

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 70362

Port of NEWCASTLE-ON-TYNE Date of First Survey 21st Sept Date of Last Survey 12th Oct 17 No. of Visits 10
 No. in Reg. Book S.S. G. LANGULA Port belonging to Corn
 Built at Salter - on - Tyne By whom James Langula & Co. Newcastle When built 1916-7
 Owners Cornbeamish & Co Owners' Address Corn
 Yard No. 1028 Electric Light Installation fitted by J. H. Holmes Ltd. When fitted 1917

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One - 8'x6' open single cylinder engine, coupled to one "Holmes" Dynamo

Capacity of Dynamo 63 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Starboard Side of Engine Room Whether single or double wire system is used Double

Position of Main Switch Board head of dynamo having switches to groups A. B. C. D. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 1 - 8 way fuse box & 6 switches in Chest Room, 3 way fuse box in Passageway, 4 way fuse box in Engineer's head room, 3 way fuse box in Stairing, 2 way fuse box in Passageway, 2 way fuse box in Engine Room, 2 way fuse box & 2 switches in Engine Room.

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 III-10C.B. 15-32C.B. arranged in the following groups:—

A	<u>4</u>	lights each of	<u>32</u>	candle power requiring a total current of	<u>13.44</u>	Amperes
B	<u>10</u>	" " "	<u>16</u>	" " " " " " " "	<u>26.88</u>	Amperes
C	<u>24</u>	" " "	<u>16</u>	" " " " " " " "	<u>17.9</u>	Amperes
D	<u>35</u>	" " "	<u>16</u>	" " " " " " " "	<u>20.72</u>	Amperes
E	<u>1</u>	" " "	<u>32</u>	" " " " " " " "		Amperes

2 Mast head lights with 1 lamp each of 32 candle power requiring a total current of 2.24 Amperes

2 Side lights with 1 lamp each of 32 candle power requiring a total current of 2.24 Amperes

10 Cargo lights of 6x16 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 Chest Room

DESCRIPTION OF CABLES.

Main cable carrying 63 Amperes, comprised of 19 wires, each 15 L.S.G. diameter, .075 square inches total sectional area

Branch cables carrying 13.44 Amperes, comprised of 7 wires, each 18 L.S.G. diameter, .012 square inches total sectional area

Branch cables carrying 26.88 Amperes, comprised of 7 wires, each 15 L.S.G. diameter, .028 square inches total sectional area

Leads to lamps carrying .56 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0018 square inches total sectional area

Cargo light cables carrying 6.72 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .007 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Conductors of copper insulated with pure & vulcanized India Rubber, lead covered & sheathed with steel wires & braided Hemp cord overall.

Joints in cables, how made, insulated, and protected none, looping in system carried out.

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 ✓

How are the cables led through the ship, and how protected Lead covered wire in accommodation, cargo spaces & bunkers, P.S.B. in iron pipe, engine & boiler rooms sheathed & braided.

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 *Armoured & Braided*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *V.C.P. in Iron Pipe*

What special protection has been provided for the cables near boiler casings *None*

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

How are cables carried through beams *Rashed with Fibre* through bulkheads, &c. *Stuffing Glants*

How are cables carried through decks *in lead on Deck Tables, Hanged & made Watertight*

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 *V.C.P. 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 *None*

Cargo light cables, whether portable or permanently fixed *Portable* How fixed *Socket Connections*

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 main Board*

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 *Engineering Standards* 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.

J. N. Holmes & Co.

Electrical Engineers

Date *Oct 10th 1917*

COMPASSES.

Distance between dynamo or electric motors and standard compass *Approximately 88 ft.*

Distance between dynamo or electric motors and steering compass *" " " 82 "*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	Position	feet from standard compass	Position	feet from steering compass
<i>56</i>		<i>inside</i>	<i>inside</i>	<i>inside</i>	<i>inside</i>
<i>9</i>		<i>12 (approx)</i>	<i>approx 10</i>	<i>approx 10</i>	<i>approx 10</i>
<i>13.44</i>		<i>20 "</i>	<i>" 15</i>	<i>" 15</i>	<i>15</i>

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 *each* course in the case of the standard compass and *nil* degrees on *each* course in the case of the steering compass.

SWAN, HUNTER & WIGHAM RICHARDSON, LTD.

G. J. Dewar
DIRECTOR

Builder's Signature.

Date *16 October 1917*

GENERAL REMARKS.

Insulation tested and found to work satisfactorily.

1 Pair of 7/20 wires from main Switchboard to Mercantile Room

It is suggested that Switch in Captains Cabin

this vessel is eligible for THE RECORD. Elec light 2/10.17 Wm R. Austin.

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

Committee's Minute *TUE OCT 23 1917*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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