

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 29850

Port of Hull Date of First Survey 15-1-17 Date of Last Survey 12-3-17 No. of Visits 28  
 No. in Reg. Book on the Iron or Steel Y.S. Embay & Merv Port belonging to London  
 Built at Hull By whom Messrs. Charles Fyfe & Co. Ltd. When built 1917-3  
 Owners British Admiralty (Lam & W. Andrew Esq.) Owners' Address  
 Yard No. 614 Electric Light Installation fitted by The Sunderland Forge & Eng. Co. Ltd. When fitted 1917-3

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One 26½ KW Combined Plant - supplied by Admiralty

Capacity of Dynamo 250 Amperes at 105 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed Eng. Room Sbd side bottom platform Whether single or double wire system is used double  
 Position of Main Switch Board close to dynamo having switches to groups eight of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Chartroom - with eight switches  
controlling Navigation lights - compasses, telegraph & Morse lamp  
 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 100 per cent over the normal current  
 Are all fuses fitted in easily accessible positions Yes Are the fuses of standard dimensions No 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 212 arranged in the following groups:—  
 1. Saloon etc 50 45 @ 16 cp. 5 @ 32 cp. candle power requiring a total current of 30.8  
 A2. Eng. Room 58 lights each of 56 @ 16 cp. 2 @ 32 candle power requiring a total current of 33.6 Amperes  
 1. Eng. Room 38 lights each of all at 16 cp. candle power requiring a total current of 21.3  
 2. Wireless — lights each of — candle power requiring a total current of 25.0 Amperes  
 1. Deck & Pump Room 29 lights each of 5 @ 16 cp. 24 @ 50 cp. candle power requiring a total current of 43.0  
 2. " " " 37 lights each of 13 @ 16 cp. 24 @ 50 candle power requiring a total current of 47.5 Amperes  
 D 20" Projector lights each of — candle power requiring a total current of Hired for but not fitted 60 Amperes  
 E Spare lights each of — candle power requiring a total current of — Amperes  
 2 Mast head light with 1 lamps each of 32 candle power requiring a total current of 2.24 Amperes  
 2 Side light with 1 lamps each of 32 candle power requiring a total current of 2.24 Amperes  
Six Cargo lights of eight lights 50 cp. 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 Chartroom

## DESCRIPTION OF CABLES.

Main cable carrying 250 Amperes, comprised of 2/37 wires, each 16 S.W.G. diameter, .334 square inches total sectional area  
 Branch cables carrying 33.6 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area  
 Branch cables carrying 47.5 Amperes, comprised of 19 wires, each 18 S.W.G. diameter, .034 square inches total sectional area  
 Leads to lamps carrying 3 Amperes, comprised of 7 wires, each 25 S.W.G. diameter, .0022 square inches total sectional area  
 Cargo light cables carrying 13.5 Amperes, comprised of 7 wires, each 21½ S.W.G. diameter, .0049 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Mains. Pure & Vule. I.R. - taped vulc., Braided & Compounded  
 Machinery & Crew Spaces. ditto Lead covered & Armoured  
 Cabin Accommodation. ditto Lead covered.

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 V.I.R. Cable run in pipe.



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**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 *Iron Pipe*

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

What special protection has been provided for the cables near boiler casings *ditto*

What special protection has been provided for the cables in engine room *ditto*

How are cables carried through beams *Holes bushed with fibre* through bulkheads, &c. *W. T. Glands*

How are cables carried through decks *W. T. 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 on Main S' 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 *Yes*

Are any switches, fuses, or joints of cables fitted in the pump room or companion *No*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *By Gaslight guarded fittings*

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.

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *Director about 102 feet*

Distance between dynamo or electric motors and steering compass *about 97 feet*

The nearest cables to the compasses are as follows:—

Cable carrying	Amperes	Distance from standard compass	Distance from steering compass
A cable carrying 8.4	Amperes	about 18 feet	about 10 feet
A cable carrying .56	Amperes	led into	about 7 feet
A cable carrying .56	Amperes	about 7 feet	led into

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.

**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, the full load being obtained by resistance, & found satisfactory.

It is submitted that this vessel is eligible to THE RECORD. Elec light. *Frank L. Stanger* Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute *TUE. 4 SEP. 1917* *FRI. 14 SEP. 1917.*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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