

## REPORT ON ELECTRIC LIGHTING INSTALLATION.

9380

No. 4519

Port of Belfast Date of First Survey Jun 11<sup>th</sup> Date of Last Survey July 16 No. of Visits 2  
 No. in Reg. Book on the Iron Steel T.S.S. "Javarruba" Port belonging to London  
 Built at Belfast By whom Harland & Wolff Ltd When built 1925  
 Owners Lago Shipping Coy. Owners' Address  
 Yard No. 702 Electric Light Installation fitted by Harland & Wolff Ltd When fitted 1925

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two single cylinder 5" diam x 2 1/2" stroke forced lubrication engines each direct coupled to one 5 K.W. Dynamo running at a speed of 650 R.P.M.

Capacity of Dynamo 45.45 Amperes at 110 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed in Engine Room Whether single or double wire system is used Double

Position of Main Switch Board in Engine Room having switches to groups A.B.C.D.E & F of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each One in Engine Room with 6 switches and one in Wheelhouse with 4 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 96 arranged in the following groups:—

Lighting Deck spaces 4 lights each of 200 CP 11 27 candle power requiring a total current of 9.36 Amperes

Lighting Accommodation 30 lights each of 27 CP 4 10-12" Gas 14 candle power requiring a total current of 14 Amperes

Navigation & Officers Accommodation 28 lights each of 27 CP 5 5-12" Gas 14.3 candle power requiring a total current of 14.3 Amperes

Wireless lights each of 100 CP 2 candle power requiring a total current of 2.27 Amperes

Large Deck clusters 15 lights each of 27 candle power requiring a total current of 4.09 Amperes

1 Mast head light with 1 lamp each of 100 candle power requiring a total current of 9.09 Amperes

2 Side lights with 1 lamp each of 100 candle power requiring a total current of 1.818 Amperes

3-5 Light Cargo lights & each of 135 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 Wheelhouse

## DESCRIPTION OF CABLES.

Main cable carrying 45.45 Amperes, comprised of 19 wires, each .052" S.W.G. diameter, .04 square inches total sectional area

Branch cables carrying 19.4 Amperes, comprised of 7 wires, each .044" S.W.G. diameter, .01 square inches total sectional area

Branch cables carrying 9.36 Amperes, comprised of 7 wires, each .036" S.W.G. diameter, .007 square inches total sectional area

Leads to lamps carrying 3 Amperes, comprised of 3 wires, each .036" S.W.G. diameter, .003 square inches total sectional area

Cargo light cables carrying 1.3 Amperes, comprised of 110 wires, each .0076" S.W.G. diameter, .005 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables are of 600 Megohm class and C.B.B. quality insulated with pure and vulcanized rubber and lead covered or lead covered steel armoured and braided.

Joints in cables, how made, insulated, and protected No joints in main cables. Those made in Branch wiring are in properly constructed junction boxes of porcelain protected by cast iron covers.

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

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 Cables protected by lead covered steel armoured and braided, and passed through steel pipes along decks. In Accommodation they are clipped direct to bulkhead or iron plating and protected by lead covering or lead covered steel armoured and braided.



**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 Cables protected by lead covering steel armouring and braided overall, those on exposed decks further protected by steel pipes.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead served armoured and braided.

What special protection has been provided for the cables near boiler casings Lead served armoured and braided.

What special protection has been provided for the cables in engine room Lead served armoured and braided.

How are cables carried through beams beams bushed with lead through bulkheads, &c. in glands if H.F. otherwise lead bushed.

How are cables carried through decks in iron deck pipes.

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

If so, how are they protected —

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage —

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 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 Yes.

Are any switches, fuses, or joints of cables fitted in the pump room or companion No.

How are the lamps specially protected in places liable to the accumulation of vapour or gas Lamps in Gas-tight fittings.

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.



Electrical Engineers Date 22/6/25

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 216 feet from Dynamo & 20 ft to Wireless Rotary.

Distance between dynamo or electric motors and steering compass 214 " " " & 14 ft " " "

The nearest cables to the compasses are as follows:—

A cable carrying	<u>3</u>	Amperes	<u>8</u>	feet from standard compass	<u>5</u>	feet from steering compass
A cable carrying	<u>2.24</u>	Amperes	<u>12</u>	feet from standard compass	<u>6</u>	feet from steering compass
A cable carrying	<u>11.6</u>	Amperes	<u>20</u>	feet from standard compass	<u>12</u>	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power

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.

Builder's Signature. See above. Date —

**GENERAL REMARKS.**

This installation has been fitted in accordance with the Rules & was tried under full load conditions

William B. L. L.

Surveyor to Lloyd's Register of Shipping.