

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 7003

Port of Belfast Date of First Survey May 15 Date of Last Survey 21st Sept No. of Visits 14
 No. in Reg. Book on the Iron or Steel "Galway Castle" Port belonging to London
 Built at Belfast By whom Harland & Wolff When built 1911
 Owners Union Castle S. N. Co. Owners' Address London
 Yard No. 419 Electric Light Installation fitted by Harland & Wolff When fitted 1911

DESCRIPTION OF DYNAMO, ENGINE, ETC.

3 Allen's compound Engines D/C. to Siemens Dynamos having an output of 15.3 K.W.
 @ 102 Volts @ 300 revs. Engine cylinders 7" x 12" dia x 7" stroke

Capacity of Dynamo 150 Amperes at 102 Volts, whether continuous or alternating current A.C.

Where is Dynamo fixed Engine Room Whether single or double wire system is used Single

Position of Main Switch Board Engine Room having switches to groups A. B. C. D. E. F. G. H. I. J. K. L. M. N. O. P. Q. R. S. T. U. V. W. X. Y. Z. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 1-12 way 1st class Entrance, Prom. Deck, 1-12 way 2nd class Entrance Prom. Deck, 1-12 way 1st class Entrance Upper Deck, 1-12 way 2nd class Passage Star Upper Deck, 2-9 way 3rd class Saloon and 2-5 way 3rd class Entrance Bridge Deck

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 Porcelain 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 W. 33 S. W. G. 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 82741 Morse lamps arranged in the following groups:—

A Signals	23 lights each of	4-32 C.P. 7-5 C.P.	candle power requiring a total current of	9.3	Amperes
B Officers etc	138 lights each of	16	candle power requiring a total current of	51.15	Amperes
C 1 st Saloons etc	138 lights each of	16	candle power requiring a total current of	51.44	Amperes
D 2 nd Saloons etc	137 lights each of	16	candle power requiring a total current of	48.46	Amperes
E 2 nd Inner cabins etc	129 lights each of	16	candle power requiring a total current of	42.97	Amperes
2 Mast head light with	2 lamps each of	32	candle power requiring a total current of	1.2	Amperes
2 Side light with	2 lamps each of	32	candle power requiring a total current of	1.2	Amperes
10 Cargo lights of	6 lights of	16	candle power, whether incandescent or arc lights	Both	

If arc lights, what protection is provided against fire, sparks, &c. Glass globes around arcs with G. I. Guards

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

DESCRIPTION OF CABLES.

Main cable carrying	51.15 Amperes, comprised of	19 wires, each	14 L.S.G. diameter, .0944 square inches total sectional area
Branch cables carrying	14.7 Amperes, comprised of	7 wires, each	16 L.S.G. diameter, .02227 square inches total sectional area
Branch cables carrying	12 Amperes, comprised of	7 wires, each	18 L.S.G. diameter, .01254 square inches total sectional area
Leads to lamps carrying	1.4 Amperes, comprised of	1 wires, each	18 L.S.G. diameter, .00181 square inches total sectional area
Cargo light cables carrying	3.6 Amperes, comprised of	40 wires, each	36 L.S.G. diameter, .00407 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables throughout decks of 2500 Megohm, classed to S. M. A. quality insulated with pure rubber and vulcanized rubber braided and compounded over all. Cables in Engine and Boiler Rooms further protected by Steel Armouring

Joints in cables, how made, insulated, and protected Soldered using resin as a flux, insulated with pure rubber and prepared tape and protected with wood casing in accommodation

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 None

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 Strong wood casing protected by Gilder where run in holds

F. Forecastle 69 lights each of 16. h. P. requiring a total current of 23.53 Amperes
G. Machy: Spaces etc. 139 lights, each of 16. h. P. " " " " 72.34
H. Cargo 63 " " " 16. h. P. " " " " 37.8

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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 Lead covered in strong lead casing under decks, and lead served armoured and braided where exposed

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead served armoured and braided

What special protection has been provided for the cables near boiler casings Lead served armoured and braided

What special protection has been provided for the cables in engine room Lead served armoured and braided

How are cables carried through beams beams bushed with fibre through bulkheads, &c. in glands of W.I. otherwise fibre bushes

How are cables carried through decks in bushed G.I. pipes

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 protected by Ginder

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 in strong G.I. fittings

Where are the main switches and cut outs for these lights fitted Fuse Box in Stewards Accom. Switches in spaces

If in the spaces, how are they specially protected Switches in well of Beam

Are any switches or cut outs fitted in bunkers No

Cargo light cables, whether portable or permanently fixed Permanently How fixed in strong wood casing through terminals bolted to dynamo baseplate

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 screwed to 3/8" dia lined brass tap screws in Beams etc.

Are all the joints with the hull in accessible positions Yes

The installation is not supplied with 3 voltmeters and 3 amperemeters fixed to 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.

For Harland & Wolff Ltd.
Lump

Electrical Engineers

Date 25th Oct 1911

COMPASSES.

Distance between dynamo or electric motors and standard compass 58 feet

Distance between dynamo or electric motors and steering compass 60 "

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>9.3</u>	<u>8</u>	<u>6</u>	<u>6</u>
<u>13.5</u>	<u>32</u>	<u>30</u>	<u>30</u>
<u>12.5</u>	<u>40</u>	<u>34</u>	<u>34</u>

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 the course in the case of the standard compass and Nil degrees on all the course in the case of the steering compass.

For Harland & Wolff Ltd.
Lump

24.10.11.

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.

JWD 30/10/11

R. J. Pennington

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.—2m.34.



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