

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 72697

Port of NEWCASTLE-ON-TYNE Date of First Survey 10/1/19 Date of Last Survey 28/4/19 No. of Visits 6
 No. in Reg. Book on the Iron or Steel S.S. Port Nicholson Port belonging to London
 Built at Hebburn By whom Hawthorn Leslie & Co. L^d When built 1919
 Owners Commonwealth & Dominion Line Owners' Address Fenchurch Avenue, London
 Yard No. 487 Electric Light Installation fitted by Hawthorn Leslie & Co. L^d When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two sets, each consisting of one vertical direct coupled enclosed high speed engine with forced lubrication, of Howdens manufacture, direct coupled to a shunt wound dynamo of Messrs Sunderland Forge & Eng^gs manufacture.

Capacity of Dynamo 165 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Thrust recess in Eng^g Room Whether single or double wire system is used Double

Position of Main Switch Board Thrust recess in Eng^g Room having switches to groups A-B-C-D-E of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Not fitted

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 — 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-oxidisable 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 342 arranged in the following groups:—

A Eng Room etc lights each of 34 1/2 in 16 1/2 c.p. lamps candle power requiring a total current of 59.9 Amperes

B Saloon Accom^{mod} lights each of 19 30 watt lamps candle power requiring a total current of 41.1 Amperes

C Engin^g & Store & Off lights each of 19 30 watt lamps candle power requiring a total current of 35.4 Amperes

D Cargo Blowers Ford lights each of 16 1000 watt candle power requiring a total current of 40 Amperes

E " " Off lights each of 35 1000 watt candle power requiring a total current of 31 Amperes

2 Mast head light with 1 lamps each of 32 candle power requiring a total current of 2.4 Amperes

2 Side light with 1 lamps each of 32 candle power requiring a total current of 2.4 Amperes

18 in 1/2 5 light Cargo lights of 16 candle power, whether incandescent or arc lights Incandescent

If arc lights, what protection is provided against fire, sparks, &c. Not Fitted

Where are the switches controlling the masthead and side lights placed Wheel House

DESCRIPTION OF CABLES.

Main cable carrying 165 Amperes, comprised of 34 wires, each 13 S.W.G. diameter, .250 square inches total sectional area

A Branch cables carrying 59.9 Amperes, comprised of 19 wires, each 16 S.W.G. diameter, .060 square inches total sectional area

B " " " 41.1 Amperes, comprised of 19 wires, each 16 S.W.G. diameter, .060 square inches total sectional area

C Branch cables carrying 35.4 Amperes, comprised of 19 wires, each 16 S.W.G. diameter, .060 square inches total sectional area

D Leads to lamps carrying 31.6 Amperes, comprised of 19 wires, each 20 S.W.G. diameter, .019 square inches total sectional area

E Cargo light cables carrying 3 Amperes, comprised of 4 wires, each 23 S.W.G. diameter, .0031 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All cable installed is 2500 Megohm Grade, Lead covered, armoured & braided in exposed places & Machinery Spaces & Lead covered & Braided cables where passing through accommodation.

Joints in cables, how made, insulated, and protected No joints are made. When necessary, properly designed joint boxes have been fitted, same being fitted in accessible positions.

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 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 Tied with brass or galvanised iron clips & protected with wood casing where necessary.



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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 *Run in conduit or lead covered, armoured & braided cables fitted*

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

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

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

How are cables carried through beams *Fibre Ferrules* through bulkheads, &c. *W.T. Glands or fibre ferrules fitted*

How are cables carried through decks *Iron Pipes*

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 *Lead covered, armoured & braided cables in wood casing*

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 *Cast Iron Connection Boxes*

Where are the main switches and fuses for these lights fitted *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 *Permanently* How fixed *Secured by clips*

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 *Yes*

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 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.

Hawthorn Leslie & Co Ltd Electrical Engineers Date *1/10/19*

COMPASSES.

Distance between dynamo or electric motors and standard compass *82 ft.*

Distance between dynamo or electric motors and steering compass *80 "*

The nearest cables to the compasses are as follows:—

Cable Description	Amperes	Feet from standard compass	Feet from steering compass
A cable carrying <i>Lighting cables</i> 6 Amperes <i>Lead into standard compass</i>	6	4	4
A cable carrying <i>Feeds to navigation D.B.</i> 13 Amperes	13	8	6
A cable carrying <i>—</i> Amperes	—	—	—

Have the compasses been adjusted with and without the electric installation at work at full power

The maximum deviation due to electric currents, etc., was found to be *—* degrees on *—* course in the case of the standard compass and *—* degrees on *—* course in the case of the steering compass.

R. & W. HAWTHORN LESLIE & CO LIMITED.

John R. Batty

Builder's Signature. Date *1st Oct. 1919.*

GENERAL REMARKS.

The Electrical Installation is in accordance with the Societys Rules. It has been tested and found satisfactory

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

W.R.
21/1/20

W.T. Badger

Surveyor to Lloyd's Register of Shipping.

Committee's Minute