

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

27 SEP 1944

Received at London Office

Date of writing Report 25th JULY, 1944 When handed in at Local Office 4th AUGUST 1944 Port of Halifax, Nova Scotia,

No. in Survey held at PICTOU, N. S., Date, First Survey 21st JUNE Last Survey 3rd JULY 1944.
Reg. Book. (Number of Visits FOUR.)

on the S. S. "CATARAQUI PARK" Tons { Gross 2877
Net 1652

Built at Pictou, N. S., By whom built FOUNDATION MARITIME LD Yard No. 14 When built 1944.

Owners CANADIAN GOVERNMENT Port belonging to Not registered.

Electric Light Installation fitted by W.C. WETMORE LD., Pictou, N.S. Contract No. - When fitted 1944.

Is the Vessel fitted for carrying Petroleum in bulk No

System of Distribution 115 volt Two wire system.

Pressure of supply for Lighting 115 volts, Heating - volts, Power 115 volts.

Direct or Alternating Current, Lighting Direct Power Direct

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 Yes, 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 Yes 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 Star. side engine room bottom platform., 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 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

is it of an approved type 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 -, 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 connected by 3 P.S.T. knife switches - centre poles interconnected for equaliser. Outside poles connect to circuit breaker with O.L. & R.C. protection. Each outgoing circuit has D.P. switch with double fuse protection.

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 all metal Instruments on main switchboard 2 ammeters 2 voltmeters one synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection Yes

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Earth lamps & momentary voltmeter reading.

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 SINGLE 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 - Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load No loss detectable Cable Sockets, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets Yes 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 - or waterproof insulating tape - 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, ~~XXXXXXXX~~ bathrooms and lavatories lead covered or run in conduit Yes

Support and Protection of Cables, state how the cables are supported and protected Single cables secured by screwed clips. multi-cable runs led on fabricated ducts & secured by screwed cross straps.

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 - 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 -

Joints in Cables, state if any, and how made, insulated, and protected All joints made in approved W.T. Boxes.

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 cable protection, frames of generators, motors, switchboards, panels, etc., are effectively earthed and the cross-sectional areas of the conductors are adequate, 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 ~~XXXXXXXXXXXXXXXXXXXX~~ Dry battery lamps for emergency.

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 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; ~~XXXXXXXXXXXXXXXXXXXX~~ No.

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, ~~XXXXXXXXXXXXXXXXXXXX~~ No.

how are the cables led

where are the controlling switches situated -

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 -

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

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 -

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing - 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 - are all fuses of the filled cartridge type - are they of an approved type -

If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office -

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule Yes

PARTICULARS OF GENERATING PLANT.

| DESCRIPTION OF GENERATOR. | No. of | RATED AT | | | | DRIVEN BY | WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE. | |
|---------------------------|--------|------------|--------|----------|----------------|----------------------|--|----------------------|
| | | Kilowatts. | Volts. | Amperes. | Revs. per Min. | | Fuel Used. | Flash Point of Fuel. |
| MAIN | 2 | 15 | 115 | 130 | 575 | Steam engine (recip) | - | - |
| AUXILIARY | | | | | | | | |
| 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 Nominal Area per Pole Sq. Ins. | No. | Diameter. | Circuit. | A.T.E.E. | Rule. | | | |
| MAIN GENERATOR | 1 | .131 | 19/ | .094 | 130 | 179 | 50 | Rubber | Conduit. | |
| EQUALISER CONNECTIONS | 1 | .131 | 19/ | .094 | 130 | 179 | 50 | Rubber | Conduit. | |
| AUXILIARY GENERATOR | | | | | | | | | | |
| EMERGENCY GENERATOR | | | | | | | | | | |
| ROTARY TRANSFORMER MOTOR GENERATOR | | | | | | | | | | |
| ENGINE ROOM | 1 | .021 | 7 | .0612 | 35 | 52 | 20 | Rubber | Conduit. | |
| BOILER ROOM | | | | | | | | | | |
| AUXILIARY SWITCHBOARDS | | | | | | | | | | |
| ACCOMMODATION | | | | | | | | | | |
| Amidships | 1 | .033 | 7 | .0772 | 30 | 70 | 80 | Rubber | Conduit | |
| Bridge Deck | 1 | " | " | " | " | " | 100 | " | " | |
| Crew's Quarters | 1 | " | " | " | " | " | 500 | " | " | |
| WIRELESS | 1 | .021 | 7 | .0612 | 30 | 52 | 240 | " | " | |
| SEARCHLIGHT | 1 | .005 | 1 | .0918 | 15 | 21 | 100 | " | Lead covered & conduit. | |
| MASTHEAD LIGHT | 1 | .003 | 7 | .0242 | 1 | 15 | 150 | " | " | |
| SIDE LIGHTS | 1 | " | " | " | 2 | 15 | 60 | " | " | |
| COMPASS LIGHTS | 1 | " | " | " | .25 | 15 | 40 | " | " | |
| POOP LIGHTS | 1 | " | " | " | 5 | 15 | 60 | " | " | |
| CARGO LIGHTS | 1 | " | " | " | 7 | 15 | 200 | " | " | |
| 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 Nominal Area per Pole Sq. Ins. | No. | Diameter. | In Circuit. | Rule. | 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 | | | | | | | | | | | |
| 2 H.P. Refrigerator | 1 | 1 | .005 | 1 | .0808 | 6 | 15 | 70 | Rubber | Conduit. | |
| 1/2 H.P. Refrig. Circ. Pump | 1 | 1 | " | 1 | " | 4.5 | " | 50 | " | " | |
| To D.G. Switchboard | 1 | 1 | .131 | 19/ | .094 | 115 | 179 | 20 | " | " | |

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.

FOR. W.C. WETMORE L^{TP}

J. S. Harrison Electrical Engineers.
MANAGER.

Date 27-7-44.

COMPASSES.

Distance between electric generators or motors and standard compass 60 ft.

Distance between electric generators or motors and steering compass 55 ft.

The nearest cables to the compasses are as follows:—

A cable carrying $\frac{1}{4}$ Ampères 1 feet from standard compass 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 0 degrees on course in the case of the standard compass, and 0 degrees on course in the case of the steering compass.

FOUNDATION MARITIME LIMITED,

R. S. Shaw
Manager.

Builder's Signature.

Date 27-7-1944

Is this installation a duplicate of a previous case YES If so, state name of vessel ROCKLIFFE PARK

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

The electrical installation of this vessel has been fitted to comply with the Rules & Approved Plans, also Specifications & special instructions including defence measures issued by Wartime Shipbuilding Limited. The workmanship and materials used are of good quality. The fittings & insulation resistance have been tested throughout, the circuit breakers adjusted and both generators run separately and in parallel under full working conditions when the governors were tested and all found in satisfactory condition. The effect of Degaussing Equipment on compass rectified by magnetic coils and heeling coil controlled by tencheometer.

The vessel is eligible, in my opinion, to have the notation

✠ L.M.C. 644 so far as the Electrical Equipment is concerned.

Noted.
J. H.
3/10/44

Total Capacity of Generators 30 Kilowatts.

The amount of Fee ... \$ 95.00 : When applied for, Aug. 4 1944
Travelling Expenses (if any) £ :- : When received, 19

Jos. H. Nain
Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 6 OCT 1944

Assigned See minute on J.E. Rpl.

Im-4-42.—Transfer. Printed in U.S.A.
(The Surveyors are requested not to write on or below the space for Committee's Minute)



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