

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 12776.

Port of WEST HARTLEPOOL Date of First Survey 11th Sept. Date of Last Survey 22nd Nov. No. of Visits 28
 No. in on the Iron or Steel 35 "Clan Macpherson" Port belonging to Glasgow
 Reg. Book 287 Built at West Hartlepool By whom Furness Withy & Co. Ltd When built 1905
 Owners Gayzer, Irvine & Co. Owners' Address Glasgow
 Yard No. 287 Electric Light Installation fitted by Furness Withy & Co. Ltd When fitted 1905

DESCRIPTION OF DYNAMO, ENGINE, ETC.

12 KW. 4 pole compound wound dynamo coupled direct to single cylinder engine 8" dia 9" stroke 200 revs per min 80 lbs steam pressure.

Capacity of Dynamo 185 Amperes at 65 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Engine room starting platform Whether single or double wire system is used double

Position of Main Switch Board near dynamo having switches to groups 7 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Towards crew accommodation one @ Saloon 1 @ Navigation 1 @ After crew accommodation 1 @ 6 Engine room 2 @ 3 1 @ 4. Cargo clusters 1 @ 4 & 1 @ 3. Projector 1.

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 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 108 lamps 2 arcs & projector arranged in the following groups :-

A	<u>108</u> lights each of <u>16</u> candle power requiring a total current of <u>97</u> 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
	<u>2</u> Mast head lights with <u>1</u> lamps each of <u>32</u> candle power requiring a total current of <u>3.6</u> Amperes
	<u>2</u> Side lights with <u>1</u> lamps each of <u>32</u> candle power requiring a total current of <u>3.6</u> Amperes

4 Cargo lights of 8 lamps each of 16 candle power, whether incandescent or arc lights Incandescent

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

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

DESCRIPTION OF CABLES.

Main cable carrying 185 Amperes, comprised of 37 wires, each 14 L.S.G. diameter, .186 square inches total sectional area

Branch cables carrying 60 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .0612 square inches total sectional area

Branch cables carrying 35 Amperes, comprised of 19 wires, each 18 L.S.G. diameter, .0344 square inches total sectional area

Leads to lamps carrying 7 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .00714 square inches total sectional area

Cargo light cables carrying 35 Amperes, comprised of 19 wires, each 18 L.S.G. diameter, .0344 square inches total sectional area
arc 20 7 16 .0225

DESCRIPTION OF INSULATION, PROTECTION, ETC.

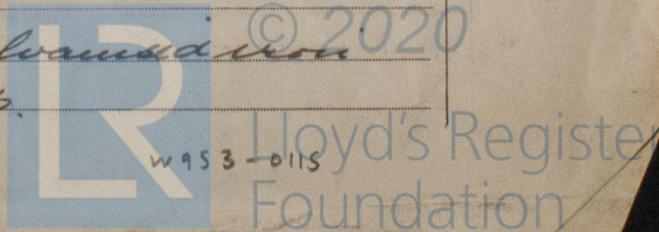
Vulcanised rubber, taped & braided over, carried in wood casings
Iron lead covered in Saloon only

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 — 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 Passed through galvanised iron tube under deck beams tubes clipped up.



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 wood casings

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

What special protection has been provided for the cables near boiler casings wood casings

What special protection has been provided for the cables in engine room wood casings

How are cables carried through beams under beams through tubes through bulkheads, &c. water tight stuffing boxes

How are cables carried through decks in iron pipes

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

If so, how are they protected in iron tubes in cargo spaces

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 terminals protected by brass 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 ✓

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 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.

FURNESS, WITBY & CO., LIMITED.

Electrical Engineers

Date Nov 25-1905

COMPASSES.

per J. H. Parker

Distance between dynamo or electric motors and standard compass 116 ft

Distance between dynamo or electric motors and steering compass 120 ft

The nearest cables to the compasses are as follows:—

A cable carrying	<u>12</u>	Amperes	<u>11</u>	feet from standard compass	<u>16</u>	feet from steering compass
A cable carrying	<u>10</u>	Amperes	<u>30</u>	feet from standard compass	<u>22</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 _____ course in the case of the standard compass and nil degrees on _____ course in the case of the steering compass.

FURNESS, WITBY & CO., LIMITED.

Builder's Signature.

Date Nov. 25th 1905.

GENERAL REMARKS.

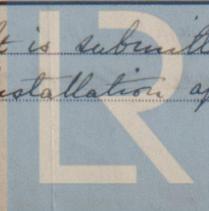
The electric installation of this vessel is fitted as herein described, & in accordance with the requirements of the rules. It has been tested under full load and found to work well

A. J. Graham.

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

Committee's Minute _____

It is submitted that this installation appears to be satisfactory



Lloyd's Register Foundation

30.11.05

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.—5m.54.