

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8289.

Port of Belfast Date of First Survey 22<sup>nd</sup> Dec. 19 Date of Last Survey 19<sup>th</sup> Jan. 20 No. of Visits 5  
 No. in Reg. Book 10712 on the Iron or Steel S.S. "CLEWBAY" Port belonging to Belfast  
 Built at Troon By whom Wilsa S.B. Co. Ltd. When built 1904  
 Owners John Kelly, Ltd. (S. Kelly, Mgr.) Owners' Address Station Road, Queen's Quay, Belfast.  
 Yard No. 2 Electric Light Installation fitted by J. H. Cabert, Electrical Eng., 45, Knock Rd., Belfast. When fitted Jan. 1920

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One open type single cylinder steam engine, direct coupled to compound wound multipolar dynamo on combined bedplate. - Robey, makers -

Capacity of Dynamo 10 Amperes at 100 Volts, whether continuous or alternating current Continuous.

Where is Dynamo fixed Starboard side of Engine Room Whether single or double wire system is used Double.

Position of Main Switch Board Starboard side of Engine Room switches to groups A, B, C & D of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each One amidships in cabin with five switches.

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 41 arranged in the following groups :-

A	Aft	5	lights each of	30 watts.	Candle power requiring a total current of	1.5	Amperes
B	Engine Room	9	lights each of	30 watts.	Candle power requiring a total current of	2.7	Amperes
C	Cargo Holders	18	lights each of	30 watts.	Candle power requiring a total current of	5.2	Amperes
D	Amidships	9	lights each of	5 of 30 watts & 4 of 22	Candle power requiring a total current of	5.5	Amperes
E			lights each of		Candle power requiring a total current of		Amperes
	Two Mast head light with	1	lamp each of	32	Candle power requiring a total current of (Included in)	2.0	Amperes
	Two Side light with	1	lamp each of	32	Candle power requiring a total current of (Midship group)	2.0	Amperes
	Three		Cargo lights of	6-30 Watt lamps each.	Candle power, whether incandescent or arc lights	Incandescent	

If arc lights, what protection is provided against fire, sparks, &c. No arc lights fitted.

Where are the switches controlling the masthead and side lights placed Midship cabin.

## DESCRIPTION OF CABLES.

Main cable carrying 10 Amperes, comprised of 4 wires, each 22 S.W.G. diameter, .00424 square inches total sectional area

Branch cables carrying 1.5 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .00181 square inches total sectional area

Branch cables carrying 2.7 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .00181 square inches total sectional area

Leads to lamps carrying 5.5 Amperes, comprised of 3 wires, each 20 S.W.G. diameter, .00305 square inches total sectional area

Cargo light cables carrying 5.2 Amperes, comprised of 3 wires, each 20 S.W.G. diameter, .00305 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Insulated with pure vulcanized rubber, taped and braided, run in galvanized iron tubing; Engine Room - armoured wire - Accommodation Lead covered -

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 Under main deck in galvanized iron tubing.

**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 Galvanized iron tubes.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Galvanized iron tubes.

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

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

How are cables carried through beams Not so arranged through bulkheads, &c. — do —

How are cables carried through decks Iron tubing.

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 Galvanized iron tubes.

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 Portable. How fixed ✓

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 600. 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.

John H. Balvert Electrical Engineers Date 12<sup>th</sup> July 1920

**COMPASSES.**

Distance between dynamo or electric motors and standard compass (used for steering.) 66 feet.

Distance between dynamo or electric motors and steering compass (not used) ✓

The nearest cables to the compasses are as follows:—

A cable carrying	<u>3</u>	Amperes	<u>4</u>	feet from standard compass	<u>✓</u>	feet from steering compass
A cable carrying	<u>5.2</u>	Amperes	<u>8</u>	feet from standard compass	<u>✓</u>	feet from steering compass
A cable carrying	<u>5.5</u>	Amperes	<u>8</u>	feet from standard compass	<u>✓</u>	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power No. Stated will be done at first convenient opportunity.

The maximum deviation due to electric currents, etc., was found to be ✓ degrees on ✓ course in the case of the standard compass and ✓ degrees on ✓ course in the case of the steering compass.

Builder's Signature. Date ✓

**GENERAL REMARKS.**

The installation is of good description and has been fitted in accordance with the Rules. It is considered that this vessel may have the record of 'Electric Light' assigned to her in the Register Book.

It is submitted that this vessel is eligible for THE RECORD ELEC. LIGHT. 4/2/20.

H. S. Humphreys.  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

