

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 55487

Port of Newcastle Date of First Survey Sep. 11 Date of Last Survey 1st Oct. '08 No. of Visits 6  
 No. in Reg. Book on the Iron Steel SS "JOYO MARU" Port belonging to Newcastle Liverpool  
 Built at Walker By whom Armstrong Whitworth & Co When built 1908  
 Owners W. Y. Bowring & Co Ltd Owners' Address Liverpool  
 Yard No. 806 Electric Light Installation fitted by J. H. Jones & Co Newcastle When fitted 1908

**DESCRIPTION OF DYNAMO, ENGINE, ETC.**

One 5x5 open type engine by Messrs Foster & Co 100 lbs pressure "B" governor  
 - coupled to - One 12 1/2 "Castle" Dynamo, Compound Wound, 400 Revs per minute  
 Capacity of Dynamo 48 Amperes at 100 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed Eng. Room. Starting Platform Whether single or double wire system is used D. W. S.

Position of Main Switch Board near Dynamo having switches to groups A.B.C. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 1-3WAY 10AMP DP SECTION BOX, FIXED IN PANTRY, FEEDING A.B.C. BOARDS

A. 1-9WAY 5AMP DP FUSEBOX, IN PANTRY, FEEDING LTS. IN SALOON, CAPTAIN, OFFICERS, &c. B. 1-6WAY 5A.-DO.- FEEDING MASTS  
BOARDS, CHART ROOM, FIXED IN WHEELHOUSE. C. 1-3WAY DO.- IN BOGUN'S ROOM, FEEDING LTS FOR FIREMEN, SAILORS &c

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 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

Yes 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 77 arranged in the following groups:—

A	Midships Forward	39 lights each of	16	candle power requiring a total current of	21.84	Amperes
B	Aft to engineers	15 lights each of	16	candle power requiring a total current of	8.40	Amperes
C	Engine Room	23 lights each of	16	candle power requiring a total current of	12.88	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
2.	Mast head lights	with 1 lamp each of	32	candle power requiring a total current of	1.92	Amperes
2.	Side lights	with 1 lamp each of	32	candle power requiring a total current of	1.92	Amperes
	Cargo lights	of		candle power, whether incandescent or arc lights		

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

Where are the switches controlling the masthead and side lights placed Wheelhouse.

**DESCRIPTION OF CABLES.**

Main cable carrying 43.12 Amperes, comprised of 19 wires, each 17 L.S.G. diameter, .0460 square inches total sectional area  
 Branch cables carrying 8.40 Amperes, comprised of 7 wires, each 19 L.S.G. diameter, .0087 square inches total sectional area  
 Branch cables carrying 12.88 Amperes, comprised of 7 wires, each 17 L.S.G. diameter, .0170 square inches total sectional area  
 Leads to lamps carrying 1.8 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0018 square inches total sectional area  
 Cargo light cables carrying — Amperes, comprised of — wires, each — L.S.G. diameter, — square inches total sectional area

**DESCRIPTION OF INSULATION, PROTECTION, ETC.**

Pure Para Rubber, Vule? & Braided overall, also Lead covered, taped Braided.

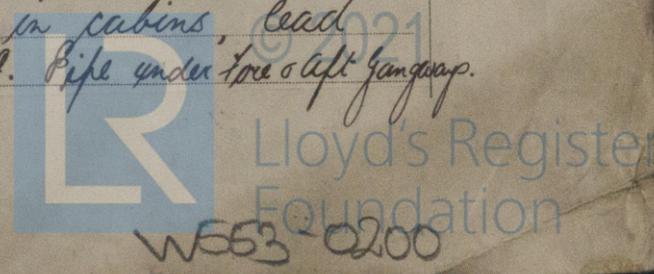
Joints in cables, how made, insulated, and protected

No joints

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

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 Lead covered, clipped up in cabins, lead covered and arm'd in Eng. Boiler spaces, Bunkers &c, L. C. wire in G. I. Pipe under fore & aft gangway.



**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 galv<sup>d</sup> Iron Pipes

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Arm<sup>d</sup> K. O. wire

What special protection has been provided for the cables near boiler casings galv<sup>d</sup> Iron Pipe

What special protection has been provided for the cables in engine room Armoured K. O. wire

How are cables carried through beams Insulating Bushes through bulkheads, &c. Stuffing Boxes

How are cables carried through decks Deck Tubes

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

If so, how are they protected galv<sup>d</sup> 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 \_\_\_\_\_

Cargo light cables, whether portable or permanently fixed \_\_\_\_\_ 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 not an amperemeter, fixed on Main Sash.

**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 yes

Are any switches, cut outs, 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 gas tight fittings

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 600 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.

A. H. Thomas, Esq. Electrical Engineers Date 14/10/08

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 192 ft

Distance between dynamo or electric motors and steering compass 186 ft

The nearest cables to the compasses are as follows:—

A cable carrying	<u>7</u>	Amperes	<u>12</u>	feet from standard compass	<u>6</u>	feet from steering compass
A cable carrying	<u>.56</u>	Amperes	<u>2</u>	feet from standard compass	<u>2</u>	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.

SIR W. G. ARMSTRONG, WHITWORTH & CO. LTD. Builder's Signature. Date 14<sup>th</sup> Oct 1908

**GENERAL REMARKS.**

R. Saxton White This installation as far as can be seen is now in good efficient order  
J. F. Goddard  
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute \_\_\_\_\_ It is submitted that the Record Elec. Light be noted in the Reg. Book.

REPORT FORM No. 13.—3m.34.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

