

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 7065.

Port of Belfast Date of First Survey 31st Jan 1912 Date of Last Survey 28 March 1912
 No. in Reg. Book P. S. S. Patricia Port belonging to Belfast No. of Visits 14 total
 Built at Belfast By whom Harland & Wolff Ltd When built 1912
 Owners Belfast S. S. Coy Ltd Owners' Address Belfast
 Yard No. 424 Electric Light Installation fitted by Harland & Wolff Ltd When fitted 1912

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2-7" x 12" x 5" stroke enclosed forced lub^d engines (1- Right hand and 1 Left hand) 150 lbs W.P.
 both coupled to a 42 K.W. compound wound multipolar dynamo running @ 525 R.P.M.
 Capacity of Dynamo 420 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed Thrust recess whether single or double wire system is used D.W.S.
 Position of Main Switch Board Thrust recess having switches to groups A B C D E & F of lights, &c., as below
 Positions of auxiliary fuse boards and numbers, of fuses on each No 2 Board with 12 D.P. fuses No 3 Board with 3 D.P. fuses:
No 3 a. single D.P. fuse: No 4 with 12 D.P. fuses: No 5 with 12 D.P. fuses: No 6 with 12 D.P. fuses: No 7 with 12 D.P. fuses:
No 8 with 9 D.P. fuses: No 9 with 9 D.P. fuses: No 10 with 9 D.P. fuses: No 11 with 9 D.P. fuses: No 12 with 9 D.P. fuses:
No 13 with 12 D.P. fuses: No 14 with 6 D.P. fuses & 5 S.P. switches: No 15 with 6 D.P. fuses & 5 S.P.
 If cut outs are fitted on main switch board to the cables of main circuit yes and on each auxiliary 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 no
 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-oxidisable 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 503 including one Morse lantern arranged in the following groups:-

A Machinery space	60 lights each of	16	candle power requiring a total current of	36.0	Amperes
B Storage etc	38 lights each of	{ 2. 16 } 36. 20	candle power requiring a total current of	10.5	Amperes
C 1 st class Port	148 lights each of	20	candle power requiring a total current of	37.35	Amperes
D 1 st class starboard	148 lights each of	20	candle power requiring a total current of	37.35	Amperes
E Signals & screw	91 lights each of	{ 4. 16 } 87. 20	candle power requiring a total current of	30.7	Amperes
F Cargo	18 each " " "	16	" " " " " "	10.8	Amperes
	2 Mast head lights with 1 lamp each of	32	candle power requiring a total current of	1.84	Amperes
	2 Side lights with 1 lamp each of	32	candle power requiring a total current of	1.84	Amperes
	3 Cargo lights of	6 x 16	candle power, whether incandescent or arc lights	Incandescent	

If are lights, what protection is provided against fire, sparks, &c.
2- Motors installed each 60 amps for Hot air tanks
 Where are the switches controlling the masthead and side lights placed on Flying Bridge in W. J. Brass box.

DESCRIPTION OF CABLES.

Main cable carrying	273 Amperes, comprised of	61 wires, each .097	L.S.G. diameter, .45	square inches total sectional area	
Branch cables carrying	10.2 Amperes, comprised of	7 wires, each .16	L.S.G. diameter, .0223	square inches total sectional area	.0026
Branch cables carrying	25.5 Amperes, comprised of	19 wires, each .16	L.S.G. diameter, .0604	square inches total sectional area	.0086
Leads to lamps carrying	.6 Amperes, comprised of	3 wires, each .20	L.S.G. diameter, .0032	square inches total sectional area	
Cargo light cables carrying	3.6 Amperes, comprised of	90 wires, each .36	L.S.G. diameter, .004	square inches total sectional area	.0009

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Twin wires insulated with pure & vulc^d rubber taped laid side by side and lead covered where armoured a serving is introduced between lead & iron sheathing & braided overall, mains are insulated with pure & vulc^d rubber taped and lead covered. The armoured cables are further served, armoured & braided
 Joints in cables, how made, insulated, and protected
spliced soldered & insulated with pure rubber & protective tapes

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 no
 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 up through engine room clipped up; along Main Dk L.C.A.B. in wood casing & Upper Dk. L.C. (only) clipped up.

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 covered*
armoured and braided cables ✓
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *do*
 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 *fibre bushes* through bulkheads, &c. *stuffing boxes* ✓
 How are cables carried through decks *deck tubes* ✓
 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 *as above and also enclosed in wood casing* ✓
 Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *cargo yes* ✓
 If so, how are the lamp fittings and cable terminals specially protected *strong metal fittings with strong glass + guard*
 Where are the main switches and cut outs for these lights fitted *crew's passage Main &k Ford + aft.* ✓
 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 _____
 How are the returns from the lamps connected to the hull _____
 Are all the joints with the hull in accessible positions _____

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 *two* ✓ amperemeters *fixed on Main sub?* ✓

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 *2,500* 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 Harland & Wolff Ltd
Hook Electrical Engineers Date *5/4/12*

COMPASSES.

Distance between dynamo or electric motors and standard compass *64' 0"*
 Distance between dynamo or electric motors and steering compass *92' 0"*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>60</i>	Amperes	<i>92' 0"</i>	feet from standard compass	<i>64' 0"</i>	feet from steering compass
A cable carrying	<i>9</i>	Amperes	<i>96' 0"</i>	feet from standard compass	<i>32' 0"</i>	feet from steering compass
A cable carrying	<i>10</i>	Amperes	<i>40' 0"</i>	feet from standard compass	<i>112' 0"</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 *no* degrees on *all* course in the case of the standard compass and *no* degrees on *all* course in the case of the steering compass.

For Harland & Wolff Ltd
 Builder's Signature. Date *5/4/12*

GENERAL REMARKS.

The installation is of good description and has been fitted in accordance with the Rules.
It is submitted that this vessel is eligible for THE RECORD. Elec. light.
R. F. Pennington
 Surveyor to Lloyd's Register of British and Foreign Shipping.
13/4/12

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 15.



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