

Ind. Rpt
No. 7018

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

20 DEC 1946

Received at London Office

3. Writing Report 7th Nov. 1946 When handed in at Local Office 8th Nov. 1946 Port of QUEBEC, P.Q.
 Survey held at Lauzon, Levis, P.Q. Date, First Survey 1st June Last Survey 2nd Nov. 1946
 (Number of Visits) Continuous Attendance
 on the Steel Single Screw Motor Vessel "OTTAWA MAYTHORN" Tons { Gross 522.15
 Net 254.07
 at Lauzon, Levis, P.Q. By whom built Geo. T. Davie & Sons Ltd. Ord No. 39 When built 1946
 General Timber Products Ltd. Port belonging to Quebec
 Electric Light Installation fitted by Geo. T. Davie & Sons Ltd. Contract No. 39 When fitted 1946
 Vessel fitted for carrying Petroleum in bulk No

of Distribution Twin Wire --
 Voltage of supply for Lighting 110 volts. Heating -- volts. Power 110 volts.
 for Alternating Current, Lighting D.C. Power D.C.
 Regulating current system, state frequency of periods per second --
 Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes
 Motors, do they comply with the requirements regarding temperature rise Yes, are they compound wound Yes
 over compounded 5 per cent. Yes, if not compound wound state distance between each generator --
 more than one generator is fitted are they arranged to run in parallel --, is an adjustable regulating resistance fitted in
 with each shunt field Yes Have certificates of test results for machines under 100 kw. been submitted and
 read Yes Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing --
 terminals accessible, clearly marked, and furnished with sockets Yes, are they so spaced or shielded that they cannot be accidentally earthed,
 touched or shorted Yes Are the lubricating arrangements of the generators as per Rule Yes
 Location of Generators Starboard Side in Engine Room, bottom platform, is the ventilation
 of the generators satisfactory Yes are they clear of all inflammable material Yes if situated near unprotected
 work or other combustible material, state distance of same horizontally from or vertically above the generators -- and --
 generators protected from mechanical injury and damage from water, steam or oil Yes, are their axes of rotation fore and aft Yes
 bearings, are the bedplates and frames of the generating plant efficiently earthed Yes are the prime movers and their respective generators
 electric contact Yes Main Switch Boards, where placed Starboard side in Engine Room, near dynamo
 If the generators and main switchboard are not placed in the same compartment, is each generator provided with
 a leaded cable 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
 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
 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
 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
 bars Yes, individual fuses to voltmeter, pilot or earth lamp Yes, are moving parts of switches alive in the
 position No are all screws and nuts securing connections effectively locked Yes are any fuses fitted on the live side of
 Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches
 No triple pole air circuit breaker with I.T.L. overload, one low voltage release and
 reverse current trip. 3 - 60 amp. D.P.S.T. and 3 - 30 amp. D.P.S.T.
 Are cupboards or compartments containing switchboards composed of
 fire driven generators fitted with emergency trip switch as per rule --
 fire resistant material or lined with approved material -- Instruments on main switchboard Two ammeters One volt-
 One 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
 Switches, Circuit Breakers and Fusible Cut-outs,
 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 **--** **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 $\frac{3}{8}$ 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, laundries, bathrooms and lavatories lead covered or run in conduit **Both R.I.L.C. & conduit****

Support and Protection of Cables, state how the cables are supported and protected **R.C.D.B. in conduit in Engine Room, holds and crew accommodation and lead covered in officers' accommodation all suitably clipped,**

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 **XI** **--**

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 **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 **frame welded to Hull - No. 10 cable to frame**

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 **--****

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

where are the controlling switches situated **--**

are all fittings suitably ventilated **--, are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials **--****

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

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 **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 **--** **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 **Coastal Vessel**

PARTICULARS OF GENERATING PLANT.									
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
		Kilowatts.	Volts.	Amperes.	Rev. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN	1	15	110	132	575	Vertical Steam Engine	--	--	
AUXILIARY		22			1200	Replaces Cpn 12614. Eng by 3 Cyl Rotors & Hornsby Oil Eng. Infr. 3V 5H No 266676 mit			
EMERGENCY						Compound by No 126 11169 of 22 KW by R.A. Jacobs			
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.	Rule.			
MAIN GENERATOR	1	.1660	19	.1055	124.5	164	44	R.C.D.B.	Conduit	
EQUALISER CONNECTIONS										
AUXILIARY GENERATOR										
EMERGENCY GENERATOR										
ROTARY TRANSFORMER MOTOR GENERATOR										
ENGINE ROOM	Circuits 4	1	.0030	7	.0242	9.3	12.9	800	R.C.D.B.	Conduit
BOILER ROOM	Circuit 1	1	.0030	7	.0242	1.8	12.9	200	R.C.D.B.	Conduit
AUXILIARY SWITCHBOARDS										
1-6 Way ER & BR	1	.0080	7	.0385	15.9	26.4	30	R.C.D.B.	Conduit	
1-8 Way Accom.	1	.0130	7	.0486	25.9	34.8	120	R.C.D.B.	Conduit	
1-6 Way Ventilation	1	.0205	7	.0612	36	43.3	120	R.C.D.B.	Conduit	
1-3 Way Motor Pumps	1	.0080	7	.0242	18.2	26.4	60	R.C.D.B.	Conduit	
1-8 Way Cargo Lights	1	.0130	7	.0486	28.5	34.8	100	R.C.D.B.	Conduit	
1-5 Way Nav. Lights	1	.0030	7	.0242	1.8	12.9	100	R.C.D.B.	Conduit	
ACCOMMODATION BRANCHES										
Circuits Officers	1	.0030	7	.0242	10.6	12.9	1400	R.T.L.C.		
Circuits Crew	1	.0030	7	.0242	9.5	12.9	1200	R.C.D.B.	Conduit	
WIRELESS										
SEARCHLIGHT										
MASTHEAD LIGHT	1	.0030	7	.0242	.45	12.9	240	R.C.D.B.	Conduit	
SIDE LIGHTS each	1	.0030	7	.0242	.45	12.9	60	R.I.L.C.		
COMPASS LIGHTS	1	.0030	7	.0242	.45	12.9	12	R.I.L.C.		
POOP LIGHTS Stern	1	.0030	7	.0242	.45	12.9	180	R.C.D.B.	Conduit	
CARGO LIGHTS cir. each	1	.0030	7	.0242	4.3	12.9	200	R.C.D.B.	Conduit	
WATER LAMPS Floodlight	1	.0030	7	.0242	5.4	12.9	300	R.C.D.B.	Conduit	
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.			
BALLAST PUMP	1									
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP										
CIRC. SEA WATER PUMPS										
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR	1									
FRESH WATER PUMP										
ENGINE TURNING GEAR										
ENGINE REVERSING GEAR										
Stand by LUBRICATING OIL PUMPS	1	1	.0050	7	.0305	11	19.6	40	R.C.D.B.	Conduit
OIL TRANSFER PUMP	1	1	.0050	7	.0305	4.2	19.6	70	R.C.D.B.	Conduit
Oil Purifier	1	1	.0050	7	.0305	3	19.6	70	R.C.D.B.	Conduit
WINCHES, FORWARD										
WINCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR										
VENTILATING FANS Cir. each	5	1	.0050	7	.0305	6.3	19.6	80	R.C.D.B.	Conduit
Frig. Motor 1/2 HP	1	1	.0050	7	.0305	4.2	19.6	320	R.C.D.B.	Conduit

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.

Geo. T. Davie & Sons Ltd.

Charles Davie

Electrical Engineers.

Date 19th Nov. 1946

COMPASSES.

Distance between electric generators or motors and standard compass

Distance between electric generators or motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying .45 Ampères -- feet from standard compass 6 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 Nil degrees on -- course in the case of the standard compass, and -- degrees on -- course in the case of the steering compass.

Geo. T. Davie & Sons Ltd.

Charles Davie

Builder's Signature.

Date 19th Nov. 1946

Is this installation a duplicate of a previous case Yes If so, state name of vessel "OTTAWA MAYSRING"

General Remarks (State quality of workmanship, opinions as to class, &c. The Electrical installation has been fitted aboard this Vessel under Special Survey and in accordance with Approved Plans and Specifications and has been satisfactorily tested under full working conditions. Megger tested throughout and found in good order. The workmanship and materials are good and sound.

Total Capacity of Generators 15 Kilowatts.

The amount of Fee x 75.00 : When applied for Nov. 25 1946
Travelling Expenses (if any) x 10.00 : When received 19

J. Salter Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 9 APR 1948

Assigned for unit see J.E.P.H.

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