

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 24981

Port of Glasgow Date of First Survey 20 Dec 06 Date of Last Survey 8 March No. of Visits 5  
 No. in Reg. Book 84 on the Iron or Steel "Bankhead" Port belonging to Liverpool  
 Built at Port Glasgow By whom Messrs W. Hamilton & Co. When built 1907  
 Owners  Owners' Address   
 Yard No. 178 Electric Light Installation fitted by Messrs J. A. Holmes & Co. When fitted 1907

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

1. 6 1/2" x 6" Open Auto Eng. 35.0 H.P. to work @ 80 lbs pressure coupled to  
1. 15/5" 6 pole dynamo compound wound  
 Capacity of Dynamo 70 Amperes at 100 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Starting platform  
 Position of Main Switch Board Near dynamo having switches to groups A. B. C. D. of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each 1. 6 Way D.P. fuse box with 6 switches near Main Board  
1. 4 Way D.P. fuse box with 4 switches - 1. 6 Way D.P. fuse box no switches in steering eng. room, 1. 6 Way in  
8 hall room 6 switches, 1. 6 Way in Pumping no switches, 1. 3 Way in Donkeyman's berth no switches  
 If cut outs 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 No  
 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 yes and constructed to fuse at an excess of 50 per cent over the normal current  
 Are all cut outs 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 yes  
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 101 arranged in the following groups:—

A	36	lights each of	16	candle power requiring a total current of	20.1	Amperes
B	29	lights each of	16	candle power requiring a total current of	16.24	Amperes
C	12	lights each of	16	candle power requiring a total current of	6.72	Amperes
D	24	lights each of	16	candle power requiring a total current of	13.44	Amperes
E		lights each of		candle power requiring a total current of		Amperes
2	Mast head lights with	1 lamp each of	32	candle power requiring a total current of	2.2	Amperes
2	Side lights with	1 lamp each of	32	candle power requiring a total current of	2.2	Amperes
4	Cargo lights of	6 x 16		candle power, whether incandescent or arc lights	Incandescent	

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

Where are the switches controlling the masthead and side lights placed 8 hulk room

## DESCRIPTION OF CABLES.

Main cable carrying 56.5 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .0612 square inches total sectional area  
 Branch cables carrying 20 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .0225 square inches total sectional area  
 Branch cables carrying 16.17 Amperes, comprised of 7 wires, each 17 L.S.G. diameter, .0172 square inches total sectional area  
 Leads to lamps carrying 1.6 Amperes, comprised of 1 wire, each 18 L.S.G. diameter, .00181 square inches total sectional area  
 Cargo light cables carrying 3.36 Amperes, comprised of 7 wires, each 2 1/2 L.S.G. diameter,  square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure rubber, vul rubber, taped - Lead sheathed in saloon, cabins &c., in holds  
& Machinery spaces taped over lead - then armoured

Joints in cables, how made, insulated, and protected

None

Are all the joints of cables thoroughly soldered, resin only having been used as a flux yes 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

How are the cables led through the ship, and how protected Lead covered in saloons - cabins

Lead covered & armoured in holds & Machinery spaces

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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 - armoured*

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

What special protection has been provided for the cables near boiler casings *" " " " " "*

What special protection has been provided for the cables in engine room *" " " " " "*

How are cables carried through beams *Holes pushed* through bulkheads, &c. *Stuffing 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 - armoured*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *No*

If so, how are the lamp fittings and cable terminals specially protected

Where are the main switches and cut outs for these lights fitted

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 *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

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 *not* an amperemeter, fixed *On Main Board*

The copper used is guaranteed to have a conductivity of *98* 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. H. Holmes & Co.*

Electrical Engineers

Date *Mar 25. 07*

COMPASSES.

Distance between dynamo or electric motors and standard compass *88 ft.*

Distance between dynamo or electric motors and steering compass *84 "*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>5.6</i>	<i>4</i>	<i>4</i>	
<i>7.28</i>	<i>12</i>	<i>8</i>	
<i>15.12</i>	<i>24</i>	<i>20</i>	

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.

WILLIAM HAMILTON & CO., LIMITED.

*W. Hamilton*

Builder's Signature.

Date

*26/3/07*

GENERAL REMARKS.

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

*H. Gardner-Smith.*

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

Committee's Minute

*Approved "Electric light."*

*It is submitted that the Record Elec. Light be noted in the Reg. Books*

*23.4.07*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.

