

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 30,146

Port of Hull Date of First Survey Aug 30/17 Date of Last Survey 15-9-17 No. of Visits 5  
 No. in Reg. Book 199 on the Iron or Steel S. C. Venosta Port belonging to Grimsky  
 Owners Little Bess. (Ings) By whom Cochrane & Sons Ltd When built 1917-9  
 Yard No. 678 Electric Light Installation fitted by The Northern Electrical Co. Ltd When fitted 1917-9

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

H. Penguin enclosed type coupled direct to 2 pole dynamo

Capacity of Dynamo 44 Amperes at 65 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 of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Distribution boxes in wheel house 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 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</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 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 wires, each S.W.G. diameter, 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.

Vulcanized India rubber, taped & braided run in Galvanized steel tubing where exposed. Chart room & cabin wires run in wood casing

Joints in cables, how made, insulated, and protected none

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 Galvanized steel tubing with clippers to decks & bulkheads joints made watertight



**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 steel tubes*

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 *in galvanized tubes* through bulkheads, &c. *ditto jointed to bulkheads*

How are cables carried through decks *iron deck tubes*

Are any cables run through coal bunkers *no* or cargo spaces *no* or spaces which may be used for carrying cargo, stores, or baggage *no*

If so, how are they protected *✓*

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 *main switchboard*

**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.

**THE NORTHERN ELECTRICAL CO.**

*Percy Watson*

Electrical Engineers

Date *26 SEP 1917*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *about 4 ft*

Distance between dynamo or electric motors and steering compass *" 3 1/2 ft*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>1</i>	<i>5</i>	<i>0</i>	<i>0</i>
<i>23</i>	<i>11</i>	<i>6</i>	<i>6</i>

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.**

*J. M. Cochrane*

Builder's Signature.

Date *29/9/1917*

**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*

*It is submitted that*

*this vessel is eligible for*

**THE RECORD Elec. light** *5/10/17*

*Frank A. Stanger*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.