

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 9396

Port of Belfast Date of First Survey 4<sup>th</sup> June Date of Last Survey 22 July 1925 No. of Visits 10  
 No. in Reg. Book on the ~~Iron~~ Steel Jervington Court S.S. Port belonging to London  
 Built at Belfast By whom Workman Clark & Co Ltd When built 1925  
 Owners The United British Steamship Co Ltd Owners' Address  
 Vessel No. 484 Electric Light Installation fitted by Sunderland Forge & Eng. Co Ltd When fitted 1925

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

1- 15 H.P. open type compound wound multipolar dynamo direct coupled to open type steam engine with Governor on crank shaft.  
 Capacity of Dynamo 136 Amperes at 110 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed in Main Engine Room Whether single or double wire system is used double  
 Position of Main Switch Board in Main Engine Room having switches to groups Six of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each  
Saloon Accom. 4  
ENGINE ROOM 4  
 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 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 161 arranged in the following groups:—  
 A NAVIG. & FORE 53 lights each of 5-100 WATT & 43 @ 16 candle power requiring a total current of 12.4 Amperes  
 B ENG'RS & OFFICERS 30 lights each of 16 candle power requiring a total current of 8.2 Amperes  
 C ENGINE & BOILER ROOMS 30 lights each of 16 candle power requiring a total current of 9.5 Amperes  
 D CARGO CLUSTERS 48 lights each of 16 candle power requiring a total current of 24 Amperes  
 E PROJECTOR lights each of candle power requiring a total current of 40 Amperes  
 F WIRELESS requiring a total current of 13.7 Amperes  
2 Mast head lights with 1 lamp each of 100 Watts candle power requiring a total current of .91 Amperes  
2 Side lights with 1 lamp each of 100 Watts candle power requiring a total current of .91 Amperes  
8-6 Light Cargo lights of 16 candle power, whether incandescent or are lights incandescent

If are lights, what protection is provided against fire, sparks, &c. None

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

## DESCRIPTION OF CABLES.

Main cable carrying 136 Amperes, comprised of 37 wires, each .072 S.W.G. diameter, .15 square inches total sectional area  
 Branch cables carrying 24 Amperes, comprised of 10 wires, each .052 S.W.G. diameter, .04 square inches total sectional area  
 Branch cables carrying 17.8 Amperes, comprised of 7 wires, each .064 S.W.G. diameter, .0225 square inches total sectional area  
 Leads to lamps carrying 1.4 Amperes, comprised of 3 wires, each .029 S.W.G. diameter, .002 square inches total sectional area  
 Cargo light cables carrying 3 Amperes, comprised of 3 wires, each .036 S.W.G. diameter, .003 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Tinned copper conductors insulated with pure & vulcanised India Rubber Taped Braided and the whole vulcanised together and finished in Accommodation Lead Covered & Braided in Machinery Spaces Lead covered Armoured & Braided  
 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 None 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 None

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 Lead covered and braided run on Wood Grounds in Accom.

Lead covered armoured and braided run on steel plating in Tween Decks and V.I.R. in scowled galvanised W.I. Pipe



W49-0090



**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

*Lead covered armoured & braided & K.L.D. run in screwed galvanised wrought iron pipe.*

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

What special protection has been provided for the cables near boiler casings *Lead covered armoured & braided.*

What special protection has been provided for the cables in engine room *Lead covered armoured & braided.*

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

How are cables carried through decks *in deck tubes made water tight.*

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

If so, how are they protected *K.L.D. cables in screwed galvanised wrought iron pipe.*

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 *W.T. connection boxes*

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 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 *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.

P.Pro The Sunderland Forge & Eng. Co.Ltd.

*J. Thompson*

Electrical Engineers

Date *29th July 1925*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *104 feet*

Distance between dynamo or electric motors and steering compass *26 feet*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>2</i>	Amperes	<i>3</i>	feet from standard compass	<i>3</i>	feet from steering compass
A cable carrying	<i>5</i>	Amperes	<i>6</i>	feet from standard compass	<i>5</i>	feet from steering compass
A cable carrying	<i>✓</i>	Amperes	<i>✓</i>	feet from standard compass	<i>✓</i>	feet from steering compass

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 *no* degrees on *all* course, in the case of the standard compass and *no* degrees on *all* course, in the case of the steering compass.

*W. Workman, Clark & Co., Limited*  
ASSISTANT SECRETARY.

Builder's Signature. Date *31st July 1925*

**GENERAL REMARKS.**

*This installation has been built under special survey & in accordance with the Rules, & was found satisfactory on trial under full load.*

*See charges in index of Entry Report.*

*William Dutton*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.