

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 27672.

Port of Glasgow Date of First Survey 11th March 1909 Date of Last Survey 29th April 1909 No. of Visits 17
 No. in Reg. Book 515 on the Steel SS "Sunderoo" Port belonging to Glasgow
 Built at GLASGOW By whom MESSRS CONNELL When built 1909
 Owners MESSRS BETHELL, GUTHRIE & Co. Owners' Address LONDON
 Yard No. 325 Electric Light Installation fitted by MESSRS H.T. BOOTHBY & CO. LTD. When fitted 1909

DESCRIPTION OF DYNAMO, ENGINE, ETC.

DYNAMO - COMPOUND WOUND - MULTIPOLAR - 515

ENGINE - COMPOUND - 8" x 12" x 9" - SHANKS

Capacity of Dynamo 220 Amperes at 100 Volts, whether continuous or alternating current CONTINUOUSWhere is Dynamo fixed STARBOARD SIDE OF ENGINE ROOM Whether single or double wire system is used DOUBLEPosition of Main Switch Board NEAR DYNAMO having switches to groups 9 of lights, &c., as belowPositions of auxiliary switch boards and numbers of switches on each none fitted

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 YESAre the cut outs of non-oxidizable metal YES and constructed to fuse at an excess of 50% 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

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases YESTotal number of lights provided for 287 @ 16c.p. arranged in the following groups:—

A MACHINERY 26	lights each of	16	candle power requiring a total current of	15.08	Amperes
B CARGO FORD	lights each of	16	candle power requiring a total current of	19.2	Amperes
C SHELTER DECK PORT	lights each of	16	candle power requiring a total current of	12.3	Amperes
D SHELTER DECK AFT	lights each of	16	candle power requiring a total current of	12.3	Amperes
E MANGON	lights each of	16	candle power requiring a total current of	14.5	Amperes
F MUSIC SMOKER	lights each of	16	candle power requiring a total current of	15	Amperes
G POSTER	lights each of	16	candle power requiring a total current of	6.7	Amperes
2 Mast head light with 1 lamp each of	32	candle power requiring a total current of	1.12	Amperes	
2 Side light with 1 lamp each of	32	candle power requiring a total current of	1.12	Amperes	
66 Cargo lights of	16	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 CHART ROOM

DESCRIPTION OF CABLES.

Main cable carrying	150.7	Amperes, comprised of	37	wires, each	12	L.S.G. diameter,	.728"	square inches total sectional area
Branch cables carrying	39	Amperes, comprised of	7	wires, each	15	L.S.G. diameter,	.240"	square inches total sectional area
Branch cables carrying	23	Amperes, comprised of	7	wires, each	16	L.S.G. diameter,	.216"	square inches total sectional area
Leads to lamps carrying	36	Amperes, comprised of	31	wires, each	15	L.S.G. diameter,	.192"	square inches total sectional area
Cargo light cables carrying	37	Amperes, comprised of	7	wires, each	15	L.S.G. diameter,	.216"	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

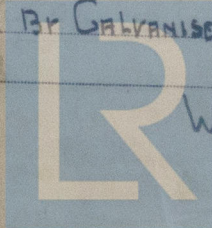
TAPE & VULCANISED RUBBER - PROTECTED BY LEAD COVERING & STEEL ARMOUR

Joints in cables, how made, insulated, and protected MADE IN PORCELAIN JOINT BOXES - INSULATED BY THE PORCELAIN & PROTECTED BY CAST IRON COVER

Are all the joints of cables thoroughly soldered, resin only having been used as a flux NO SOLDER USED 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 ALL JOINTS ACCESSIBLE

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 ATTACHED TO UNDERSIDE OF DECKS ETC. BY GALVANISED CLIPS
PROTECTED BY LEAD COVERING & ARMOUR (STEEL)



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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 & STEEL ARMOUR

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat LEAD COVERED & STEEL ARMOUR

What special protection has been provided for the cables near boiler casings LEAD COVERED & STEEL ARMOUR

What special protection has been provided for the cables in engine room LEAD COVERED & STEEL ARMOUR

How are cables carried through beams DRILLED HOLES BUSHED WITH LEAD through bulkheads, &c. DRILLED HOLES FITTED WITH STUFFING GLANDS

How are cables carried through decks IN IRON TUBES FILLED WITH BITUMEN

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 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 PORTABLE How fixed WITH PLUG & SOCKET

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 YES supplied with a voltmeter and YES 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 2500 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.

H. T. BOOTHROYD, LIMITED.

H. T. Boothroyd

Electrical Engineers

Date April 26th 1909

COMPASSES.

Distance between dynamo or electric motors and standard compass 130

Distance between dynamo or electric motors and steering compass 120

The nearest cables to the compasses are as follows:—

Cable	Amperes	feet from standard compass	feet from steering compass
A cable carrying <u>5</u> Amperes	<u>25</u>	<u>15</u>	
A cable carrying			
A cable carrying			

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 _____ degrees on _____ course in the case of the standard compass and _____ degrees on _____ course in the case of the steering compass.

CHARLES CONNELL & CO., Limited.

Builder's Signature.

Date

5th May 1909

GENERAL REMARKS.

Plus installation has been fitted on board under special survey & tested under full working condition & found satisfactory

W. Gordon-Munroe

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

Committee's Minute

GLASGOW 6 MAY 1909

Electric Light

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



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.