

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 25<sup>th</sup> Sept 1936 Last Survey 23<sup>rd</sup> Oct. 1936  
 Reg. Book. 67422 on the Motor Vessel CRESCENCE  
 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 hereafter. 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 Micanite ✓, 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  
 Generators:— D.P. started & fuses; Outgoing Circuits S.P. started & 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  
 do these comply with the requirements of the Rules Yes ✓ are the fusible cutouts of an approved type Yes ✓ have the reversed

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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 *Yes* 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*

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 *Yes* whether fixed or portable *Yes* are their fittings as per Rule *Yes*

Are Lamps, other than searchlight lamps, No. of *Yes* 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 filled 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	One	2.0	110	18.2	800	8.5HP Delta Diesel	Heavy Oil	Above 150°F	
AUXILIARY	✓								
EMERGENCY	✓	An additional 2.5HP oil engine fitted 7.43							
ROTARY TRANSFORMER	✓								

  

GENERATOR, LIGHTING AND HEATING CONDUCTORS.										
DESCRIPTION.	No. of Pole.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
		Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rule.				
MAIN GENERATOR	One	0.01	7	0.044	23	31	72	V.I.R	L.C. + Arm.	
EQUALISER CONNECTIONS	✓									
AUXILIARY GENERATOR	✓									
EMERGENCY GENERATOR	✓									
ROTARY TRANSFORMER MOTOR	✓									
ENGINE ROOM	One	0.0015	1	0.044	1.2	6.1	60	do	do	
BOILER ROOM	✓									
AUXILIARY SWITCHBOARDS	✓									
ACCOMMODATION	1	0.003	3	0.036	7.5	12.0	100	do	do	
WIRELESS	✓									
SEARCHLIGHT	✓									
MASTHEAD LIGHT	✓									
SIDE LIGHTS	✓									
COMPASS LIGHTS	1	0.0015	1	0.044	1	6.1	240	do	L.C.	
POOP LIGHTS	✓									
CARGO LIGHTS	✓									
ARC LAMPS	✓									
HEATERS	✓									

  

MOTOR CONDUCTORS.										
DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		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.

PER KIL HUNTER ELECTRICAL ENGINEERING CO.

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

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 degrees on course in the case of the standard

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

PER PRO

THE GOOLE SHIPBUILDING & REPAIRING CO. LTD.

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

Kilowatts.

The amount of Fee ... £ 5 : 0 :

When applied for,

30 OCT 1936

Travelling Expenses (if any) £

When received,

2.12.36

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 6 NOV 1936

Assigned

see J. E. Machy Report.



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