

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8548

Port of Belfast Date of First Survey 14 Feb 1921 Date of Last Survey 9-6-21 No. of Visits 23
 No. in Reg. Book 81751 on the Iron Steel M. S. Sourestechus Port belonging to Liverpool
 Built at Belfast By whom Harland & Wolff L^{td} When built 1921
 Owners Bibby S. S. Coys L^{td} Owners' Address Liverpool
 Yard No. 579 Electric Light Installation fitted by Harland & Wolff L^{td} When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Three generators each giving an output of 100 K.W. at 220 Volts when running at 300 R.P.M.
 Driven by three, four stroke, single acting, three cylinder diesel engines

TOTAL Capacity of Dynamos 1362 Amperes at 220 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Port side of Engine Room Whether single or double wire system is used Double
 Position of Main Switch Board Switchboard recess length of A.B.C.D.E.F.G.H.I.J.K.L.M.N.O. of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each One board containing 12 switches in wheel house
Four boards, each containing 6 switches in Engine Room

If 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 434 arranged in the following groups:—

A General	102 lights each of	25	candle power requiring a total current of	24.8	Amperes
B Cargo	96 lights each of	25 & 4 of 2000	candle power requiring a total current of	31.0	Amperes
C Navigation	14 lights each of	25 & 5 of 32 & 2 of 6	candle power requiring a total current of	8.5	Amperes
D Engine Room	123 lights each of	25 & 2 of 600	candle power requiring a total current of	19.5	Amperes
E Searchlight	lights each of		candle power requiring a total current of	45.0	Amperes
2 Mast head light with	1 lamp each of	32	candle power requiring a total current of	1.2	Amperes
2 Side light with	1 lamp each of	32	candle power requiring a total current of	1.2	Amperes
12 Cargo lights of	200 & 4 of 2000		candle power, whether incandescent or arc lights	132.2	

If arc lights, what protection is provided against fire, sparks, &c. No arc lamps. — One searchlight fitted, protected by sheet iron & glass.
 Where are the switches controlling the masthead and side lights placed in wheel house

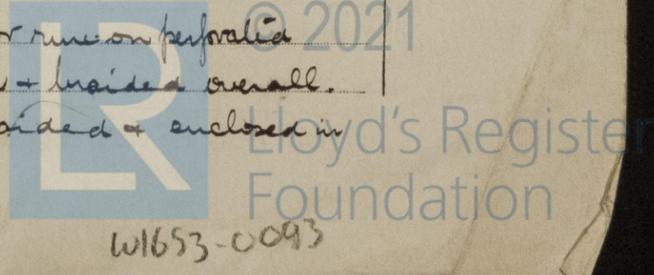
DESCRIPTION OF CABLES.

Main cable carrying 225 Amperes, comprised of 37 wires, each 0.103 inches S.W.G. diameter, 0.3 square inches total sectional area
 Branch cables carrying 180 Amperes, comprised of 37 wires, each 0.083 inches S.W.G. diameter, 0.2 square inches total sectional area
 Branch cables carrying 44 Amperes, comprised of 7 wires, each 0.044 inches S.W.G. diameter, 0.01 square inches total sectional area
 Leads to lamps carrying 1.4 Amperes, comprised of 3 wires, each 0.036 inches S.W.G. diameter, 0.003 square inches total sectional area
 Cargo light cables carrying 1.1 Amperes, comprised of 110 wires, each 0.0076 inches S.W.G. diameter, 0.0048 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables throughout are of 2500 megohm class — B.M.A. quality. Insulated with pure rubber + unleached rubber — protected by lead covering — steel armour — braided overall, except in cabins on Bridge & Deck, where cables are protected with lead covering only.
 Joints in cables, how made, insulated, and protected No joints.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 Clipped direct to bulkhead or beams or run on perforated steel plating — protected by lead covering, or lead covering — steel armour — braided overall.
In Cargo spaces, cables are lead covered, steel armoured — braided & enclosed in S.I. troughing.



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, served, steel armoured & braided

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat lead covered, served, steel armoured & braided

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

What special protection has been provided for the cables in engine room lead covered, served, steel armoured & braided

How are cables carried through beams Bushed with lead through bulkheads, &c. in galleys where watertight otherwise lead bushed

How are cables carried through decks In iron deck tubes bushed with fibre

Are any cables run through coal bunkers _____ 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, steel armoured & braided & laid in strong iron troughing

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 _____

Cargo light cables, whether portable or permanently fixed Permanently How fixed clipped direct to bulkhead or beams on steel plating or in iron troughing

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 Main Switchboard

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 2500 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts 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 20/6/21

COMPASSES.

Distance between dynamo or electric motors and standard compass 53 feet to nearest dynamo, + 58 feet to nearest motor

Distance between dynamo or electric motors and steering compass 80 feet to nearest dynamo + 56 feet to nearest motor

The nearest cables to the compasses are as follows:—

A cable carrying	<u>8.5</u>	Amperes	<u>10</u>	feet from standard compass	<u>5</u>	feet from steering compass
A cable carrying	<u>22</u>	Amperes	<u>28</u>	feet from standard compass	<u>20</u>	feet from steering compass
A cable carrying	<u>30</u>	Amperes	<u>32</u>	feet from standard compass	<u>28</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 every course in the case of the standard compass and Nil degrees on every course in the case of the steering compass.



Builder's Signature.

Date 20/6/21

GENERAL REMARKS.

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

Fees. 300 Kilowatts.

£39-0-0. a/c Rendered. 23-6-21
It is submitted that this vessel is eligible for THE RECORD. Elec. Light.

For R. J. Beveridge & self. John Pollock.
 Surveyors to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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