE LIGHTS ...	2	.002	3	.029	1.2	90 "		
	COMPASS LIGHTS ...	2	.002	3	.029	1.2	20 "		Lead covd only
	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. Amperes.	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 ...								
	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.

F. J. FURNESS SHIPBUILDING CO. LIMITED

*P. S. Glover*

Electrical Engineers.

Date *27th July 1923*

#### COMPASSES.

Distance between electric generators or motors and standard compass *150 ft*

Distance between electric generators or motors and steering compass *150 ft*

The nearest cables to the compasses are as follows:—

A cable carrying *3* Amperes *Inside* feet from standard compass *3* feet from steering compass.

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

F. J. FURNESS SHIPBUILDING CO. LIMITED,

*Am. Onarrie*

Builder's Signature.

Date *27th July 1923*

Is this installation a duplicate of a previous case *yes* If so, state name of vessel *SS Liss Mdr Ref 7211073*

General Remarks (State quality of workmanship, opinions as to class, &c. \_\_\_\_\_)

*This installation has been fitted in accordance with the Rules, is of good materials and workmanship and on completion was examined under full working conditions and found satisfactory.*

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

*GP.*  
*1-8-23.*

Total Capacity of Generators *8.5* Kilowatts

The amount of Fee ... £ *8* : *10* : *00* When applied for, *23.4.19.23*

Travelling Expenses (if any) £ : : When received, *See debit book.*

*C. E. Wilks*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Im. 9.22—Transfer.  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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