

# REPORT ON ELECTRIC LIGHTING INSTALLATION.

 No. 29138  
 16 FEB 1916

Port of Hull Date of First Survey 5-1-16 Date of Last Survey 26-1-16 No. of Visits 5  
 No. in 1 on the Iron or Steel S.S. Donna Hook Port belonging to Fleetwood  
 Reg. Book Sept-11 Built at Leby By whom Cochrane Bros When built 1916-7  
 Owners Moody & Kelly Owners' Address Dock Street Fleetwood  
 Yard No. 646 Electric Light Installation fitted by A. W. Hyde When fitted 1916-1

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Inverted high pressure single cylinder engine enclosed type coupled direct to compound wound dynamo

Capacity of Dynamo 44 Amperes at 65 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed in engine room starboard side Whether single or double wire system is used double

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

Positions of auxiliary switch boards and numbers of switches on each Engine room, Cabin aft & entrance to Cabin with switches as required

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 53 arranged in the following groups:—

A Midship 23 lights each of 16 candle power requiring a total current of 15 Amperes

B Engine room & aft 15 lights each of 16 candle power requiring a total current of 5 Amperes

C Forecastle 3 lights each of 16 candle power requiring a total current of 1 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

3 Mast head light with 1 lamps each of 32 candle power requiring a total current of 1 Amperes

2 Side light with 1 lamps each of 32 candle power requiring a total current of 75 Amperes

1 Cargo lights of 48 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 Cabin entrance

## DESCRIPTION OF CABLES.

Main cable carrying 44 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, 0.22 square inches total sectional area

Branch cables carrying 15 Amperes, comprised of 3 wires, each 12 S.W.G. diameter, 0.053 square inches total sectional area

Branch cables carrying 5 Amperes, comprised of 3 wires, each 12 S.W.G. diameter, 0.053 square inches total sectional area

Leads to lamps carrying 1 Amperes, comprised of 3 wires, each 22 S.W.G. diameter, 0.012 square inches total sectional area

Cargo light cables carrying 1 Amperes, comprised of 36 wires, each 38 S.W.G. diameter, 0.010 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

600 megohm grade india rubber braided cable, run in solid drawn steel tubes, asbestos tubes, lead covered cable in Saloon, Chartroom & wheelhouse

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 in steel tubes clipped to bulkheads & under side of decks



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 steel tubes

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat in steel tubes

What special protection has been provided for the cables near boiler casings asbestos braiding & asbestos tubes

What special protection has been provided for the cables in engine room steel tubes

How are cables carried through beams ✓ through bulkheads, &c. steel tubes in W. I glands

How are cables carried through decks deck 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 in steel tubes

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 main switch 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 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.

C. W. Hyde

Electrical Engineers

Date Feb 8<sup>th</sup> 1916

COMPASSES.

Distance between dynamo or electric motors and standard compass about 50 ft

Distance between dynamo or electric motors and steering compass about 50 ft

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
5	1	1	
10	10	10	

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.

FOR COCHRANE & SONS LTD.

A. Cochrane

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.

J. W. D. 16/2/16

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

Committee's Minute