

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2230

Port of \_\_\_\_\_ Date of First Survey 22<sup>nd</sup> Sept Date of Last Survey 15<sup>th</sup> Nov No. of Visits 7  
 No. in Reg. Book on the Iron or Steel J. S. S. "Montcalm" Port belonging to \_\_\_\_\_  
 Built at Yoker By whom Messrs Napier Miller When built 1904  
 Owners \_\_\_\_\_ Owners' Address \_\_\_\_\_  
 Yard No. 137 Electric Light Installation fitted by J. Charters Glasgow When fitted 1904

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One vertical open type engine coupled direct to dynamo and one auxiliary smaller set.

Capacity of Dynamos 220 + 90 Amperes at 65 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed one on port one on Starboard side engine in bottom platform

Position of Main Switch Board on 3rd Deck Starboard side having switches to groups 5 Circuits of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Engine Rm 17 Switches. Forecastle 3 Switches.

1<sup>st</sup> Class Pastry 6 Switches, Fore and Starboard Alleyway 3 Sws. Pilot House 11 Switches. Engine Rm Pastry aft 4 Switches.

If cut outs are fitted on main switch board to the cables of main circuit No 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits yes

Are the cut outs of non-oxidizable metal Tin and constructed to fuse at an excess of 100 per cent over the normal current

Are all cut outs fitted in easily accessible positions yes Are the fuses of standard dimensions Wire 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 yes

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 156 - 16 CP. } Projector arranged in the following groups:—

A Engine Rm	52	lights each of 16 + 4 of 32	candle power requiring a total current of	54	Amperes
B 1 <sup>st</sup> Class	57	lights each of 16 + 2 - 32	candle power requiring a total current of	55	Amperes
C Engine Rm	24	lights each of 16 + 1 - 32	candle power requiring a total current of	23	Amperes
D Sig. Lts	21	lights each of 16 + 5 - 32	candle power requiring a total current of	27	Amperes
E Projector		lights each of —	candle power requiring a total current of	60	Amperes
2 Mast head lights	with 1 lamp each of 32	candle power requiring a total current of	—	Amperes	
2 Side lights	with 1 lamp each of 32	candle power requiring a total current of	—	Amperes	
—	Cargo lights of —	candle power, whether incandescent or arc lights	—		

If arc lights, what protection is provided against fire, sparks, &c. —

Where are the switches controlling the masthead and side lights placed In pilot house

## DESCRIPTION OF CABLES.

Main cable carrying	219	Amperes, comprised of 37 wires, each 13 L.S.G. diameter, .243 square inches total sectional area
Branch cables carrying	55	Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .060 square inches total sectional area
Branch cables carrying	60	Amperes, comprised of 19 wires, each 15 L.S.G. diameter, .060 square inches total sectional area
Leads to lamps carrying	27	Amperes, comprised of 7 wires, each 18 L.S.G. diameter, .078 square inches total sectional area
Leads to lamps carrying	9	Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .078 square inches total sectional area
Cargo light cables carrying	—	Amperes, comprised of — wires, each — L.S.G. diameter, — square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pine & vulcanised India Rubber, I.R. coated tape, braiding, and compound.

Joints in cables, how made, insulated, and protected No joints.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux — 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 No

How are the cables led through the ship, and how protected In iron tube in Engine Room, Storehold, tunnels, holds & on deck, elsewhere in wood casings.



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *yes except in holds.*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *iron tube.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *iron tube*

What special protection has been provided for the cables near boiler casings *iron tube.*

What special protection has been provided for the cables in engine room *iron tube.*

How are cables carried through beams *in fibre tube* through bulkheads, &c. *in W.I. flounds.*

How are cables carried through decks *in deck tubes.*

Are any cables run through coal bunkers *yes* or cargo spaces *yes* or spaces which may be used for carrying cargo, stores, or baggage *yes*

If so, how are they protected *in iron tube.*

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 *Strong guards.*

Where are the main switches and cut outs for these lights fitted *In 1st class pantry & I. Castle.*

If in the spaces, how are they specially protected *-*

Are any switches or cut outs fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *~* How fixed *~*

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

How are the returns from the lamps connected to the hull *~*

Are all the joints with the hull in accessible positions *~*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas

Are any switches, cut outs, or joints of cables fitted in the pump room or companion

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

The installation is *~* supplied with a voltmeter and *~* *2* *~* amperemeters fixed *on board.*

The copper used is guaranteed to have a conductivity of *100* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *600* megohms per statute mile after 24 hours' immersion in seawater.

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.

*J. Charters. Glasgow.*

Electrical Engineers

Date *15th Nov. 1904*

COMPASSES.

Distance between dynamo or electric motors and standard compass *about 70 feet*

Distance between dynamo or electric motors and steering compass *64*

The nearest cables to the compasses are as follows:—

A cable carrying *60* Amperes *about 38* feet from standard compass *32* feet from steering compass

A cable carrying *19* Amperes *38* feet from standard compass *32* feet from steering compass

A cable carrying *9* Amperes *fitted in* feet from standard compass *and in* feet from steering compass

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.

*For Napier Miller Ltd*

*George M. Miller, Director*

Builder's Signature.

Date *21st Nov. 1904*

GENERAL REMARKS.

*The Electric Lighting of this vessel has been satisfactorily carried out. It has been tried under full power.*

*per*

*H. Gardner - Smith.*

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

*Glasgow 9 NOV 1904*

*Record "Electric Light"*

*It is that this installation appears to be satisfactory.*



Lloyd's Register Foundation

*30.11.04*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.