

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8130

Name of Vessel Belfast Date of First Survey May 10th Date of Last Survey May 27th No. of Visits Five
 in Book S.S. Newton Port belonging to Liverpool
 Built at Belfast By whom Harland & Wolff L^{td} When built 1919
 No. 534 Electric Light Installation fitted by Harland & Wolff L^{td} When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Description enclosed forced lubrication, Single Cylinder Engine + Dynamo, with Cylinder
"x5" Stroke, Speed 520 R.P.M.
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed on Platform in Engine Room Whether single or double wire system is used Double
 Position of Main Switch Board on Platform in Engine Room having switches to groups A. B. C. D. + E. of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each _____

Are fuses 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Yes
 Are the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 100 per cent over the normal current
 Are all fuses fitted in easily accessible positions Yes Are the fuses of standard dimensions Yes If wire fuses are used
 Are there permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit Yes
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 165 arranged in the following groups:—

Group	Description	Candle Power	Total Current (Amperes)
A	Navigation 5 lights each of 32 CP + 5 lbs of 8	8	8.5
B	Cabin + Crew 94 lights each of 16 CP	16	19.1
C	Engine + Boiler 7 lights each of 16 CP	16	15.0
D	Cargoes — lights each of —	—	15.0
	2 Mast head lights with 1 lamp each of 32	32	2.4
	2 Side lights with 1 lamp each of 32	32	2.4
	5 Cargo lights of 96	96	incandescent

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

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

DESCRIPTION OF CABLES.

Main cable carrying 19.1 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area
 Branch cables carrying 2.5 Amperes, comprised of 1 wire, each 14 S.W.G. diameter, .005 square inches total sectional area
 Branch cables carrying _____ Amperes, comprised of _____ wires, each _____ S.W.G. diameter, _____ square inches total sectional area
 Leads to lamps carrying 1.8 Amperes, comprised of 1 wire, each 17 S.W.G. diameter, .00246 square inches total sectional area
 Cargo light cables carrying 2.5 Amperes, comprised of 90 wires, each 36 S.W.G. diameter, .00407 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables and Branch Wiring exposed are 600 Megohm C.M.A. Grade
Vulcanized India Rubber, Armoured and white braided. Also 1/4
A.P. 254 lead covered wire.
 Joints in cables, how made, insulated, and protected W. I. Junction Boxes on decks + porcelain
Junction Boxes with Iron protecting cover in Engine Room.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 Clipped direct to Bulkhead + protected by
armouring + braiding in Engine Room, Galley, + Crew's Quarters, lead covering in Accommodation

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 Run in Piping

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Armouring + Braiding

What special protection has been provided for the cables near boiler casings Armouring + Braiding

What special protection has been provided for the cables in engine room Armouring + Braiding

How are cables carried through beams Lead or Fibre Bushes through bulkheads, &c. In Stands if W.I. otherwise lead or Fibre

How are cables carried through decks In Iron Deck Pipes lashed or with Gland.

Are any cables run through coal bunkers Yes or cargo spaces No or spaces which may be used for carrying cargo, stores, or baggage No

If so, how are they protected Armoured + Braided in Galvanized Iron Tube.

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 fuses for these lights fitted _____

If in the spaces, how are they specially protected _____

Are any switches or fuses fitted in bunkers No.

Cargo light cables, whether portable or permanently fixed Permanently How fixed Clipped to Bulkhead.

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 _____

Is the installation supplied with a voltmeter Yes, and with an amperemeter Yes, fixed on Switchboard, in Engine Room

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas _____

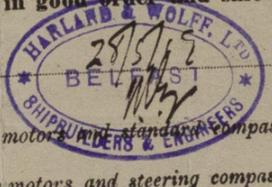
Are any switches, fuses, or joints of cables fitted in the pump room or companion _____

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 not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 600 megohms per foot of insulating material after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 60° Fahrenheit and while the cable is still immersed.

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.



Electrical Engineers Date 28/5/19

COMPASSES.

Distance between dynamo or electric motors and standard compass 116 feet from Dynamo. 103 feet from Wireless Rotary

Distance between dynamo or electric motors and steering compass 112 " " " 103 " " " "

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
6.0	10	5	5
15.0	26	22	22

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.

For HARLAND & WOLFF Ltd. Builder's Signature: [Signature] Date 28/5/19

GENERAL REMARKS.

This 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. JWR 10/6/19

P. J. D. [Signature]
Surveyor to Lloyd's Register of Shipping.

Committee's Minute _____

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

