

JAN 31 1904

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 470

Port of *Newcastle, Barry* Date of First Survey *Nov 14* Date of Last Survey *Nov 30 '04* No. of Visits *3*
 No. in Reg. Book *on the Iron or Steel* *S.S. Coms.* Port belonging to *West Hartlepool*
 Built at *W. Hartlepool* By whom *Furness, Withy & Co. Ltd* When built
 Owners *Furness, Withy & Co. Ltd* Owners' Address *West Hartlepool*
 Yard No. *262* Electric Light Installation fitted by *Furness, Withy & Co. Ltd* When fitted *1904*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

A compound wound dynamo, coupled direct to single cylinder engine, running at a speed of 190 revolutions at 100 lbs steam pressure.
 Capacity of Dynamo *200* Amperes at *85* Volts, whether continuous or alternating current *Continuous*
 Where is Dynamo fixed *Recess, Starboard, Starting Platform* Whether single or double wire system is used *Double Wire*
 Position of Main Switch Board *Near Dynamo* having switches to groups *6* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each *Forecastle 1 @ 8, 1 @ 5 Saloon 1 @ 12, 1 @ 3, Navigation 1 @ 5, Engineer's Accommodation 3 @ 4, Engine room 1 @ 8, 3 @ 3, Aft 1 @ 7, 1 @ 3, Amidships 1 @ 4*
 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 *198* arranged in the following groups:—

A	30	lights each of	16	candle power requiring a total current of	21.0	Amperes	
B	29	lights each of	16	candle power requiring a total current of	20.3	Amperes	
C	28	lights each of	16	candle power requiring a total current of	19.6	Amperes	
D	27	lights each of	16	candle power requiring a total current of	18.9	Amperes	
E	30	lights each of	16	candle power requiring a total current of	21.0	Amperes	
F	48	lights each of	16	candle power requiring a total current of	33.6	Amperes	
1	Mast head light with	1	lamps each of	32	candle power requiring a total current of	1.4	Amperes
2	Side lights with	1	lamps each of	32	candle power requiring a total current of	2.8	Amperes
4	Cargo lights of	6 @ 16 each		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 *Wheelhouse on Bridge*

DESCRIPTION OF CABLES.

Main cable carrying *186* Amperes, comprised of *37* wires, each *14* L.S.G. diameter, *0.186* square inches total sectional area
 Branch cables carrying *61.2* Amperes, comprised of *19* wires, each *16* L.S.G. diameter, *0.0612* square inches total sectional area
 Branch cables carrying *61.2* Amperes, comprised of *19* wires, each *16* L.S.G. diameter, *0.0612* square inches total sectional area
 Leads to lamps carrying *61.2* Amperes, comprised of *19* wires, each *16* L.S.G. diameter, *0.0612* 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.

Best vulcanized rubber, taped & braided - Sheathed in steel armour in Tween decks and engine room & stokehold. Twin lead covered in saloon and accommodation

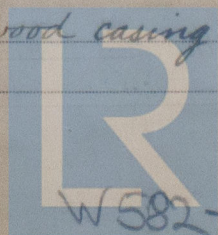
Joints in cables, how made, insulated, and protected

No joints

Are all the joints of cables thoroughly soldered, resin only having been used as a flux *None* 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 *Steel armoured and wood casing in angle irons under beams*



Lloyd's Register
Foundation

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

They in places always accessible Yes
 special protection has been provided for the cables in open alleyways or where exposed to wear or moisture Steel armour and wood casing
 special protection has been provided for the cables near galleys or oil lamps or other sources of heat Steel armour
 special protection has been provided for the cables near boiler casings Steel armour
 What special protection has been provided for the cables in engine room Steel armour
 How are cables carried through beams Fibre bushes through bulkheads, &c. Watertight glands
 How are cables carried through decks Iron pipes made watertight
 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 Steel armour and wood casing
 Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage Yes
 If so, how are the lamp fittings and cable terminals specially protected Enclosed in metal cases
 Where are the main switches and cut outs for these lights fitted Engine 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 Portable How fixed Brass Watertight plugs & sockets
 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 ✓

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 me
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

B. W. Jewett & Co. Electrical Engineers

Date 26. 1. 05

COMPASSES.

Distance between dynamo or electric motors and standard compass 112 feet

Distance between dynamo or electric motors and steering compass 104 feet

The nearest cables to the compasses are as follows:—

A cable carrying 5.4 Amperes 5 feet from standard compass 8 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 _____

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.

FURNESS, WILBY & CO., LIMITED.

60. *John J. Smith* Builder's Signature.

Date _____

26th Jan 1905

GENERAL REMARKS.

In our opinion this installation merits the approval of the Committee

Leonard Hallcross

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

Committee's Minute

It is submitted that this installation appears to be satisfactory.

[Handwritten signature]
31.1.55

31.1.03