

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 7683

Port of Belfast Date of First Survey May 13<sup>th</sup> Date of Last Survey June 27<sup>th</sup> No. of Visits 3  
 No. in Reg. Book on the Iron of Steel S.S. "Thurston" Port belonging to Liverpool  
 Built at London By whom North of Ireland Shipyard 1916  
 Owners Broomport S.S. Co. Ltd. Owners' Address Liverpool  
 Yard No. 66 Electric Light Installation fitted by Campbell & Isherwood When fitted 1916

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Open, Vertical, Single Cylinder type Engine direct coupled to protected type Compound wound dynamo. & both mounted on cast iron bedplate

Capacity of Dynamo 91 Amperes at 110 Volts, whether continuous or alternating current CC  
 Where is Dynamo fixed Engine room Whether single or double wire system is used double  
 Position of Main Switch Board Engine room having switches to groups 3 of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Engine room - 4.  
Chart room - 7.

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 80 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 151 arranged in the following groups:—

A	<u>69</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>37.6</u>	Amperes
B	<u>20</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>10.9</u>	Amperes
C	<u>62</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>33.8</u>	Amperes
D		lights each of		candle power requiring a total current of		Amperes
E		lights each of		candle power requiring a total current of		Amperes
<u>2</u>	Mast head light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.1</u>	Amperes
	Side light with			candle power requiring a total current of	<u>2.1</u>	Amperes
<u>4</u>	Cargo lights of	<u>each 8-32 CP</u>		candle power, whether incandescent or arc lights	<u>Incandescent</u>	

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

Where are the switches controlling the masthead and side lights placed Chart room

## DESCRIPTION OF CABLES.

Main cable carrying	<u>91</u>	Amperes, comprised of	<u>19</u>	wires, each	<u>15</u>	L.S.G. diameter, <u>.078</u> square inches total sectional area
Branch cables carrying	<u>37.6</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>17</u>	L.S.G. diameter, <u>.017</u> square inches total sectional area
Branch cables carrying	<u>33.8</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>18</u>	L.S.G. diameter, <u>.0125</u> square inches total sectional area
Leads to lamps carrying	<u>10.9</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>18</u>	L.S.G. diameter, <u>.0125</u> square inches total sectional area
Cargo light cables carrying	<u>2</u>	Amperes, comprised of	<u>1</u>	wires, each	<u>18</u>	L.S.G. diameter, <u>.00181</u> square inches total sectional area
	<u>9</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>22</u>	L.S.G. diameter, <u>.0042</u> square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Engine & Boiler rooms V.R. Armoured & Braided; Holdo. V.R. in screwed pipe; Babur-lead covered clipped up.

Joints in cables, how made, insulated, and protected

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 Clipped under decks, protected in places by Hatch Coaming



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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 in screwed 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 AsB in screwed iron pipe

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

How are cables carried through beams Alie females through bulkheads, &c. W.T. brass glands

How are cables carried through decks Deck pipes 2 ft long

Are any cables run through coal bunkers yes or cargo spaces yes or spaces which may be used for carrying cargo, stores, or baggage

If so, how are they protected in 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 cut outs for these lights fitted

If in the spaces, how are they specially protected

Are any switches or cut outs fitted in bunkers

Cargo light cables, whether portable or permanently fixed both How fixed connection boxes on deck housings

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 supplied with a voltmeter and an amperemeter, fixed on switchboard

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 600 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.

Campbell + Ishenwood Ltd

Electrical Engineers

Date July 6/16

COMPASSES.

Distance between dynamo or electric motors and standard compass 60'

Distance between dynamo or electric motors and steering compass 54'

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>5</u>	<u>1</u>	<u>1</u>	<u>1</u>
<u>1 1/2</u>	<u>6</u>	<u>6</u>	<u>6</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 N. 68° E. course in the case of the standard compass and Nil. degrees on N. 64° E. course in the case of the steering compass.

THE NORTH OF IRELAND SHIPBUILDING Co. Ltd.

A.E. Fletcher

Secretary.

Builder's Signature.

Date

GENERAL REMARKS.

This installation appears to be of good description, and has been fitted in accordance with the Rules

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

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.