

31 OCT 1936

Rpt. 13.

No. 4 4324

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 23-10-1936 When handed in at Local Office 30 OCT 1936 Port of HULL
 No. in Survey held at Goole Date, First Survey 25th Sept 1936 Last Survey 23rd Oct. 1936
 Reg. Book. 67422 on the Motor Vessel CRESCENCE Tons { Gross 256.
 Net 127.
 Built at Goole By whom built Goole Shipbuilding & Rep. Co. Ltd Yard No. 319 When built 1936
 Owners London & Rochester Trading Co. Ltd Port belonging to Rochester
 Electric Light Installation fitted by The Humber Electrical Eng. Co. Ltd Contract No. ✓ When fitted 1936
 Is the Vessel fitted for carrying Petroleum in bulk No.

System of Distribution Parallel - constant pressure - two 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 temperature rise 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
 Have certificates of test results for machines under 100 kw. been submitted and approved Certificates herewith Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing ✓

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 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 Engine room. For'd bulk h'd.

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

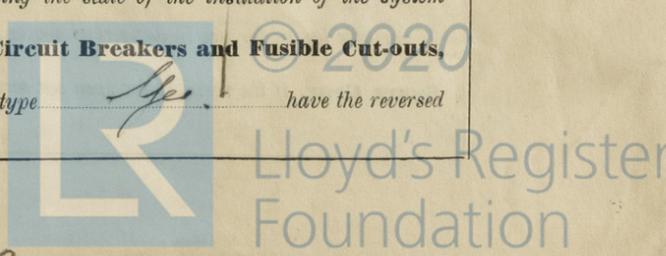
is it of an approved type Umdanyo, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework ✓, is the non-hygroscopic insulating material of an approved type ✓, 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, temperature rise of omnibus bars Yes, individual fuses to voltmeter, pilot or earth lamp Yes Are moving parts of switches alive in the "off" position No are all screws and nuts securing connections effectively locked Yes are any fuses fitted on the live side of switches No

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches
 Generator:— D.P. Switch & fuses; Outgoing Circuits S.P. Switch & D.P. fuses.

Are turbine driven generators fitted with emergency trip switch as per rule ✓ Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material ✓ Instruments on main switchboard 2 ammeters One voltmeters ✓ synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection ✓

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system
Earth lamps & switches Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules Yes are the fusible cutouts of an approved type Yes have the reversed ✓



current protection devices been tested under working conditions 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 Safe & sound are the cables insulated and protected as per Tables IV, V, X or XI of the Rules Yes

If the cables are insulated otherwise than as per Rule, are they of an approved type Yes Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 2 volts

Cable Sockets, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets All below 0.04" Paper Insulated and Varnished Cambric Insulated Cables. If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound Yes, or waterproof insulating tape 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 Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit Yes

Support and Protection of Cables, state how the cables are supported and protected Clipped to steel work

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 VIII Yes

Refrigerated Chambers, are the cables and fittings in accordance with the special requirements None

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

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 Yes 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 None

Navigation Lamps, are these separately wired None 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 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 None are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected None how are the cables led Yes where are the controlling switches situated Yes are all fittings suitably ventilated Yes are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials Yes

Heating and Cooking Appliances, are they constructed and fitted as per Rule Yes, are air heaters constructed and fitted as per Rule Yes

Searchlight Lamps, No. of 1, whether fixed or portable Yes, are their fittings as per Rule Yes

Arc Lamps, other than searchlight lamps, No. of 1, 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 None, 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 Yes if not of this type, state distance of the combustible material horizontally or vertically above the motors Yes and Yes have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing Yes 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 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 are all fuses of the fitted cartridge type Yes are they of an approved type Yes If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office Yes Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule Complete

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	<u>One</u>	<u>2.0</u>	<u>110</u>	<u>18.2</u>	<u>800</u>	<u>8.5HP Petrol Diesel</u>	<u>Heavy Oil</u>	<u>Above 150°F</u>
AUXILIARY	<u>✓</u>							
EMERGENCY	<u>✓</u>					<u>An additional 2.5HP oil engine set fitted 7.43</u>		
ROTARY TRANSFORMER	<u>✓</u>							

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 Nominal Area per Pole Sq. Ins.	No.	Diameter	Circuit	Rule			
MAIN GENERATOR	<u>One</u>	<u>0.01</u>	<u>7</u>	<u>.044</u>	<u>23</u>	<u>31</u>	<u>72</u>	<u>V.I.R</u>	<u>L.C. + Am.</u>
EQUALISER CONNECTIONS	<u>✓</u>								
AUXILIARY GENERATOR	<u>✓</u>								
EMERGENCY GENERATOR	<u>✓</u>								
ROTARY TRANSFORMER MOTOR GENERATOR	<u>✓</u>								
ENGINE ROOM	<u>One</u>	<u>0.0015</u>	<u>1</u>	<u>.044</u>	<u>1.2</u>	<u>6.1</u>	<u>60</u>	<u>do</u>	<u>do</u>
BOILER ROOM	<u>✓</u>								
AUXILIARY SWITCHBOARDS	<u>✓</u>								
ACCOMMODATION	<u>1</u>	<u>0.003</u>	<u>3</u>	<u>.036</u>	<u>7.5</u>	<u>12.0</u>	<u>100</u>	<u>do</u>	<u>do</u>
WIRELESS	<u>✓</u>								
SEARCHLIGHT	<u>✓</u>								
MASTHEAD LIGHT	<u>✓</u>								
SIDE LIGHTS	<u>✓</u>								
COMPASS LIGHTS	<u>1</u>	<u>0.0015</u>	<u>1</u>	<u>.044</u>	<u>1</u>	<u>6.1</u>	<u>240</u>	<u>do</u>	<u>L.C.</u>
POOP LIGHTS	<u>✓</u>								
CARGO LIGHTS	<u>✓</u>								
ARC LAMPS	<u>✓</u>								
HEATERS	<u>✓</u>								

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 Nominal 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 (or International Electro-technical Commission Publication No. 28).

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

W. H. HUBER ELECTRICAL ENGINEERING CO.
W. H. Huber

Electrical Engineers. Date _____

COMPASSES.

Distance between electric generators or motors and standard compass _____

Distance between electric generators or motors and steering compass 60 feet

The nearest cables to the compasses are as follows:—

A cable carrying 1 Ampères _____ feet from standard compass to _____ feet from steering compass.

A cable carrying _____ Ampères _____ 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 _____ degrees on _____ course in the case of the standard compass, and Nil degrees on any course in the case of the steering compass.

PER PRO
THE GOOLE SHIPBUILDING & REPAIRING CO. LTD.

G. F. Brazz Builder's Signature. Date _____

SECRETARY

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 Electric installation has been fitted on board under Special Survey & is in accordance with the Rules & the plan approved 25.9.36. with the exception of minor details shown on attached plan.

The workmanship & materials are good & when subjected to the tests prescribed in the Rules the installation was found satisfactory in every respect.

The Vessel, so far as the Electrical installation is concerned, is eligible, in my opinion, to be classed.

Total Capacity of Generators 24.5 Kilowatts.

The amount of Fee ... £ 5 : 0 : 30 Oct 1936

Travelling Expenses (if any) £ _____ : 2.12.36

John H. Johnson
Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 6 NOV 1936

Assigned see J. E. Machy Report.

2m.5.34.—Transfer.
The Surveyors are requested not to write on or below the space for Committee's Minute.