

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 S. Albans Port belonging to Ladysan
 Built at Belfast By whom Workman Clark & Co. Ltd. When built 1910
 Owned by Eastern Australian S.S. Coy. Ltd. Owners' Address Ladysan
 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:—

Group	Number of lights	Each of	Candle power	Requiring a total current of	Amperes
A	72	lights each of 16		43.2	Amperes
B	114	lights each of 16		68.4	Amperes
C	78	lights each of 16		46.8	Amperes
D	66	lights each of 16		39.6	Amperes
E	24	lights each of 16		14.4	Amperes
* 2	Mast head light with 1 lamps each of 32			1.2	Amperes
2	Side light with 1 lamps each of 32			1.2	Amperes
4	Cargo lights of 6 each 16				incandescent.

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 lower 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 fore-castle.*

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

Are any switches or cut outs fitted in bunkers *No.*

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

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 *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. FRO THE HUNDESLAND FUDGE & ENGINEERING CO. LD.

H. Digner

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:—

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

WICKMAN, CLARK & CO., LIMITED

R. Proctor

Builder's Signature.

Date

GENERAL REMARKS.

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

R. J. B. Bennett

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

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

Rec. Light
27-8-10

Committee's Minute



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.