

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 7131.

Port of Belfast Date of First Survey 31st May Date of Last Survey 2nd Sep^r No. of Visits 13
 No. in Reg. Book on the Iron or Steel T.S.S. "Vestris". Port belonging to Liverpool.
 Built at Belfast By whom Workman Clark & Co. Ltd. When built 1912.
 Owners Lamport & Holt Ltd. Owners' Address Liverpool.
 Yard No. 303 Electric Light Installation fitted by Sunderland Forge & Eng. Co. Ltd. When fitted 1912.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Four Multipolar Compound wound Dynamos coupled to Workman Clark & Co enclosed forced lubricating engines.

Capacity of Dynamo 300 Amperes at 110 Volts, whether continuous or alternating current Continuous ✓
 Where is Dynamo fixed In recess at top of Engineer room Whether single or double wire system is used Single ✓
 Position of Main Switch Board Starboard.
Near dynamos having switches to groups 12 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Two section boards fitted one on upper deck
and one on Shelter deck with 18 Bridge type fuses on each.

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 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 All fitted on porcelain or slate.

Total number of lights provided for 1,362 arranged in the following groups:—

A	158	lights each of	16 c.p.	candle power requiring a total current of	79	Amperes
B	247	lights each of	16 c.p.	candle power requiring a total current of	91	Amperes
C	105	lights each of	16 c.p.	candle power requiring a total current of	57	Amperes
D	109	lights each of	16 c.p.	candle power requiring a total current of	59	Amperes
E	212	lights each of	16 c.p.	candle power requiring a total current of	80.7	Amperes
2	Mast head light with	1	lamps each of	32	candle power requiring a total current of	2.0
2	Side light with	1	lamps each of	32	candle power requiring a total current of	2.1
6	Cargo lights of	4	32	candle power, whether incandescent or arc lights	2 Arcs.	

If arc lights, what protection is provided against fire, sparks, &c. Enclosed in glass lanterns.

Where are the switches controlling the masthead and side lights placed In Wheel house.

DESCRIPTION OF CABLES.

Main cable carrying	300	Amperes, comprised of	37	wires, each	12	L.S.G. diameter, .308	square inches total sectional area
Branch cables carrying	79	Amperes, comprised of	19	wires, each	14	L.S.G. diameter, .093	square inches total sectional area
Branch cables carrying	91	Amperes, comprised of	19	wires, each	14	L.S.G. diameter, .093	square inches total sectional area
Leads to lamps carrying	2	Amperes, comprised of	7	wires, each	25	L.S.G. diameter, .0021	square inches total sectional area
Cargo light cables carrying	4 1/2	Amperes, comprised of	7	wires, each	20	L.S.G. diameter, .007	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Insulated with pure and vulcanised rubber taped and braided. ✓

Lead covered and braided in accommodation. ✓

Lead covered, armoured and braided in Holds, Galley and Engine room. ✓
 No. points.

Joints in cables, how made, insulated, and protected

Are all the joints of cables thoroughly soldered, resin only having been used as a flux 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

How are the cables led through the ship, and how protected Clipped on to wood boards in accommodation in Holds etc., clipped to Decks and Bulkheads.

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 used in these places.

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

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

What special protection has been provided for the cables in engine room ditto

How are cables carried through beams Protected with fibre bushes through bulkheads, &c. Watertight glands.

How are cables carried through decks in Galvanised Iron Deck pipes 3 ft. 6" high.

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

If so, how are they protected Lead covered armoured and braided.

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 cut outs for these lights fitted

If in the spaces, how are they specially protected Cast iron covers on fittings in Tween decks.

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 Large tinned copper lugs.

How are the returns from the lamps connected to the hull With 3" Brass screw and 2 Electro tinned washers.

Are all the joints with the hull in accessible positions Yes.

The installation is 4 Voltmeters supplied with a voltmeter and 4 ampere meters an amperemeter, fixed on 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 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.

P. PRO THE SUNDERLAND FORGE & ENGINEERING CO. LTD.

[Signature]

Electrical Engineers

Date 25/9/12.

COMPASSES.

Distance between dynamo or electric motors and standard compass 90 feet.

Distance between dynamo or electric motors and steering compass 85 feet.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>30</u>	Amperes	<u>90</u>	feet from standard compass	<u>85</u>	feet from steering compass
A cable carrying	<u>20</u>	Amperes	<u>20</u>	feet from standard compass	<u>15</u>	feet from steering compass
A cable carrying	<u>2</u>	Amperes	<u>10</u>	feet from standard compass	<u>10</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 all course in the case of the standard compass and Nil degrees on all course in the case of the steering compass.

FRANK WORKMAN, CLARK & CO., LIMITED.

[Signature]

Builder's Signature.

Date 1/10/12.

GENERAL REMARKS.

This installation appears to be 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.

[Signature]

[Signature]

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.