

Rpt. 13.

No. 6644

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

20 SEP 1945

Received at London Office.

Date of writing Report August 13 1945 When handed in at Local Office August 14 1945 Port of QUEBEC, P.Q.
No. in Survey held at LAUZON, P.Q. Date, First Survey 19th. April Last Survey 9th. August 1945
Reg. Book. (Number of Visits) Continuous attendance
on the Steel Single Screw Steamer "CARTIER PARK" Tons { Gross 2963.40
Net 1635.10
Built at LAUZON, P.Q. By whom built GEO. T. DAVIE & SONS LTD. Yard No. 33 When built 1945
Owners CANADIAN GOVERNMENT Port belonging to MONTREAL.
(MGRS. PARK S.S.CO.LTD.)
Electric Light Installation fitted by GEO. T. DAVIE & SONS LTD. Contract No. 33 When fitted 1945
Is the Vessel fitted for carrying Petroleum in bulk NO

System of Distribution 2 WIRE D.C. volts, Power - volts,
Pressure of supply for Lighting 110 volts, Heating - volts, Power --
Direct or Alternating Current, Lighting DIRECT CURRENT 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 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 Starbd. side in Engine Room at Lower platform level., 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 After end of Engine Room on Starboard side.
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 -, 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
250 Amp. Triple pole air circuit breaker with I.T.L. overloads, one low voltage release & one
Reverse Current Trip for each. Two 1-100 AMP D.P.S.T., 3-60 AMP D.P.S.T. & 3-30 AMP D.P.S.T. switch breakers.
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 2 volt-
meters - synchronizing device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equalizer 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 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



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Lloyd's Register
Foundation

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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 **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 **Yes** Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load **3 volts** 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 **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 **Conduit & Trays**

Support and Protection of Cables, state how the cables are supported and protected **Conduits & trays suitably clipped as per rules.**

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 **Yes**

Refrigerated Chambers, are the cables and fittings in accordance with the special requirements **Conduit & vapour proof fitting.**

Joints in Cables, state if any, and how made, insulated, and protected **Junction 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 **(Through holding down bolts)**

Dynamo No. 10 cable for echo sounding D.G. & W.T. to ship skin.

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 **Yes**

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; if so, how are they protected **all fittings in magazine conduit & vapour proof fittings**

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected **all fittings in magazine conduit & vapour proof fittings** how are the cables led in conduit

where are the controlling switches situated **Outside magazine**

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**

Are 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 **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 **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 BPH 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 **Yes**

PARTICULARS OF GENERATING PLANT.

| DESCRIPTION OF GENERATOR. | No. of | RATED AT | | | Revs. per Min. | DRIVEN BY | | WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE. | |
|---------------------------|--------|------------|--------|----------|----------------|---------------------------------------|--|--|----------------------|
| | | Kilowatts. | Volts. | Amperes. | | | | Fuel Used. | Flash Point of Fuel. |
| MAIN ... | 2 ✓ | 15 | 110 | 136 | 575 | Vertical Steam Reciprocating Engines. | | | |
| AUXILIARY ... | 1 | | | | | | | | |
| EMERGENCY ... | 1 | | | | | | | | |
| ROTARY TRANSFORMER | 1 | | | | | | | | |

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 ... | 1 | .132 | 19 | .094 | 136 | 142 | 40ft. | RCDB | Conduit |
| EQUALISER CONNECTIONS ... | 1 | .132 | 19 | .094 | 136 | 142 | 20ft. | RCDB | " |
| AUXILIARY GENERATOR ... | 1 | | | | | | | | |
| EMERGENCY GENERATOR ... | 1 | | | | | | | | |
| ROTARY TRANSFORMER (GENERATOR) ... | 1 | .003 | 7 | .024 | 7 | 13 | 220ft. | RCDB | Conduit |
| ENGINE ROOM ... | 1 | .003 | 7 | .024 | 4 | 13 | 300ft. | RCDB | " |
| BOILER ROOM ... | 1 | .003 | 7 | .024 | 4 | 13 | 300ft. | RCDB | " |
| AUXILIARY SWITCHBOARDS ... | 1 | .033 | 7 | .077 | 44 | 57 | 14ft. | RCDB | Conduit |
| 1 - 4 way Ford. | 1 | .033 | 7 | .077 | 44 | 57 | 14ft. | " | " |
| 1 - 4 way Aft. | 1 | .033 | 7 | .077 | 44 | 57 | 14ft. | " | " |
| Gyro Compass | 1 | .022 | 7 | .064 | 11 | 46 | 100ft. | " | " |
| All lighting Sub. | 1 | .003 | 7 | .077 | 6 | 13 | 5000ft. | RCDB | Conduit & Trays |
| CIRCUITS IN SHIP | | | | | | | | | |
| 1-6 way Acc. Stores | 1 | .022 | 7 | .064 | 11 | 46 | 160ft. | RCDB | Conduit. |
| 1-6 way Acc. Ford. | 1 | .022 | 7 | .064 | 28 | 46 | 120ft. | RCDB | " |
| 1-6 way Mid. acc. | 1 | .022 | 7 | .064 | 19 | 46 | 40ft. | RCDB | " |
| 1-6 way Stores Etc. | 1 | .022 | 7 | .064 | 12 | 46 | 40ft. | RCDB | " |
| 1-6 way acc. aft. | 1 | .033 | 7 | .077 | 8 | 57 | 200ft. | RCDB | " |
| 1-6 way Eng. Room | 1 | .013 | | .042 | 21 | 36 | 12ft. | RCDB | " |
| WIRELESS ... | 1 | .022 | 7 | .064 | 14 | 46 | | RCDB | " |
| SEARCHLIGHT ... | 1 | .003 | 7 | .024 | 2 | 13 | 200ft. | RCDB | " |
| MASTHEAD LIGHT ... | 1 | .003 | 7 | .024 | 2 | 13 | 40ft. | RCDB | " |
| SIDE LIGHTS ... | 1 | .003 | 7 | .024 | 1 | 13 | 16ft. | RCDB | Tray |
| COMPASS LIGHTS ... | 1 | .003 | 7 | .024 | 1 | 13 | 248ft. | RCDB | Conduit |
| POOP LIGHTS ... | 1 | .003 | 7 | .024 | 10 | 13 | 50ft. | RCDB | " |
| GARGO LIGHTS ... | 1 | .003 | 7 | .024 | 10 | 13 | 50ft. | RCDB | " |
| ARC LAMPS ... | 1 | | | | | | | | |
| HEATERS ... | 1 | | | | | | | | |

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 ... | 1 | | | | | | | | | |
| MAIN BILGE LINE PUMPS ... | 1 | | | | | | | | | |
| GENERAL SERVICE PUMP ... | 1 | | | | | | | | | |
| EMERGENCY BILGE PUMP ... | 1 | | | | | | | | | |
| SANITARY PUMP ... | 1 | | | | | | | | | |
| CIRC. SEA WATER PUMPS ... | 1 | | | | | | | | | |
| CIRC. FRESH WATER PUMPS ... | 1 | | | | | | | | | |
| AIR COMPRESSOR ... | 1 | | | | | | | | | |
| FRESH WATER PUMP ... | 1 | | | | | | | | | |
| ENGINE TURNING GEAR ... | 1 | | | | | | | | | |
| ENGINE REVERSING GEAR ... | 1 | | | | | | | | | |
| LUBRICATING OIL PUMPS ... | 1 | | | | | | | | | |
| OIL FUEL TRANSFER PUMP ... | 1 | | | | | | | | | |
| WINDLASS ... | 1 | | | | | | | | | |
| WINCHES, FORWARD ... | 1 | | | | | | | | | |
| WINCHES, AFT ... | 1 | | | | | | | | | |
| STEERING GEAR— | | | | | | | | | | |
| (a) MOTOR GENERATOR ... | 1 | | | | | | | | | |
| (b) MAIN MOTOR ... | 1 | | | | | | | | | |
| WORKSHOP MOTOR ... | 1 | 1 | .003 | 7 | .024 | 2 | 13 | 40ft. | RCDB | Conduit |
| VENTILATING FANS Galleys ... | 1 | 1 | .132 | 19 | .094 | 102 | 146 | 40ft. | " | " |
| Degaussing | 1 | 1 | .022 | 7 | .064 | 37 | 46 | 160ft. | " | " |
| Demo. Frig. Motor | 1 | 1 | .022 | 7 | .064 | 37 | 46 | 160ft. | " | " |

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 of the installation by

Geo. T. Davie & Sons Ltd.

PER Charles G. Davie Electrical Engineers.

Date.....

COMPASSES.

Distance between electric generators or motors and standard compass..... 44'-0"

Distance between electric generators or motors and steering compass..... 36'-0"

The nearest cables to the compasses are as follows:—

A cable carrying 1 Ampères IN ~~XXXX~~ standard compass..... IN ~~XXXX~~ steering compass.

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

A cable carrying 2 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..... course in the case of the standard

compass; and Nil degrees on..... course in the case of the steering compass.

Geo. T. Davie & Sons Ltd.

PER Charles G. Davie Builder's Signature.

Date.....

Is this installation a duplicate of a previous case Yes..... If so, state name of vessel S.S. "BALDWIN PARK"

General Remarks (State quality of workmanship, opinions as to class, &c..... The ELECTRICAL installation has

been fitted on board this Vessel under Special Survey, and in accordance with the Approved

plans and Specifications and has been satisfactorily tested under full working conditions.

Megger tested throughout and found in good order.

The material and workmanship are good & sound.

Noted

Thru 24.9.45

Total Capacity of Generators 30 Kilowatts.

The amount of Fee ... \$ 95.00 : [When applied for, 6th Sept 1945]

Traveling Expenses (if any) \$ Included [When received, 19.....]

in Hull Rpt.

Committee's Minute 28 SEP 1945

Assigned See F.E. machy. rpt.

D. Halkett
Surveyor to Lloyd's Register of Shipping.