

Rpt. 13.

No. 10.503

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 13 NOV 1930

Date of writing Report 19 When handed in at Local Office 12-11-1930 Port of Belfast

No. in Survey held at Belfast. Date, First Survey 4th Sept Last Survey 28th Sept 1930
Reg. Book. (Number of Visits.....)

91489 on the 55. "MAVIS" Tons { Gross 900.
Net

Built at BELFAST. By whom built HORKMAN CLARK (1928) LTD. Yard No. 520 When built 1930

Owners GENERAL STEAM NAVIGATION CO LTD. Port belonging to London.

Electric Light Installation fitted by SUNDERLAND FORGE & ENG CO LTD. Contract No. — When fitted 1930

Is the Vessel fitted for carrying Petroleum in bulk No.

System of Distribution Double wire

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 —, 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 Starboard side of Forward end 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 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 Star Side. 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, 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 micaite 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 Double Pole

Switch & Fuses for Generator. Double Pole Switch & Fuses for each outgoing Circuit

Instruments on main switchboard 1 ammeters 1 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 Lamp.

Switch & Fuse on each pole.

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 Twisted 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 4.7

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 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 Main 9 Machinery Spaces - Lead Covered Armoured & Braided Cables secured with Gal. Iron Clips. Accomm. Lead Covered Cable secured with 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 _____ 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 _____

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 _____

_____, are their connections made as per Rule _____

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

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 4 8x-Guarded

Exit Iron Deck Light Fitting

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected _____

_____, 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 _____, 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 axes 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 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	8	110	72.6	500	Single Cylinder Horizontal		
AUXILIARY						Steam Engine		
EMERGENCY								
ROTARY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR	2	0.04292	19	0.72	72.6	94	56	V.I.R.	Lead Covered in Pipe
EQUALISER CONNECTIONS									
AUXILIARY GENERATOR									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER									
ENGINE ROOM	2	0.1462	4	0.52	13.4	37	15	V.I.R.	LEAD COVERED ARMOURED & BRAIDED
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
ACCOMMODATION	2	0.2214	4	0.64	19.8	46	96	V.I.R.	Lead Covered Armoured & Braided
Navigation	2	0.0455	4	0.29	4.5	18.2	35.6	V.I.R.	Lead Covered Armoured & Braided
WIRELESS									
SEARCHLIGHT									
MASTHEAD LIGHT	2	0.0194	3	0.29	3.6	4.8	44.8	V.I.R.	Lead Covered Armoured & Braided
SIDE LIGHTS	2	0.0194	3	0.29	3.6	4.8	64	V.I.R.	Lead Covered
COMPASS LIGHTS	2	0.0194	3	0.29	3.6	4.8	20	V.I.R.	Lead Covered
POOP LIGHTS	2	0.1462	4	0.52	14.5	37	30.5	V.I.R.	Lead Covered Armoured & Braided
CARGO LIGHTS	2	0.1462	4	0.52	12.0	37	96	V.I.R.	Lead Covered Armoured & Braided
ARC LAMPS									
HEATERS									

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
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										

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.

p.pro. THE SUNDERLAND FORGE & ENG. CO. LTD., Electrical Engineers. Date 6.11.30.

COMPASSES.

Distance between electric generators or motors and standard compass 56 ft
 Distance between electric generators or motors and steering compass —
 The nearest cables to the compasses are as follows:—
 A cable carrying 45 Ampères 10 feet from standard compass feet from steering compass.
 A cable carrying 18 Ampères 10 feet from standard compass 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 Nil degrees on all courses in the case of the standard compass, and degrees on course in the case of the steering compass.

RED WORKMAN CLARK (1929) LIMITED.

J. Birmingham
 SECRETARY

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 constructed under special survey. The materials and workmanship are sound and good. It has been tried under working conditions with satisfactory results. In my opinion the vessel is eligible for notation "Electric Light".

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

(Signature)
 19/11/30

Total Capacity of Generators 8 Kilowatts.

The amount of Fee ... £ 8 : 0 : { When applied for, 12th Nov 1930

Travelling Expenses (if any) £ : : { When received, 19.11.30 *Elc*

John K. Williams
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned *Elc Lt.*

Im. 11.20.—Transfer.
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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