

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8449

Port of *Belfast* Date of First Survey *July 20* Date of Last Survey *Nov 8* No. of Visits *17*  
 No. in Reg. Book on the *Iron or Steel* *S.S. T. Roswell* Port belonging to *Liverpool*  
 Built at *Belfast* By whom *Harland & Wolff L<sup>td</sup>* When built *1920*  
 Owners *Liverpool Branch of River Plate* Owners' Address *Liverpool*  
 Yard No. *550* Electric Light Installation fitted by *Harland & Wolff L<sup>td</sup>* When fitted *1920*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*One 8" x 3" Single Stroke forced lubrication Engine direct coupled to a 12 1/2 Kw. Dynamo running at a speed of 600 R.P.M.*

Capacity of Dynamo *125* Amperes at *100* 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 Wheelhouse having 8 Tumbler Switches. Two in Engine One having 6 pull switches and the other 8 pull switches.*

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 *Yes*

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 *Yes*

Total number of lights provided for *223* arranged in the following groups:—

Group	Description	Quantity	Power/Current	Requirement	Amperes
A	Navigation	5 lights each of 32 CP	6 lights of 8 CP	candle power requiring a total current of	10.6
B	Wireless	74 " " "	24 CP	candle power requiring a total current of	15.0
C	Officers & Engineers	10 lights each of 16 CP	16 CP	candle power requiring a total current of	28.0
D	Crew	23 " " "	108 CP	candle power requiring a total current of	11.2
E	Cargo	30 lights each of 16 CP + 2 of 1000		candle power requiring a total current of	28.0
F	Machinery	44 " " "	27 CP + 3 of 500	" " " " " "	31.1
	2 Mast head lights with 1 lamp each of	32		candle power requiring a total current of	2.4
	2 Side lights with 1 lamp each of	32		candle power requiring a total current of	2.4
	5 Cargo lights each of	96		candle power, whether incandescent or arc lights	Incandescent
	2 " " "	1000		" " "	"

If arc lights, what protection is provided against fire, sparks, &c. *None*

Where are the switches controlling the masthead and side lights placed *In wheelhouse*

## DESCRIPTION OF CABLES.

Main cable carrying	<i>125</i> Amperes, comprised of	<i>37</i> wires, each	<i>.083</i> L.S.G. diameter,	<i>.200</i> square inches total sectional area
Branch cables carrying	<i>45</i> Amperes, comprised of	<i>7</i> wires, each	<i>.064</i> L.S.G. diameter,	<i>.0225</i> square inches total sectional area
Branch cables carrying	<i>35</i> Amperes, comprised of	<i>7</i> wires, each	<i>.044</i> L.S.G. diameter,	<i>.016</i> square inches total sectional area
Leads to lamps carrying	<i>2.4</i> Amperes, comprised of	<i>3</i> wires, each	<i>.036</i> L.S.G. diameter,	<i>.003</i> square inches total sectional area
Cargo light cables carrying	<i>5</i> Amperes, comprised of	<i>110</i> wires, each	<i>.0076</i> L.S.G. diameter,	<i>.005</i> square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

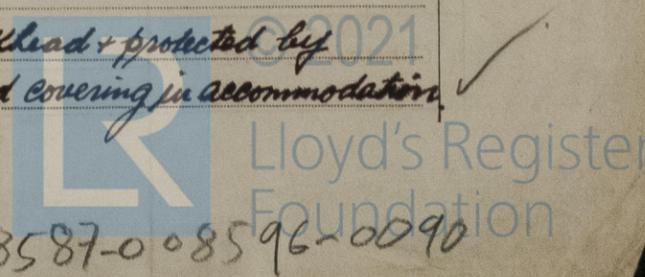
*Cables + Branch Wiring exposed are 1500 C.M.A. Grade vulcanized India Rubber armoured + Braided also 3/.036 R.C. Cable.*

Joints in cables, how made, insulated, and protected *Joints made in porcelain junction boxes under cover + protected by Iron covers where exposed.*

Are all the joints of cables thoroughly soldered, resin only having been used as a flux *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 *Cables clipped direct to bulkhead + protected by armoring + braiding in Engine Rm. Galley + Crew's Quarters + by lead covering in accommodations.*



**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 Iron piping*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Armoured + Braided Cables*

What special protection has been provided for the cables near boiler casings *Armoured + Braided Cables*

What special protection has been provided for the cables in engine room *Armoured + Braided Cables*

How are cables carried through beams *Seams lashed with lead or flue* through bulkheads, &c. in *Hands if Watertight*

How are cables carried through decks *in Iron or Brass decks Pipes lashed or with Hands*

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 *Armoured + Braided Cables in Galvanized iron pipe*

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 *---*

Are any switches or cut outs fitted in bunkers *No*

Cargo light cables, whether portable or permanently fixed *Permanently* How fixed *Armoured + Braided clipped to Rink'd*

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 *---*

The installation is supplied with a voltmeter and 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

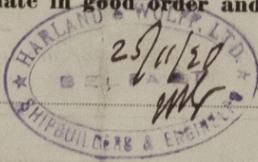
Are any switches, cut outs, or joints of cables fitted in the pump room or companion

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 *1500* 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.



Electrical Engineers Date

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *115 feet from Dynamo + 98 feet from Wireless Rotary*

Distance between dynamo or electric motors and steering compass *104 " " " + 95 " " " "*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>10.6</i>	Amperes	<i>10</i>	feet from standard compass	<i>5</i>	feet from steering compass
A cable carrying	<i>28.0</i>	Amperes	<i>15</i>	feet from standard compass	<i>7</i>	feet from steering compass
A cable carrying		Amperes		feet from standard compass		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* courses in the case of the standard compass and *nil* degrees on *all* courses in the case of the steering compass.

*S. Johnston* Builder's Signature. Date *25/11/20*

**GENERAL REMARKS.**

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

It is submitted that this vessel is eligible for THE RECORD.

*Blue light*

*R. F. Beveridge*

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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REPORT FORM No. 13.—5m, 54.