

WED. - 5 SEP. 1917

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REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 30,072

Port of Hull Date of First Survey July 18/17 Date of Last Survey July 26/17 No. of Visits 6
 No. in Reg. Book 63 on the Iron Steel Steamer Hambery Port belonging to Grimsby
 Built at Elby By whom Cochran & Sons Ltd When built 1917-7
 Owners Ltten Bros (Lagos) Owners' Address Fish Dock Grimsby
 Yard No. 677 Electric Light Installation fitted by Northon Electrical Co When fitted 1917-7

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Enclosed Steam Engine direct coupled to 2 pole dynamo
 Capacity of Dynamo 44 Amperes at 65 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Starboard Side Eng Rm Whether single or double wire system is used Double
 Position of Main Switch Board Near Dynamo having switches to groups of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Distribution board in wheel house with switches

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

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

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

Total number of lights provided for 44 arranged in the following groups:—

A	<u>16</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>12.8</u>	Amperes
B	<u>5</u>	lights each of	<u>32</u>	candle power requiring a total current of	<u>8</u>	Amperes
C	<u>23</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>18.4</u>	Amperes
D		lights each of		candle power requiring a total current of		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 in above</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>above</u>	Amperes
<u>4</u>	Cargo lights of		<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 In Wheel House

DESCRIPTION OF CABLES.

Main cable carrying 40 Amperes, comprised of 19 wires, each 16 S.W.G. diameter, .06 square inches total sectional area
 Branch cables carrying 30 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area
 Branch cables carrying Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area
 Leads to lamps carrying 3 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area
 Cargo light cables carrying 4 Amperes, comprised of 110 wires, each 38 S.W.G. diameter, .0032 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanised India Rubber Taped & Braided run in Galvanised Steel Tubing Chart Room & Cabin wires are run in wood casing
 Joints in cables, how made, insulated, and protected None made

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 ✓

How are the cables led through the ship, and how protected Galvanised Steel Tubing

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 Galvanized tube

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 Galv tube through bulkheads, &c. Watertight joints

How are cables carried through decks Jointed 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 Galv tube

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 Yes and with an amperemeter Yes, fixed on Switches

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 NORTHERN ELECTRICAL CO.
Percy Watson Electrical Engineers Date 27/8/17

COMPASSES.

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

Distance between dynamo or electric motors and steering compass 35

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>1</u>	<u>5</u>	<u>0</u>	<u>0</u>
<u>23</u>	<u>11</u>	<u>6</u>	<u>6</u>
<u>A cable carrying</u>	<u>Amperes</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 No

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.

Bochman Builder's Signature. Date

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

It is submitted that

this vessel is eligible for THE RECORD. Elec. light.

Frank A. Sturges
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.