

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

20 AUG 1935

Received at London Office

21 AUG 35

Date of writing Report

When handed in at Local Office

Port of Newcastle

No. in Survey held at

Newcastle

Date, First Survey

15 July 1935 Last Survey 10 Aug 1935

Reg. Book. Suth.

38652 on the S.S. M.S. "Joseph Medill"

(Number of Vols. 4)

Tons { Gross 2087  
Net 1607

Built at Newcastle

By whom built Shean Hunter & R.R. Ltd. Yard No. 1504 When built 1935

Owners Quebec & Ontario Transp. Co. Ltd. Port belonging to Montreal

Electric Light Installation fitted by Shean Hunter & R.R. Ltd. Contract No. 1504 When fitted 1935

Is the Vessel fitted for carrying Petroleum in bulk No.

System of Distribution Double Wire

Pressure of supply for Lighting 220 volts, Heating 220 volts, Power 220 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 yes

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 Engine room port side, 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

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 port 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, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework yes

is the non-hygroscopic insulating material of an approved type yes, 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

3 pole circuit breakers for main generators, one pole acting as equaliser switch. Outgoing circuits having double pole circuit breaker or D.P. switches & fuses. D.P. change-over switch and fuses for 15 K.W. generator

Are turbine driven generators fitted with emergency trip switch as per rule none

Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material yes

Instruments on main switchboard 3 ammeters 3

voltmeters — 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 connected to earth through switches & fuses. 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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W475-0018 12

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 *5.5 Volts on Power / 2 Volts on Lighting*. Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *yes*.

Paper Insulated and Varnished Cambric Insulated Cables. Cable Sockets, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets *yes*.

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 *Lead covered and braided cables in separate section of telegraph casing through holds, lead covered in accomm. Deck covered and armoured*. 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 *None*. 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 *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 *None*.

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 *See hold*. 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 *None*.

where are the controlling switches situated *None*. are all fittings suitably ventilated *None*. 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 *one*, whether fixed or portable *portable*, are their fittings as per Rule *yes*.

Arc Lamps, other than searchlight lamps, No. of *none*, are their live parts insulated from the frame or case *None*. are their fittings as per Rule *None*.

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 *None*.

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule *yes*. Lighting Conductors, where lighting 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				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
		Kilowatts.	Volts.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN	2	58	220	263		Diesel Oil Engine.			
AUXILIARY	1	15	"	68		"	Hand starting	L.M. 30/8/35	
EMERGENCY									
ROTARY TRANSFORMER									

  

DESCRIPTION.	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.	Circuits.	Rule.			
MAIN GENERATOR	1	19640	27	0.83	263	266	70	Varn Cambric	L. C. & H.
EQUALISER CONNECTIONS	1	12780	27	0.72	181	152	85	Rubber	"
AUXILIARY GENERATOR	1	26	19	0.64	68	83	150	"	"
EMERGENCY GENERATOR									
ROTARY TRANSFORMER MOTOR									
ENGINE ROOM	1	00701	7	0.36	7.8	24	20	"	"
BOILER ROOM									
AUXILIARY SWITCHBOARDS									
Forward Comp. Hold	1	00701	7	0.36	7.8	24	500	"	L. C. & H.
Aft	1	00455	7	0.29	7.8	18.2	130	"	L. C. & H.
Navigation & Forward	1	00701	7	0.36	10.8	24	300	"	L. C. & H.
Aft Accommt.	1	00455	7	0.29	7.7	18.2	150	"	L. C. & H.
ACCOMMODATION									
Heater Forward	1	06	19	0.64	69	83	450	"	L. C. & H.
Aft	1	0396	19	0.52	60	64	120	"	L. C. & H.
WIRELESS									
SEARCHLIGHT	1	00194	3	0.29	2.2	7.8	100	"	Lead covered.
MASTHEAD LIGHT	1	00194	3	0.29	2	7.8	100	"	L. C. & H.
SIDE LIGHTS	1	00194	3	0.29	2	7.8	50	"	Lead covered.
COMPASS LIGHTS	1	00194	3	0.29	0.4	7.8	30	"	"
POOP LIGHTS	1	00194	3	0.29	2	7.8	700	"	L. C. & H.
CARGO LIGHTS	1	00194	3	0.29	1.0	7.8	30	"	Lead covered.
ARC LAMPS									
HEATERS	1	00194	3	0.29	5.4	7.8	80	"	"
above 1200 cwt	1	00299	3	0.36	11.0	12.0	80	"	"

  

DESCRIPTION.	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	1	1478	27	0.72	140	152	180	V.I.R.	L. C. & H.
MAIN BILGE LINE PUMPS									
GENERAL SERVICE PUMP	1	0396	19	0.52	56	64	150	"	"
EMERGENCY BILGE PUMP									
SANITARY PUMP	1	01462	7	0.52	32	37	20	"	"
CIRC. SEA WATER PUMPS									
CIRC. FRESH WATER PUMPS									
AIR COMPRESSOR	2	0284	19	0.44	52	53	120	"	"
FRESH WATER PUMP	1	00455	7	0.29	18	18.2	120	"	"
ENGINE TURNING GEAR									
ENGINE REVERSING GEAR									
LUBRICATING OIL PUMPS	1	00455	7	0.29	12	18.2	90	"	"
OIL FUEL TRANSFER PUMP	1	00194	3	0.29	2	7.8	80	"	L. C. & H.
WINDLASS	1	06	19	0.64	80	83	80	"	"
WINCHES, FORWARD	1	06	19	0.64	72	83	120	"	"
WINCHES, AFT	2	06	19	0.64	72	83	200	"	L. C. & H.
Eng. Room Vent. Heating	1	1964	27	0.93	270	309	120	Varn Cambric	"
STEERING GEAR									
(a) MESSIN GENERATOR									
(b) MAIN MOTOR	2	0396	19	0.52	60	64	80	V.I.R.	L. C. & H.
WORKSHOP MOTOR									
VENTILATING FAN	1	0299	3	0.36	8	12	120	"	"
Diesel Oil Purifier	1	00194	3	0.29	2	7.8	100	"	"
" " Heaters (1)	1	01046	7	0.44	24	31	80	"	"
" " " (1)	1	00455	7	0.29	13.7	18.2	40	"	"
Lat. Pump	1	00194	3	0.29	4	7.8	30	"	"
Lat. Oil Purifier	1	00194	3	0.29	2	7.8	50	"	"
Stn. Bilge Pump	1	00194	3	0.29	6	7.8	90	"	"
Refrig. Motor	1	00455	7	0.29	8	18.2	150	"	"

W475-0018 2/2

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. HUNTER & WIGHAM RICHARDSON

Electrical Engineers.

Date 8<sup>th</sup> Aug. 1935.

COMPASSES.

Distance between electric generators or motors and standard compass 180 200 feet  
Distance between electric generators or motors and steering compass 180 195 feet

The nearest cables to the compasses are as follows:—

A cable carrying .04 Amperes in feet from standard compass in feet from steering compass.

A cable carrying .04 Amperes 6 feet from standard compass 6 feet from steering compass.

A cable carrying 5 Amperes 10 feet from standard compass 6 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

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.

W. HUNTER & WIGHAM RICHARDSON

Builder's Signature.

Date 8<sup>th</sup> Aug. 1935.

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, etc.) The above inst<sup>n</sup> has been

fitted out under special survey. The same has been tested under working conditions & found satisfactory. The insulation resistance is good

Noted

Total Capacity of Generators 131 Kilowatts.

The amount of Fee £ 33: 1: 0

When applied for 20 AUG 1935

W.T. Badger

Surveyor to Lloyd's Register of Shipping

Travelling Expenses (if any) £

When received 31: 8: 35

Committee's Minute TUE 27 AUG 1935

Assigned See Note JE 92860

The signature and registration not to write on or below space for Committee's Minute

