

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8756

Port of Belfast Date of First Survey 16<sup>th</sup> Mar. 1922 Date of Last Survey 3<sup>rd</sup> May 22 No. of Visits 6  
 No. in Reg. Book on the Iron & Steel S.S. Nausicaa Port belonging to Harve  
 Built at Londonderry By whom North of Ireland S. Gray built 1922  
 Owners Compagnie Auxiliaire de Navigation address Harve  
 Yard No. 105 Electric Light Installation fitted by Sunderland Forge Coy L<sup>d</sup> When fitted 1922

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One - "Open" type engine fitted with governor, direct coupled to "Open" type 15 K.W. 100 volt generator of the multipolar type.

Capacity of Dynamo 150 Amperes at 100 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 Five of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each

One in Wheelhouse - 6 switches.

Two in Engine Room - 6 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 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 157 arranged in the following groups:—

|                        |                                   |  |              |         |
|------------------------|-----------------------------------|--|--------------|---------|
| A Poop Accommodation   | 36 lights each of 16 cp & 1 at 32 | candle power requiring a total current of        | 9.6          | Amperes |
| B Navigation           | 19 lights each of 16 cp & 5 at 32 | candle power requiring a total current of        | 8.6          | Amperes |
| C Wireless             | lights each of                    | candle power requiring a total current of        | 30.0         | Amperes |
| D Saloon & Ford. Rooms | 62 lights each of 16 cp & 1 at 32 | candle power requiring a total current of        | 15.6         | Amperes |
| E Eng. & Boiler Rooms  | 33 lights each of 16              | candle power requiring a total current of        | 7.4          | Amperes |
| 2 Mast head lights     | with 1 lamp each of 32            | candle power requiring a total current of each   | 1.2          | Amperes |
| 2 Side lights          | with 1 lamp each of 32            | candle power requiring a total current of each   | 1.2          | Amperes |
| 2 Cargo lights         | of each 6 at 16                   | 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 In Wheel House

## DESCRIPTION OF CABLES.

Main cable carrying 71.2 Amperes, comprised of 37 wires, each .093" S.W.G. diameter, .25 square inches total sectional area  
 Branch cables carrying 30.0 Amperes, comprised of 7 wires, each .064" S.W.G. diameter, .022 square inches total sectional area  
 Branch cables carrying 9.6 Amperes, comprised of 7 wires, each .064" S.W.G. diameter, .022 square inches total sectional area  
 Leads to lamps carrying .6 Amperes, comprised of 3 wires, each .029" S.W.G. diameter, .002 square inches total sectional area  
 Cargo light cables carrying 7.2 Amperes, comprised of 72 wires, each .0076" S.W.G. diameter, .003 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Tinned copper conductors insulated with pure and vulcanised india rubber, taped, braided and the whole vulcanised together and finished - In Accommodation - Lead covered and braided. In Machinery Spaces - Lead covered armoured and Braided.

Joints in cables, how made, insulated, and protected None fitted.

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 Lead covered armoured and braided cable drawn into screwed W. I. galvanised pipe 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  
Lead covered armoured and braided cables.

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 None fitted near casings

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

How are cables carried through beams bushed holes through bulkheads, &c. W.T. Packing glands.

How are cables carried through decks In deck tubes made watertight

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 watertight 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 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 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 gas tight fittings, fitted with stout glass bowls, fitted and wired outside space and arranged to shine through hole cut in deck

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 2,500 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 & Engineering Co.Ltd.

*R. H. Hough* Electrical Engineers

Date 2nd June, 1922

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 215 feet

Distance between dynamo or electric motors and steering compass 225 feet

The nearest cables to the compasses are as follows:—

|                  |            |         |           |                            |          |                            |
|------------------|------------|---------|-----------|----------------------------|----------|----------------------------|
| A cable carrying | <u>8.6</u> | Amperes | <u>10</u> | feet from standard compass | <u>8</u> | feet from steering compass |
| A cable carrying | <u>0.2</u> | Amperes | <u>3</u>  | feet from standard compass | <u>3</u> | feet from steering compass |
| A cable carrying |            | Amperes |           | feet from standard compass |          | 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 Nil degrees on all courses in the case of the standard compass and Nil degrees on all course in the case of the steering compass.

THE NORTH OF IRELAND SHIPBUILDING COMPANY, LTD.

*A. Fletcher* Builder's Signature

Date 3rd June 1922

**GENERAL REMARKS.**

*This installation is of good description, and has been fitted in accordance with the Rules*

It is submitted that

*Fee £15-0-0*

*Applied for 3-6-22*

this vessel is eligible for

THE RECORD.

*Elec. Light. 24 8/6/22*

*R. F. Bennett*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

Im. 11, 12—Transfer.



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