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REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 5393

Port of Delfast Date of First Survey Sept 30th Day of Last Survey Jan 30th No. of Visits 13
 No. in Reg. Book 100 on the Iron Steel W. S. Marmak Cast belonging to London
 Built at Delfast By whom Houlard & Wolff When built 1902
 Owners Union Castle M.S.S. Coy L^d Owners' Address London
 Yard No. 142 Electric Light Installation fitted by N. A. Allen Coventry When fitted 1902

DESCRIPTION OF DYNAMO, ENGINE, ETC.

3 Bi-polar, under type, compound wound continuous current dynamo
 direct coupled on common bed plate to high speed, open vertical engine.

Capacity of Dynamo 300 Amperes at 102 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Through Head of Main Engine Room

Position of Main Switch Board in Head Room having switches to groups A, B, C, ... L of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 1 Switchboard controlling 1st Saloon, port passage
1st Saloon 11 switches, 1 do. controlling 2nd Saloon, starboard passage and 2nd Saloon 9 switches
1 do. controlling 1st Saloon & 1st Mast Rm, in saloon sq. aft 1st Saloon 32 switches

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, where double wire

Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of 50 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 1167 arranged in the following groups:—

A	105	164	63
AA	100 lights each of	"	60 Amperes
B	100	"	60
BB	90 lights each of	"	54 Amperes
C	30	"	18
CC	30 lights each of	"	18 Amperes
D	90	"	54
DD	30 lights each of	"	18 Amperes
E	66	"	40
EE	30 lights each of	"	18 Amperes
F	190	"	54
FF	30	"	18
G	2 Mast head lights with 1 lamps each of	32 of	2 15 Amperes
H	2 Side light with 1 lamps each of	32	2 Amperes
I	6 Cargo lights of { 128. / 48.		Incandescent.

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

Where are the switches controlling the masthead and side lights placed Chart Room.

DESCRIPTION OF CABLES.

Main cable carrying 300 Amperes, comprised of 37 wires, each 12 L.S.G. diameter, .2206 square inches total sectional area
 Branch cables carrying 60 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .0624 square inches total sectional area
 Branch cables carrying 30 Amperes, comprised of 19 wires, each 18 L.S.G. diameter, .0351 square inches total sectional area
 Leads to lamps carrying .6 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .00180 square inches total sectional area
 Cargo light cables carrying 4.8 Amperes, comprised of 145 wires, each 38 L.S.G. diameter, .0039 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure rubber cable, covered with preparation tape & braided externally

Joints in cables, how made, insulated, and protected joint made with solder & insulated with pure
Pure rubber, & preparation tape.

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 Cable led in substantial wood casing through
decks.

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 *Lead sheathing*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Lead sheathing & arm?*

What special protection has been provided for the cables near boiler casings *Lead sheathing & arm? J.I. wire*

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

How are cables carried through beams *fiber bushed hole* through bulkheads, &c. *W.I. bushed glands*

How are cables carried through decks *J.I. Deck tube bushed with fiber*

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

If so, how are they protected *Cables in baggage room protected by thick wood casing*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *no Lamp in baggage room*

If so, how are the lamp fittings and cable terminals specially protected *fittings protected with cast iron covers*

Where are the main switches and cut outs for these lights fitted *outside space*

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 *through cork plate below &*

How are the returns from the lamps connected to the hull *off the lead wires. Bulkhead in baggage room*

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

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 installation is supplied with a voltmeter and *3* an amperemeter fixed *in main switch board.*

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.

J. J. [Signature] Electrical Engineers Date *Feb 20/90*

COMPASSES.

Distance between dynamo or electric motors and standard compass *246 feet*

Distance between dynamo or electric motors and steering compass *248 "*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>18</i>	Amperes	<i>7</i>	feet from standard compass	<i>5</i>	feet from steering compass
A cable carrying	<i>14</i>	Amperes	<i>36</i>	feet from standard compass	<i>31</i>	feet from steering compass
A cable carrying	<i>50</i>	Amperes	<i>48</i>	feet from standard compass	<i>42</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.

Harland & Wolff [Signature] Builder's Signature. Date *8 March 1900*

GENERAL REMARKS.

This installation is of a high class, and is fitted in accordance with the Rules.

R. J. [Signature]
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

It is submitted that this installation appears to meet the requirements of the Rules.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 1.

