

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 7505.

Port of Belfast Date of First Survey 10th Nov 1910 Date of Last Survey 6th Feb 1915 No. of Visits 13
 No. in Reg. Book on the Iron or Steel S.S. Carmarthen belonging to Belfast
 Built at Belfast By whom Workman Clark & Co. Ltd. When built 1915
 Owners Royal Mail S. P. Coy Owners' Address London
 Yard No. 336 Electric Light Installation fitted by Sunderland Forge & Coy. Ltd. When fitted 1915

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two Generating Plants fitted consisting of Open-type, compound Steam Engines, direct coupled to compound wound multipolar dynamos fitted on combined bedplates.
 Capacity of Dynamo 318 Amperes at 110 Volts, whether continuous or alternating current Continuous ✓
 Where is Dynamo fixed In Engine Room
 Position of Main Switch Board In Engine Room having switches to groups 10 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each
One in Chart room For Navigation Lights 12 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 —
 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 509 arranged in the following groups:—

A	A	104	lights each of	16	candle power requiring a total current of	25	Amperes
B	B	80	" " "	"	" " " " " " " "	22	"
C	C	40	lights each of	"	candle power requiring a total current of	10	Amperes
D	D	60	" " "	"	" " " " " " " "	15	"
E	E	87	lights each of	"	candle power requiring a total current of	20	Amperes
F	F	8	" " "	"	" " " " " " " "	2	"
G	G	42	lights each of	"	candle power requiring a total current of	10	Amperes
H	H	48	" " "	"	" " " " " " " "	84	"
I	I	40	lights each of	"	candle power requiring a total current of	80	Amperes
J	J		Wireless Telegraphy		" " " " " " " "	27	"
K	K	2	Must head light with 1 lamps each of	32	candle power requiring a total current of	2	Amperes
L	L	2	Side light with 1 lamps each of	32	candle power requiring a total current of	2	Amperes
M	M	12	arc lamps & 44 Cargo lights of	32	candle power, whether incandescent or arc lights	Both Fitted	

 If arc lights, what protection is provided against fire, sparks, &c. Glass globes strong galvanised iron guards & ash trays fitted.
 Where are the switches controlling the masthead and side lights placed In chart room.

DESCRIPTION OF CABLES.

Main cable carrying 318 Amperes, comprised of 61 wires, each 12 L.S.G. diameter, 0.500 square inches total sectional area
 Branch cables carrying 84 Amperes, comprised of 19 wires, each 14 L.S.G. diameter, 0.0937 square inches total sectional area
 Branch cables carrying 25 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, 0.0221 square inches total sectional area
 Leads to lamps carrying 2 Amperes, comprised of 7 wires, each 25 L.S.G. diameter, 0.0022 square inches total sectional area
 Cargo light cables carrying 10 Amperes, comprised of 114 wires, each 38 L.S.G. diameter, 0.003192 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Tinned copper conductors, insulated with pure & vulcanised India rubber taped & the whole vulcanised together & finished as follows:— In Accommodation—Lead covered & braided overall
 In Engine room, holds etc & where exposed to weather—Lead-covered, armoured & braided.
 Joints in cables, how made, insulated, and protected No joints
 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, armoured & braided cables securely fastened to beams etc with galvanised iron clips & 3/8" dia. brass screws



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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
Cables lead-covered, armoured & braided overall.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead-covered, arm^d & braided

What special protection has been provided for the cables near boiler casings ditto ditto

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

How are cables carried through beams Through holes bushed w/ fibre through bulkheads, &c. Through w.t. brass glands

How are cables carried through decks Through deck tubes made water tight

Are any cables run through coal bunkers Yes 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 Glass globe & strong brass guard fitted

Where are the main switches and cut outs for these lights fitted In Engine Room.

If in the spaces, how are they specially protected — Attached to heavy brass watertight

Are any switches or cut outs fitted in bunkers No

Cargo light cables, whether portable or permanently fixed Portable How fixed Attached to heavy brass watertight plugs & sockets

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel Sweated into heavy brass sockets & bolted to beam in engine room.

How are the returns from the lamps connected to the hull Sweated to brass washers connected to hull by 3/8" brass screws.

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 Yes supplied with a voltmeter and Yes an amperemeter, fixed in engine room.

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.

H. Wright Electrical Engineers Date March 5, 1915

COMPASSES.

Distance between dynamo or electric motors and standard compass 112 ft

Distance between dynamo or electric motors and steering compass 108 ft

The nearest cables to the compasses are as follows:—

A cable carrying	<u>5.8</u>	Amperes	<u>14</u>	feet from standard compass	<u>12</u>	feet from steering compass
A cable carrying	<u>0.5</u>	Amperes	<u>3</u>	feet from standard compass	<u>3</u>	feet from steering compass
A cable carrying	<u>1.0</u>	Amperes	<u>6</u>	feet from standard compass	<u>8</u>	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.

H. Hooper Builder's Signature. Date _____

GENERAL REMARKS.

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

It is submitted that this vessel is eligible for THE RECORD Elec. light. 15/3/15. R. J. Beveridge Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute _____

REPORT FORM No. 12.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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