

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8174

Port of BELEAST Date of First Survey 9th May 1919 Date of Last Survey 3rd June 1919 No. of Visits 5
 No. in on the Iron or Steel S.S. "Muneric" Port belonging to
 Reg. Book Belfast By whom Workman Clark & Co. When built 1919
 Owners The Loughburn S.S. Coy. Ld. Owners' Address Glasgow
 Yard No. 441 Electric Light Installation fitted by Sunderland Forge Co. Ltd. When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One Combined Generating Plant, consisting of Open Type, Single Cylinder Steam Engine Direct Coupled to Compound Wound Multipolar Dynamo on Combined Bedplate.
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous.
 Where is Dynamo fixed Engine Room Whether single or double wire system is used Double
 Position of Main Switch Board in Engine Room having switches to groups Six of lights, &c., as below
One Board in Wheel House for Navigation Lights. 10 Switches.
One Board in Engine Room 8 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 152 arranged in the following groups:—
 A 14 lights each of 16 candle power requiring a total current of 8.4 Amperes
 B 43 lights each of 16 candle power requiring a total current of 25.8 Amperes
 C 27 lights each of 16 candle power requiring a total current of 16.2 Amperes
 D 38 lights each of 16 candle power requiring a total current of 22.8 Amperes
 E 30 lights each of 16 candle power requiring a total current of 18.0 Amperes
 F Wireless
Two Mast head light with one lamps each of 32 candle power requiring a total current of 2.4 Amperes
Two Side light with one lamps each of 32 candle power requiring a total current of 2.4 Amperes
30 Cargo lights of 16 candle power, whether incandescent or arc lights Incandescent.
 If arc lights, what protection is provided against fire, sparks, &c. No Arc Lamps fitted.

Where are the switches controlling the masthead and side lights placed On Bridge

DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, 0.09372 square inches total sectional area
 Branch cables carrying 25.8 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, 0.01246 square inches total sectional area
 Branch cables carrying 10.8 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, 0.007005 square inches total sectional area
 Leads to lamps carrying 2.4 Amperes, comprised of 7 wires, each 25 S.W.G. diameter, 0.0021 square inches total sectional area
 Cargo light cables carrying 3.6 Amperes, comprised of 114 wires, each 38 S.W.G. diameter, 0.00319 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC. Tinned Copper Conductors, insulated with pure and vulcanizing india rubber, taped and the whole vulcanized together and finished as follows:—
Main in pipe, braided and compounded overall. In accommodation, lead covered and braided overall.
In Engine Room, lead covered, armoured and braided overall.

Joints in cables, how made, insulated, and protected No. Joints.

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 and braided cables in accommodation, secured with brass saddles, main run in screwed galvanized watertight tubing.

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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 Lead covered and Braided or in screwed galvanized watertight tubing.

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 and braided.

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

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

How are cables carried through decks through watertight Deck Tubes

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 Run in screwed galvanized watertight iron tubing.

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage Yes

If so, how are the lamp fittings and cable terminals specially protected by glass well jar, and strong brass guard.

Where are the main switches and fuses for these lights fitted In Engine Room

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 To heavy brass terminals on cast iron boxes on deck.

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 In Engine Room

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.

The Sunderland Forge & Engineering Co. Ltd., Electrical Engineers Date 3rd July 1919.

COMPASSES.

Distance between dynamo or electric motors and standard compass 106 feet.

Distance between dynamo or electric motors and steering compass 102 "

The nearest cables to the compasses are as follows:—

| Cable carrying | Amperes | feet from standard compass | feet from steering compass |
|-----------------------------|------------|----------------------------|----------------------------|
| A cable carrying <u>8.4</u> | <u>6</u> | <u>6</u> | <u>6</u> |
| A cable carrying <u>.6</u> | <u>3</u> | <u>3</u> | <u>3</u> |
| A cable carrying <u>---</u> | <u>---</u> | <u>---</u> | <u>---</u> |

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 course in the case of the standard compass and Nil degrees on all course in the case of the steering compass.

Builder's Signature. Date

GENERAL REMARKS.

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

THE RECORD: ELEC. LIGHT.

Ref. 6/8/19

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

Committee's Minute



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