

# REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 26610

Port of Glasgow Date of First Survey 9<sup>th</sup> March Date of Last Survey 19<sup>th</sup> May No. of Visits 16  
 No. in Reg. Book on the Iron or Steel Turri Souw Sy Dolaura Port belonging to  
 Built at Paisley By whom Fleming Ferguson (373) When built 1908  
 Owners \_\_\_\_\_ Owners' Address \_\_\_\_\_  
 Yard No. \_\_\_\_\_ Electric Light Installation fitted by Wm Harvie & Co When fitted May/08

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

De Laval Turbine 20 B.H.P. Coupled to Compound Wound Bipolar Dynamo at 2000 Revs per min. Battery of 60 - 11 plate cells in lead lined Lead Boxes.

Capacity of Dynamo 120 Amperes at 110 to 160 Volts, whether continuous or alternating current Continuous

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

Position of Main Switch Board Near Dynamo having switches to groups A, B, C, D, etc. of lights, &c., as below See separate sheet

Positions of auxiliary switch boards and numbers of switches on each 6 Way DB Officers Mess Room, 6 Way D. B. in Passage aft Lower Deck, 6 Way DB in Cabin, 9 Way DB in Passage Midships Port Side, 6 Way DB in Passage Midships 6 Way DB in Passage aft Main Deck, 3 Way DB in Engine Room.

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, Tin and constructed to fuse at an excess of 50-100 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 porcelain Bases

Total number of lights provided for 185 arranged in the following groups: - See separate sheet.

A	lights each of		candle power requiring a total current of	Amperes
B	lights each of		candle power requiring a total current of	Amperes
C	lights each of		candle power requiring a total current of	Amperes
D	lights each of		candle power requiring a total current of	Amperes
E	lights each of		candle power requiring a total current of	Amperes
1	Mast head light with 1 lamp each of	32	candle power requiring a total current of	1 Amperes
2	Side lights with 1 lamp each of	32	candle power requiring a total current of	2 Amperes
	Cargo lights of		candle power, whether incandescent or arc lights	

If arc lights, what protection is provided against fire, sparks, &c.

16" Searchlight Fitted on Bridge

Where are the switches controlling the masthead and side lights placed in Wheel House on Bridge.

## DESCRIPTION OF CABLES.

Main cable carrying	120 Amperes, comprised of	19 wires, each	13 L.S.G. diameter,	.125 square inches total sectional area
Branch cables carrying	34 Amperes, comprised of	7 wires, each	14 L.S.G. diameter,	.035 square inches total sectional area
Branch cables carrying	20 Amperes, comprised of	7 wires, each	16 L.S.G. diameter,	.022 square inches total sectional area
Leads to lamps carrying	3 Amperes, comprised of	3 wires, each	20 L.S.G. diameter,	.003 square inches total sectional area
Cargo light cables carrying	1/2 Amperes, comprised of	40 wires, each	40 L.S.G. diameter,	.008 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

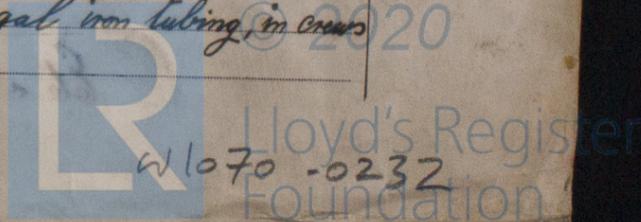
Conductors of tinned Copper insulated with 1 layer pure para rubber, 2 layers vulcanised rubber, rubber coated tape, braided & compounded overall

Joints in cables, how made, insulated, and protected Joints thoroughly soldered, insulated with 3 layers pure rubber tape & 2 layers waterproof adhesive tape

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 None

How are the cables led through the ship, and how protected In Engine & Boiler Room, & holds, in gal iron tubing, in other spaces lead covered & in remainder of ship in wood casing



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 up mast in gal. iron tubing

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

What special protection has been provided for the cables near boiler casings in gal iron tubing

What special protection has been provided for the cables in engine room gal iron tubing & teak casing

How are cables carried through beams through lead or fibre bushes through bulkheads, &c. Brass W.T. glands

How are cables carried through decks gal iron or lead deck tube flanged to deck & made watertight

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 Gal iron tubing

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

If so, how are the lamp fittings and cable terminals specially protected Heavy brass guards

Where are the main switches and cut outs for these lights fitted Lower deck forward. Mess Room.

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 None 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 —

The installation is — supplied with a voltmeter and — an amperemeter, fixed on Main 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 98 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 2000 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.

J. Wm. Harrie & Co. Ltd. Electrical Engineers Date 6.5.08.

COMPASSES.

Distance between dynamo or electric motors and standard compass —

Distance between dynamo or electric motors and steering compass —

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
A cable carrying	Amperes	feet from standard compass	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 — degrees on — course in the case of the standard compass and — degrees on — course in the case of the steering compass.

R. J. Bell Builder's Signature. Date 22 May 1908

GENERAL REMARKS.

This installation has been fitted on board under special survey & tested under full working conditions & found satisfactory

Wm. Godou-Fruehlin  
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute Glasgow 26 MAY 1908

It is submitted that the Record Elec. Light be noted in the Reg. Book.

Elec. light saved



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 10. 2m. 24.