

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8331

Port of BELFAST Date of First Survey 14th Nov 19 Date of Last Survey 26th Nov 19 No. of Visits 3
 No. in Reg. Book on the Iron or Steel S.S. "ONEGA" Port belonging to LEITH
 Built at Londonderry. By whom The North of Ireland S/Bldg Co. When built 1919
 Owners Messrs. Wm. Thomson & Co. Owners' Address Leith
 Yard No. 89 Electric Light Installation fitted by Sunderland Forge & Eng. Co. Ltd. When fitted 1919.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One in number, Combined Plant consisting of Vertical Double-Acting, Open Type Steam Engine 7" dia. x 5" stroke, direct coupled to compound wound multipolar generator on combined bedplate.

Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed In Engine Room Whether single or double wire system is used Double

Position of Main Switch Board In Engine Room having switches to groups 5 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each

1 in Wheelhouse for Navigating Lights etc., 10 Switches

1 " Engine Room 8 "

If cut outs 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits Yes

Are the cut outs of non-oxidizable metal Yes and constructed to fuse at an excess of 100 per cent over the normal current

Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 129 arranged in the following groups:—

A	<u>Wireless Telegraph</u>	lights each of		candle power requiring a total current of	<u>30.0</u>	Amperes
B	<u>24</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>14.4</u>	Amperes
C	<u>14</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>8.4</u>	Amperes
D	<u>30</u>	lights each of	<u>16</u>	plus 4 @ 300 watt candle power requiring a total current of	<u>37.2</u>	Amperes
E	<u>61</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>36.6</u>	Amperes
<u>2</u>	<u>Mast head lights</u>	with <u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.4</u>	Amperes
<u>2</u>	<u>Side lights</u>	with <u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.4</u>	Amperes
<u>30</u>	<u>Cargo lights</u>	of <u>16</u>		candle power, whether incandescent or arc lights	<u>4 Incandescent</u>	
	<u>plus 4</u>	" " "	<u>500 watts each</u>			

If arc lights, what protection is provided against fire, sparks, &c.

Where are the switches controlling the masthead and side lights placed In Wheelhouse on Bridge

DESCRIPTION OF CABLES.

Main cable carrying	<u>100</u> Amperes, comprised of	<u>19</u> wires, each	<u>14</u> L.S.G. diameter,	<u>0.09372</u> square inches total sectional area
Branch cables carrying	<u>37.2</u> Amperes, comprised of	<u>19</u> wires, each	<u>20</u> L.S.G. diameter,	<u>0.01899</u> square inches total sectional area
Branch cables carrying	<u>14.4</u> Amperes, comprised of	<u>7</u> wires, each	<u>18</u> L.S.G. diameter,	<u>0.01246</u> square inches total sectional area
Leads to lamps carrying	<u>2.4</u> Amperes, comprised of	<u>7</u> wires, each	<u>25</u> L.S.G. diameter,	<u>0.0021</u> square inches total sectional area
Cargo light cables carrying	<u>5</u> Amperes, comprised of	<u>114</u> wires, each	<u>38</u> L.S.G. diameter,	<u>0.00319</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Tinned Copper Conductors, insulated with pure & vulcanised India Rubber, taped and the whole vulcanised together and finished as follows:— Main Cables in Pipe - Braided & compounded overall

Branch wires in rooms etc., - Lead-covered & braided overall.

Joints in cables, how made, insulated, and protected

No Joints

Are all the joints of cables thoroughly soldered, resin only having been used as a flux — 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 Drawn into screwed galvanised wrought iron 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.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead-covd, armoured & braided ✓

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

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

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

How are cables carried through decks Through 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 Yes ✓

If so, how are they protected Drawn into screwed galvanised wrought iron pipes made watertight. ✓

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 Fitted with glass well jar and strong brass guard ✓

Where are the main switches and cut outs for these lights fitted In Engine Room ✓

If in the spaces, how are they specially protected -

Are any switches or cut outs fitted in bunkers No

Cargo light cables, whether portable or permanently fixed Portable How fixed to brass terminals in strong cast iron 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 -

The installation is Yes ✓ supplied with a voltmeter and Yes ✓ an amperemeter, fixed in Engine Room

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas -

Are any switches, cut outs, 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 100 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 2,500 megohms per statute mile after 24 hours' immersion in seawater.

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.

W. J. Wain Electrical Engineers Date May 5th 1920

COMPASSES.

Distance between dynamo or electric motors and standard compass 104 feet

Distance between dynamo or electric motors and steering compass 100 "

The nearest cables to the compasses are as follows:—

A cable carrying <u>8.4</u> Amperes	<u>8</u> feet from standard compass	<u>6</u> feet from steering compass
A cable carrying <u>0.6</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 course 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 Co. Ltd.

Builder's Signature. Date 13th May 1920

GENERAL REMARKS.

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

It is submitted that this vessel is eligible for THE RECORD.

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.—5m.34.



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