

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8130

t of Belfast Date of First Survey May 10<sup>th</sup> Date of Last Survey May 27<sup>th</sup> No. of Visits Five  
 in on the Iron or Steel P.S. Newton Port belonging to Liverpool  
 Book Built at Belfast By whom Harland & Wolff L<sup>td</sup> When built 1919  
 No. 534 Electric Light Installation fitted by Harland & Wolff L<sup>td</sup> When fitted 1919

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

as 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

fuses 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 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 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:—  
 A Navigation 5 lights each of 32 C.P. + 5 lbs of 8 candle power requiring a total current of 8.5 Amperes  
 B Cabin + Crew 94 lights each of 16 C.P. candle power requiring a total current of 19.1 Amperes  
 C Engine + Boiler 7 lights each of 16 C.P. candle power requiring a total current of 15.0 Amperes  
 D Cargo 5 lights each of — candle power requiring a total current of 15.0 Amperes  
 2 Mast head lights with 1 lamp each of 32 candle power requiring a total current of 2.4 Amperes  
 2 Side lights with 1 lamp each of 32 candle power requiring a total current of 2.4 Amperes  
 5 Cargo lights of 96 candle power, whether incandescent or arc lights 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 Halls 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, fixed 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.

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	
15.0	26	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:

Date

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.

10/6/19

P. F. D. Beveridge

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE NOT TO WRITE ACROSS THIS MARGIN.