

Rpt. 13.

# REPORT ON ELECTRIC FITTINGS.

No. 16585

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 19 When handed in at Local Office 21.1.19 Port of WEST HARTLEPOOL

No. in Survey held at West Hartlepool Date, First Survey 26<sup>th</sup> Sept. Last Survey 7<sup>th</sup> Dec 1927  
Reg. Book. 1889 on the SS. CITY OF CANBERRA (Number of Visits 12)

Built at Liverpool By whom built Messrs W. Gray & Co. Yard No. 985 Tons { Gross 7070  
Net 4550  
Owners Ellerman Lines Ltd (Hall Line Ltd) Port belonging to Liverpool When built 1924  
Electric Light Installation fitted by Messrs Claude Chapman & Co. Contract No. 985 When fitted 1927

System of Distribution Double wire system ✓

Pressure of supply for Lighting 110 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 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 No ✓, 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

Position of Generators In Engine room lower platform starboard side ✓

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 Engine Room near dynamo

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 Yes ✓

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

bars 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 Double pole switches

& fuses on dynamo main, single pole switches & double pole fuses in each outgoing circuit

Instruments on main switchboard One ammeters One 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 lamps

connected to earth through switches & fuses

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

**Cables:** Single, twin, concentric, or multicore. Single are the cables insulated and protected as per Tables IV of the Rules. Yes

**Fall of Pressure,** state maximum between bus bars and any point of the installation under maximum load. 3.6 Volts

**Cable Sockets and other connections,** are the ends of all cables having a sectional area of 0.01 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. Lead, Armoured & Braided cables in engine room & cargo spaces clipped to underside of deck, lead covered in deck.  
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 VIII. 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. 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 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. -

**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, has each navigation lamp an automatic indicator as per Rule. Yes

**Secondary Batteries,** are they constructed and fitted as per Rule. -

**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

how are the cables led. -

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. 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. -, 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 and fitted 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	1	25	110	180	300	Large engine		
AUXILIARY						Steam engine		
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 Ampères	Approximate Length (Lead and Return) Feet	Insulated with	HOW PROTECTED
				No.	Diameter				
1	MAIN GENERATOR	2	.1964	37	.083	180	40	Raw rubber	Lead covered
	EQUALISER CONNECTIONS								
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER								
	AUXILIARY SWITCHBOARDS								
2	ENGINE ROOM	2	.02214	7	.064	10.6	60	" "	Lead Armoured & Braided
	BOILER ROOM								
	ACCOMMODATION								
3	Engine accommodation	2	.01462	7	.052	21	180	" "	" "
4	Salon accommodation	2	.01462	7	.052	16.9	280	" "	" "
5	Crew aft	2	.00701	7	.036	5.6	350	" "	" "
6	WIRELESS	2	.00701	7	.036	25	128	Raw rubber	Lead Armoured & Braided
	SEARCHLIGHT								
7	MASTHEAD LIGHT	2	.00194	3	.029	.9	224	" "	In run pipes
8	SIDE LIGHTS	2	.00194	3	.029	.9	60	" "	L.A.T. Braided
9	COMPASS LIGHTS	2	.00194	3	.029	.5	12	" "	Lead covered
10	STERN LIGHTS	2	.00194	3	.029	.9	420	" "	L.A.T. Braided
11	CARGO LIGHTS	2	.00455	8	.38	1.9	100	" "	Braided & Compounded
	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								
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR								
	WORKSHOP MOTOR								
	VENTILATING FANS								
12	Refrigerating motor	1	.02214	7	.064	30	80	Raw rubber	Lead, Armoured & Braided

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

COMPASSES.

Distance between electric generators or motors and standard compass *112 ft*

Distance between electric generators or motors and steering compass *106 "*

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 *Yes*

The maximum deviation due to electric currents was found to be *nie* degrees on *all* course in the case of the standard

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

For William Gray & Co., Limited.

*Geo. S. Simpson*

Builder's Signature.

Date

General Manager.

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 survey.  
 The materials and workmanship are good.  
 On completion it was tried under full  
 working conditions and found satisfactory.*

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

*JWD  
 8/2/28.*

Total Capacity of Generators *20* Kilowatts.

The amount of Fee ... £ *17 : 10* :  
 Travelling Expenses (if any) £ : :  
 When applied for, *19.12.27*  
 When received, *11.1.28*

*R.D. Shilston & A. Daintith*  
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned *Elec Light*

Im. 1. 27. — Transfer.  
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)



© 2021

Lloyd's Register  
 Foundation