

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6831

Port of *Belfast* Date of First Survey *May 13th* Date of Last Survey *July 6th* No. of Visits *14*
 No. in Reg. Book *16 Sep* on the Iron or Steel *St. Albans* Port belonging to *Ladysan*
 Built at *Belfast* By whom *Workman Clark & Co. Ltd.* When built *1910*
 Owners *Eastern Australian S.S. Co. Ltd.* Owners' Address *London*
 Yard No. *292* Electric Light Installation fitted by *Sunderland Forge & Engineering Co. Ltd.* When fitted *1910*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two Multipolar Compound wound Dynamos coupled to Open type Engines all by Sunderland Forge & Engineering Co. Ltd.

Capacity of Dynamos *each 175* Amperes at *100* Volts, whether continuous or alternating current *Continuous*

Where is Dynamo fixed *In recess port side of engine room* Whether single or double wire system is used *Double*

Position of Main Switch Board *Close to dynamos* having switches to groups *A. B. C. D. E. F. G. H.* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *One fixed outside 1st Class Saloon with 12-5 amp S.P. Switches and D.P. Fuses*

One " 2nd " " 11-5 " (These control lights and fans in saloons)

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 *Tin & Tinned copper* 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 *Fitted on slate & porcelain*

Total number of lights provided for *354* arranged in the following groups:—

A	<i>72</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>43.2</i>	Amperes
B	<i>114</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>68.4</i>	Amperes
C	<i>78</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>46.8</i>	Amperes
D	<i>66</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>39.6</i>	Amperes
E	<i>24</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>14.4</i>	Amperes
* 2		Mast head light with 1 lamps each of	<i>32</i>	candle power requiring a total current of	<i>1.2</i>	Amperes
2		Side light with 1 lamps each of	<i>32</i>	candle power requiring a total current of	<i>1.2</i>	Amperes
4		Cargo lights of 6 each	<i>16</i>	candle power, whether incandescent or arc lights	<i>incandescent</i>	

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

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

DESCRIPTION OF CABLES.

Main cable carrying *175* Amperes, comprised of *37* wires, each *14* L.S.G. diameter, *.175* square inches total sectional area
 Branch cables carrying *46.8* Amperes, comprised of *19* wires, each *15* L.S.G. diameter, *.07* square inches total sectional area
 Branch cables carrying *68* Amperes, comprised of *19* wires, each *15* L.S.G. diameter, *.07* square inches total sectional area
 Leads to lamps carrying *1.2* Amperes, comprised of *3* wires, each *22* L.S.G. diameter, *.00186* square inches total sectional area
 Cargo light cables carrying *3.6* Amperes, comprised of *168* wires, each *38* L.S.G. diameter, *.004* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Wiring in Saloons, Music-Room & Smoke-Room T.S.D. in casings.
Accommodation - Lead covered. Wiring in Engine Room, holds, galleys, firemen's, seamen's & emigrants' quarters - Lead covered, armoured & braided.

Joints in cables, how made, insulated, and protected

There are none.

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 *Lead covered cables clipped to wood strip with brass clips; armoured wires clipped to deck & bulkheads.*

- * F. *49 Cabin Fans requiring a total current of 29.4 amps.*
 G. *One 3 H.P. & one 1 H.P. Motors* " " *32.0*
 H. *Mains for Wireless Telegraphy.*

DESCRIPTION OF INSULATION, PROTECTION, ETC. continued.

Are they in places always accessible *Yes if the Green Deck is not used for cargo*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead covered and armoured*

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 *Do -*

What special protection has been provided for the cables in engine room *Do -*

How are cables carried through beams *Bushed with fibre* through bulkheads, &c. *Watertight glands.*

How are cables carried through decks *Galvanised iron deck tubes 2 ft above deck & filled with pitch*

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*

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 lids to close up.*

Where are the main switches and cut outs for these lights fitted *In passage under forecabin.*

If in the spaces, how are they specially protected *No.*

Are any switches or cut outs fitted in bunkers *Portable.*

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

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *How fixed*

How are the returns from the lamps connected to the hull *How fixed*

Are all the joints with the hull in accessible positions *How fixed*

The installation is *supplied with 2 voltmeters and 2 amperemeters fixed in 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 *2500* 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.

R. F. THE HENDERLAND FUDGE & ENGINEERING CO. LTD.

R. F. The

Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass

250 feet

Distance between dynamo or electric motors and steering compass

240 "

The nearest cables to the compasses are as follows:—

Cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>14.4</i>	<i>20</i>	<i>15</i>	<i>15</i>
<i>39.0</i>	<i>50</i>	<i>50</i>	<i>50</i>
<i>1.2</i>	<i>5</i>	<i>5</i>	<i>5</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

all

course in the case of the

standard compass and

Nil

degrees on

all

course in the case of the steering compass.

R. F. The

Builder's Signature.

Date

GENERAL REMARKS.

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

R. F. The

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

Committee's Minute



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