

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 41917

Port of Glasgow Date of First Survey 24. 8. 1920 Date of Last Survey 2. 5. 1922 No. of Visits 16
 No. in Reg. Book 15061 on the Iron or Steel S.S. EMPRESS OF CANADA Port belonging to LONDON
 Built at Govan By whom Messrs The Fairfield S.B. & Co. When built 1921
 Owners Canadian Pacific Railway Owners' Address
 Yard No. 528 Electric Light Installation fitted by Messrs The Fairfield S.B. & Co. When fitted 1921

— TOTAL KW = 900 —

DESCRIPTION OF DYNAMO, ENGINE, ETC.

3 - W.H. ALLEN SON & CO 275 K.W. OPEN TYPE SHUNT WOUND DYNAMOS GEARED TO W.H. ALLEN TURBINES.
 1 - W.H. ALLEN SON & CO 75 K.W. " " " " " COUPLED TO A MIRRELESS BICKERTON & DAY DIESEL OIL ENGINE
 Capacity of Dynamos 1250 Amperes at 220 & 110 Volts, whether continuous or alternating current CONTINUOUS
 Where ARE Dynamos fixed DYNAMO ROOM IN ENGINE ROOM Whether single or double wire system is used DOUBLE
 Position of Main Switch Board DYNAMO ROOM having switches to groups 24 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each (SHELTER DECK BOARD "B" 117 PORT 12 CIRCUITS, BOARD "C" 152 PORT
7 CIRCUITS, BOARD "D" 151 STB 10 CIRCUITS, BOARD "E" 85 STB 12 CIRCUITS) FORCED DRAUGHT FAN BOARD MAIN DYNAMO RM 8 CIRCUITS,
 EMERGENCY BOARD DYNAMO RM BOAT DECK 15 CIRCUITS, FORWARD CARGO WINCH BOARD CONTACTOR HOUSE BRIDGE DECK FORWARD 6 CIRCUITS, AFT
 CARGO WINCH BOARD CONTACTOR HOUSE BOAT DECK AFT 6 CIRCUITS.
 If fuses are fitted on main switch board to the cables of main circuit YES and on each auxiliary switch board to the cables of auxiliary
 circuits YES and at each position where a cable is branched or reduced in size YES and to each lamp circuit YES
 If vessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits YES
 Are the fuses of non-oxidizable metal YES and constructed to fuse at an excess of 50 per cent over the normal current
 Are all fuses fitted in easily accessible positions YES Are the fuses of standard dimensions YES If wire fuses are used
 are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit No
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases YES
 Total number of lights provided for arranged in the following groups:—

	lights each of	candle power requiring a total current of	Amperes
A			
B			
C			
D			
E			
2	Mast head light with 1 lamps each of 32	candle power requiring a total current of 2.03	Amperes
2	Side light with 1 lamps each of 32	candle power requiring a total current of 2.03	Amperes
14	Cargo lights of 5 - 32	candle power, whether incandescent or arc lights	INCANDESCENT
2	PROPELLER LIGHTS 500 WATT & 300 WATT & 150 WATT	Totally enclosed in lanterns.	

Where are the switches controlling the masthead and side lights placed WHEELHOUSE ON NAVIGATING BRIDGE.

DESCRIPTION OF CABLES.

	Amperes, comprised of	wires, each	S.W.G. diameter,	square inches total sectional area
Main cable carrying				
Branch cables carrying				
Branch cables carrying				
Leads to lamps carrying				
Cargo light cables carrying				

DESCRIPTION OF INSULATION, PROTECTION, ETC.

LEAD COVERED AND LEAD COVERED ARMoured & BRAIDED.

Joints in cables, how made, insulated, and protected

NONE.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances Are all joints in accessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage

Are there any joints in or branches from the cable leading from dynamo to main switch board NONE.

How are the cables led through the ship, and how protected CABLES ARE LEAD COVERED OR LEAD COVERED, ARMoured & BRAIDED AND CLIPPED UP.

2 Allen
Brow "Type"
Steel
fitted
Total 420
KW for 2
Engines.



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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible YES.

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture LEAD COVERED ARMOURD & BRAIDED

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat LEAD COVERED AND LEAD COVERED ARMOURD & BRAIDED

What special protection has been provided for the cables near boiler casings LEAD COVERED ARMOURD & BRAIDED.

What special protection has been provided for the cables in engine room LEAD COVERED ARMOURD & BRAIDED.

How are cables carried through beams WOOD & LEAD BUSHED through bulkheads, &c. BULKHEAD GLANDS

How are cables carried through decks DECK TUBES.

Are any cables run through coal bunkers NO or cargo spaces YES. or spaces which may be used for carrying cargo, stores, or baggage YES.

If so, how are they protected LEAD COVERED ARMOURD & BRAIDED.

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage YES.

If so, how are the lamp fittings and cable terminals specially protected SPECIAL CARGO FITTINGS WITH HINGED IRON COVERS.

Where are the main switches and fuses for these lights fitted AT TOP OF STAIRWAYS.

If in the spaces, how are they specially protected IRON SWITCHES FIXED ON BEAM.

Are any switches or fuses fitted in bunkers NO.

Cargo light cables, whether portable or permanently fixed PORTABLE. How fixed

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel

How are the returns from the lamps connected to the hull

Are all the joints with the hull in accessible positions

Is the installation supplied with a voltmeters YES, and with an amperemeters YES ON MAIN AND EMERGENCY SWITCHBOARDS, (INCLUDING AMPEREMETERS FOR FORCED DRAUGHT FANS)

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for BURNING OIL FUEL ~~carrying petroleum~~, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas YES.

Are any switches, fuses, or joints of cables fitted in the pump room or companion NO.

How are the lamps specially protected in places liable to the accumulation of vapour or gas GAS TIGHT.

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 600 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

Of Kinnes Electrical Engineer

Date 22/12/21

COMPASSES.

Distance between dynamo or electric motors and standard compass 43 FEET

Distance between dynamo or electric motors and steering compass 44 "

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	IN	feet from standard compass	feet from steering compass
<u>51</u>			<u>feet from standard compass</u>	<u>IN</u>
<u>51</u>			<u>feet from standard compass</u>	<u>IN</u>
<u>51</u>			<u>feet from standard compass</u>	<u>feet from steering compass</u>

Have the compasses been adjusted with and without the electric installation at work at full power YES

The maximum deviation due to electric currents, etc., was found to be NIL degrees on ANY course in the case of the standard compass and NIL degrees on ANY course in the case of the steering compass.

THE FAIRFIELD SHIPBUILDING AND ENGINEERING CO., LIMITED.

Builder's Signature. Date

GENERAL REMARKS.

MANAGER.

This installation has been fitted on board under special survey. Tested under full working conditions & found satisfactory in every way.

It is submitted that this vessel is eligible for THE RECORD. Elec. Light. J. Rankin. 22/12/21 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW 16 MAY 1922

Elec. Light.



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

2m. 11. 12. - Transfer.