

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 28352

Port of Hull Date of First Survey 3-2-15 Date of Last Survey 15-2-15 No. of Visits 4  
 No. in Reg. Book 12 on the ~~Iron~~ Steel S.T. ST DENIS. Port belonging to Hull  
 Built at Selby By whom Messrs Cochrane & Sons. When built 1914  
 Owners' Address St Andrew's Dock, Hull  
 Owners Thomas Hamling & Co. Ltd THE HUMBER ELECTRICAL ENGINEERING CO. When fitted \_\_\_\_\_  
 Yard No. 623 Electric Light Installation fitted by \_\_\_\_\_

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Robey Engine 4 1/2 x 4. Speed 400 R.P.M. direct coupled to J.H. Holmes, Newcastle. Dynamo

Capacity of Dynamo 30 Amperes at 100 Volts, whether continuous or alternating current yes

Where is Dynamo fixed Starboard Engine Room Whether single or double wire system is used Double

Position of Main Switch Board Starboard Engine Room having switches to groups 3 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each one 5 way Starboard cabin entrance, one 3 way Engine Room, one 10 way Wheelhouse, one 5 way Forecastle

If fuses 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits \_\_\_\_\_

Are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of 25% 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 yes

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 50 arranged in the following groups:—

A	<u>11</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>6.6</u>	Amperes
B	<u>6</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>3.6</u>	Amperes
C	<u>13</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>7.8</u>	Amperes
D	<u>21</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>12.6</u>	Amperes
E		lights each of		candle power requiring a total current of		Amperes
	<u>3</u>	Mast head light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>3.6</u> Amperes
	<u>2</u>	Side light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.4</u> Amperes
	<u>1</u>	Cargo lights of	<u>5 - 16</u>	candle power, whether incandescent or arc lights		

If arc lights, what protection is provided against fire, sparks, &c. No Arcs

Where are the switches controlling the masthead and side lights placed Wheelhouse

## DESCRIPTION OF CABLES.

Main cable carrying	<u>30</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>16</u>	S.W.G. diameter,	<u>.022</u>	square inches total sectional area
Branch cables carrying	<u>13</u>	Amperes, comprised of	<u>3</u>	wires, each	<u>18</u>	S.W.G. diameter,	<u>.0053</u>	square inches total sectional area
Branch cables carrying	<u>8</u>	Amperes, comprised of	<u>5</u>	wires, each	<u>20</u>	S.W.G. diameter,	<u>.005</u>	square inches total sectional area
Leads to lamps carrying	<u>.6</u>	Amperes, comprised of	<u>1</u>	wires, each	<u>18</u>	S.W.G. diameter,	<u>.0018</u>	square inches total sectional area
Cargo light cables carrying	<u>3</u>	Amperes, comprised of	<u>130</u>	wires, each	<u>40</u>	S.W.G. diameter,	<u>.0024</u>	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Herley's 600 52 grade Cable.  
Lead covered in cabin & wheelhouse  
Lead covered and armoured with galvanized iron tubes in all parts  
 Joints in cables, how made, insulated, and protected No Joints

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 No

How are the cables led through the ship, and how protected Lead covered & armoured clipped off with galvanized iron clip to steel work



**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 & Armoured

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead & Armoured

What special protection has been provided for the cables near boiler casings Lead & Armoured

What special protection has been provided for the cables in engine room Lead & Armoured

How are cables carried through beams clean holes, bushed for the through bulkheads, &c. Booms & Glants

How are cables carried through decks Deck pipes

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

If so, how are they protected Lead & Armoured

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

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

Where are the main switches and fuses for these lights fitted Forecastle

If in the spaces, how are they specially protected

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 voltmeter Yes, and with an amperemeter Yes, fixed Forward Saloon

**VESSELS BUILT FOR CARRYING PETROLEUM.**

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

Are any switches, fuses, 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 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.

**THE HUMBER ELECTRIAL ENGINEERING Co.** Electrical Engineers Date

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 40 feet

Distance between dynamo or electric motors and steering compass 36 feet.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>.3</u>	Amperes	<u>for</u>	feet from standard compass	feet from steering compass
A cable carrying	<u>.3</u>	Amperes	<u>for</u>	feet from standard compass	feet from steering compass
A cable carrying		Amperes		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

The maximum deviation due to electric currents, etc., 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.

**FOR COCHRANE & SONS LTD.**  
J. M. Cochrane Builder's Signature. Date

**GENERAL REMARKS.**

This installation of electric light has been well fitted the materials & workmanship are good, it has been tried under full working conditions & found satisfactory

It is submitted that this vessel is eligible for THE RECORD Elec. light. JWD 17/3/15 W.H. Roberts

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

Committee's Minute FRI. MAR. 19. 1915

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

Im. 11.13.—Transfer.