

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 34494.

Port of Glasgow Date of First Survey 2.10.14 Date of Last Survey 17.10.14 No. of Visits 5
 No. in Reg. Book on the Iron or Steel S/S Umata Port belonging to Glasgow
 Built at Glasgow By whom Alex. Stephen & Son Ltd When built 1914
 Owners B. J. Co. Ltd Owners' Address London
 Yard No. 461 Electric Light Installation fitted by D. C. Martin & Co When fitted 1914

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One open type single cylinder double acting Engine direct-coupled to compound wound Multipolar Dynamo with Carbon brushes

Capacity of Dynamo 180 Amperes at 100 Volts, whether continuous or alternating current Continuous

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

Position of Main Switch Board Beside Dynamo 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 Engine Room 8 way, Store Upper Deck 8 way, Engineers Passage 8 way, Officers passage 8 way, Chart Room 12 way, Saloon 8 way, Forecastle 8 way,

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 50 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 199 arranged in the following groups:—

A Forward Accom.	63 lights each of	16	candle power requiring a total current of	37.8	Amperes
B Aft Accom.	70 lights each of	16	candle power requiring a total current of	42.0	Amperes
C Forward Cargo, 1st & 18	lights each of	16	candle power requiring a total current of	16.8	Amperes
D Aft Cargo, 1st & 12	lights each of	16	candle power requiring a total current of	13.2	Amperes
E Engine Room 32	lights each of	16	candle power requiring a total current of	19.2	Amperes
F Masthead	2 lamps each of	32	candle power requiring a total current of	2.4	Amperes
2 Side light with	2 lamps each of	32	candle power requiring a total current of	2.4	Amperes

seven Cargo lights 5-96cp. & 2-1000 candle power, whether incandescent or arc lights 5 Incandescent 2 arcs

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

Where are the switches controlling the masthead and side lights placed Chart Room

DESCRIPTION OF CABLES.

Main cable carrying	154 Amperes, comprised of	34 wires, each	14 S.W.G. diameter,	.182 square inches total sectional area
Branch cables carrying	42 Amperes, comprised of	19 wires, each	16 S.W.G. diameter,	.06 square inches total sectional area
Branch cables carrying	19.2 Amperes, comprised of	4 wires, each	16 S.W.G. diameter,	.022 square inches total sectional area
Leads to lamps carrying	3 Amperes, comprised of	4 wires, each	25 S.W.G. diameter,	.0022 square inches total sectional area
Cargo light cables carrying	4 Amperes, comprised of	108 wires, each	38 S.W.G. diameter,	.006 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

H.C. Copper wire Tinned, insulated with pure & vulcanised rubber & tape, the whole vulcanised together, taped & lead covered, or sheathed with lead, steel armour and braided overall

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 No joints 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 No joints

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 In cabins, lead covered wires clipped openly. In other parts, lead armoured & braided cables clipped to steelwork

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 sheathing or metal tubes

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

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 Bushed Holes through bulkheads, &c. Watertight Glands

How are cables carried through decks Metal tubes made watertight to deck

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

If so, how are they protected Lead covered Armoured & Braided cables clipped openly, protected by beams

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

If so, how are the lamp fittings and cable terminals specially protected Strong iron covers

Where are the main switches and fuses for these lights fitted In deck store

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 Brass Connection Boxes

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 —

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 2500 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.

W. C. Martin & Co. Electrical Engineers Date 25th Aug 1914

COMPASSES.

Distance between dynamo or electric motors and standard compass 210 ft

Distance between dynamo or electric motors and steering compass 210 ft

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
8	12	10	
6	12 to 1	12	
6	12	12 to 1	

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 a certain course in the case of the standard compass and Nil degrees on the same course in the case of the steering compass.

ALEX. STEPHEN & SONS, LIMITED.

W. M. O'Moia Builder's Signature. Date 20th October 1914

SECRETARY.

GENERAL REMARKS.

This installation has been fitted on board under special survey & tested under full working conditions & found satisfactory. This installation is a dupl of the "Umaria" E.L. Repl. No. 34300

It is submitted that this vessel is eligible for THE RECORD. Elec. Light. 27 OCT 1914

Committee's Minute 27 OCT 1914 Elec. Light.

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



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