

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6

Port of Belfast Date of First Survey Oct. 12th Date of Last Survey Feb. 22nd No. of Visits 3
 No. in Reg. Book 10 on the Iron or Steel W. S. Newmaster belonging to Walter Law
 Built at Belfast By whom Harland & Wolff When built 1888
 Owners Walter Law S. N. Owners' Address Walter Law, Belfast
 Yard No. 366 Electric Light Installation fitted by W. A. Allen Son & Co. Ltd. When fitted 1902

DESCRIPTION OF DYNAMO, ENGINE, ETC.

4 Engines having cylinders 9" x 15" x 9" coupled to four dynamos multipolar type, compound wound.

Capacity of Dynamo 275 Amperes at 110 Volts, whether continuous or alternating current continuous.

Where is Dynamo fixed 3 in Dynamo Recess over thrust recess, 1 in Emergency dynamo recess in Engine Room top.

Position of Main Switch Board in Dynamo Recess having switches to groups 22 in number of lights, &c., as below
Positions of auxiliary switch boards and numbers of switches on each 1 Emergency board in Emergency Dynamo Recess with 6 switches to 13 groups of lights etc

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 1761 arranged in the following groups:—

A	lights each of		candle power requiring a total current of	
B	as per	lights each of	candle power requiring a total current of	
C	supplementary	lights each of	candle power requiring a total current of	
D	stern	lights each of	candle power requiring a total current of	
E		lights each of	candle power requiring a total current of	
2	Mast head lights with 1 lamp each of	32	candle power requiring a total current of	1.2
2	Side light with 1 lamp each of	32	candle power requiring a total current of	1.2
7	Cargo lights of	7x16 = 112	candle power, whether incandescent or arc lights	incandescent.

If arc lights, what protection is provided against fire, sparks, &c. none used

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

DESCRIPTION OF CABLES.

Main cable carrying	275 Amperes, comprised of	61 wires, each	No 14 L.S.G. diameter,	0.315 square inches total sectional area
Branch cables carrying	737 Amperes, comprised of	19 wires, each	No 15 L.S.G. diameter,	0.789 square inches total sectional area
Branch cables carrying	41.25 " " " " " " " "	19 " " " " " " " "	No 17 " " " " " " " "	0.477 " " " " " " " "
Branch cables carrying	22.1 " " " " " " " "	7 " " " " " " " "	No 18 L.S.G. diameter,	0.229 square inches total sectional area
Leads to lamps carrying	10.0 " " " " " " " "	7 " " " " " " " "	No 18 " " " " " " " "	0.129 " " " " " " " "
Leads to lamps carrying	3.3 Amperes, comprised of	7 wires, each	No 16 L.S.G. diameter,	0.532 square inches total sectional area
Cargo light cables carrying	38 Amperes, comprised of	145 wires, each	38 L.S.G. diameter,	0.042 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

The conductor is insulated with 2 layers of pure Para Rubber, then 1 layer vulcanizing rubber, the whole vulcanized together then finally taped & braided, wires in Machinery Spaces after vulcanizing are lead covered, served specially armoured with G.I. wires.
Joints in cables, how made, insulated, and protected Thoroughly soldered, insulated with 2 layers pure rubber and two layers prepared tape, then varnished

Are all the joints of cables thoroughly soldered, resin only having been used as a flux yes 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 yes

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 in strong wood casing.



ON OF INSULATION, PROTECTION, ETC.—continued

in places always accessible *yes*

Special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *lead covered + externally braided.*

Special protection has been provided for the cables near galleys or oil lamps or other sources of heat *none near undue heat*

Special protection has been provided for the cables near boiler casings *lead covered sewed removed with G.I. wire*

Special protection has been provided for the cables in engine room " " " " " "

Cables carried through beams *in fine ferrules* through bulkheads, &c. *in fine ferrules*

Cables carried through decks *in G.I. pipes bushed with fine*

Are any cables run through coal bunkers *no* or cargo spaces *no* or spaces which may be used for carrying cargo, stores, or baggage *yes*

If so, how are they protected *in strong wood casing*

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 *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 *screwed to yoke of magnet*

How are the returns from the lamps connected to the hull *soldered to 3/8" Brass earth screws*

Are all the joints with the hull in accessible positions *yes*

VESSELS BUILT FOR CARRYING PETROLEUM.

Vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas *—*

Switches, cut outs, or joints of cables fitted in the pump room or companion *—*

Lamps specially protected in places liable to the accumulation of vapour or gas *—*

Installation is *4* supplied with *4* voltmeters and *4* amperemeters fixed on switchboards.

Cable 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.

For H. Halliday & Co Ltd

J. W. Dickinson Electrical Engineers

Date *March 9th /06*

COMPASSES.

Distance between dynamo or electric motors and standard compass *Some main dynamos 196 ft. to 6 magnet dynamo 140 ft. to Dagh magnet 70 ft.*

Distance between dynamo or electric motors and steering compass *" " 184" " " " 150 ft. " " 76 ft.*

The nearest cables to the compasses are as follows:— *all double wired forward of engine casing.*

A cable carrying *15* Amperes *18* feet from standard compass *16* feet from steering compass

A cable carrying *10* Amperes *14* feet from standard compass *6* feet from steering compass

A cable carrying " Amperes " feet from standard compass " 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 *every* course in the case of the

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

For Harland & Wolff

Builder's Signature.

Date *14 March 1906*

GENERAL REMARKS.

This installation is of good description throughout, and has been fitted in accordance with the Rules.

R. J. Beveridge

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

Committee's Minute

It is submitted that the Record Rec. Light be noted in the Reg. Book



Lloyd's Register Foundation

28.3.06

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 10.