

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 29756

Port of Hull Date of First Survey 8/12/16 Date of Last Survey 9-1-17 No. of Visits 6

No. in Reg. Book Supt 4 on the Iron or Steel screw trawler Sea King Port belonging to Hull

Built at Kelby By whom Cochrane & Sons Ltd When built 1917-1

Owners J. H. Robins & Co Owners Address St Andrews Dock Hull

Yard No. 667 Electric Light Installation fitted by The Humber Electrical Engineering Co When fitted 1917-1

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

High Pressure inverted engine open type coupled direct to compound wound dynamo, protected type.

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

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

Position of Main Switch Board " " near dynamo having switches to groups three of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each one 5 way in cabin entrance aft, one 3 way in Engine room, one 10 way in wheelhouse, one 3 way in Forecastle with switches to suit

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 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 45 arranged in the following groups:—

A	<u>8</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>4.8</u>	Amperes
B	<u>15</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>15</u>	Amperes
C	<u>6</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>3.6</u>	Amperes
D	<u>11</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>6.6</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>included</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>in above</u> Amperes
<u>1</u>	Cargo lights of	<u>6</u>	<u>16</u>	candle power, whether incandescent or arc lights	<u>incandescent</u>	

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

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

### DESCRIPTION OF CABLES.

Main cable carrying 30 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area

Branch cables carrying 15 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, .0070 square inches total sectional area

Branch cables carrying 7 Amperes, comprised of 3 wires, each 20 S.W.G. diameter, .0030 square inches total sectional area

Leads to lamps carrying Amperes, comprised of 3 wires, each 20 S.W.G. diameter, .0030 square inches total sectional area

Cargo light cables carrying 4 Amperes, comprised of 130 wires, each 40 S.W.G. diameter, .0025 square inches total sectional area

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

V. I. R. cable lead covered & armoured & lead covered in cabins (Hensley's cable)

Joints in cables, how made, insulated, and protected none except in iron connection boxes

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 through beams, clipped to underside of decks & to bulkhead with strong galvanizer clips



**DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.**

Are they in places always accessible no

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 Wooden bunks where not armoured through bulkheads, &c. Water tight-glands

How are cables carried through decks Paper iron 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 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 fuses for these lights fitted ✓

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 not supplied, and with an amperemeter yes, fixed Thin bent board

**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 100 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.

FOR THE HONOURABLE ELECTRICAL ENGINEERING CO.

*W. C. Shuttleworth*

Electrical Engineers Date

**COMPASSES.**

Distance between dynamo or electric motors and standard compass about 40 ft.

Distance between dynamo or electric motors and steering compass about 40 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>2</u>	Amperes	<u>lead to</u>	<u>feet</u> from standard compass	<u>feet</u> from steering compass
A cable carrying	<u>2</u>	Amperes	<u>lead to</u>	<u>feet</u> from standard compass	<u>feet</u> from steering compass
A cable carrying		Amperes		<u>feet</u> from standard compass	<u>feet</u> from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power not tested

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. H. Cochrane*

Builder's Signature. Date 29/1/1917.

**GENERAL REMARKS.**

*This vessel has been fitted with an electric light installation as above & the workmanship is good on completion it was tested under full working conditions & found satisfactory except that the power worked somewhat stiffly requires overhauling there was no time to do this before the vessel sailed on Government service.*

*Frank S. Sturgeon*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



160,116—Transfer