

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 56475

Port of *Newcastle on Tyne* Date of First Survey *18th Mar.* Date of Last Survey *5th April* No. of Visits *6*
 No. in *70. Sup* on the *Iron or Steel* *4th Chira* Port belonging to *Coudon*
 Reg. Book *70. Sup* Built at *North Shields* By whom *Smiths Dock Co. Ltd (400)* When built *1909*
 Owners *W. Harwick* Owners' Address
 Yard No. Electric Light Installation fitted by *Smiths Dock Co. Ltd* When fitted *1909. 4*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Multipole Compound Wound Dynamo.
Engine & dynamo supplied by Sunderland Iron & Engineering Co Sunderland
 Capacity of Dynamo *20* Amperes at *100* 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 *Engine room* having switches to groups *A. B. C.* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each *One main Switch board only switches for lights*
A. 1 Double pole 6 way fuse board in Forecastle feeding 5 lights 3 amps.
B. 1 " " 8 " " " on bridge " 7 " 8 "
C. 1 " " 6 " " " in Engine room " 5 " 5 "
 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 *None* and at each position where a cable is branched or reduced in size *none* and to each lamp circuit *from Board*
 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 *22* arranged in the following groups :—
 A *Forecastle 5* lights each of *16* candle power requiring a total current of *3* Amperes
 B *Bridge 7* lights each of *8-16* candle power requiring a total current of *3½* Amperes
 C *Engine room 5* lights each of *16* candle power requiring a total current of *3* 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 light with 1 lamps each of 32 candle power requiring a total current of 2 Amperes
 2 Side light with 1 lamps each of 32 candle power requiring a total current of 2 Amperes
 1 Cluster Cargo lights of 5 lamps 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 *Bridge*

DESCRIPTION OF CABLES.

Main cable carrying 14 amperes, comprised of 7 wires, each 1/20 L.S.G. diameter, .02227 square inches total sectional area.
Branch cable carrying 3 Amperes, comprised of 7 wires, each 1/20 L.S.G. diameter, .007052 square inches total sectional area
 Branch cables carrying *7½* Amperes, comprised of *7* wires, each *1/18* L.S.G. diameter, .01254 square inches total sectional area
 Branch cables carrying *3* Amperes, comprised of *7* wires, each *1/20* L.S.G. diameter, .007052 square inches total sectional area
 Leads to lamps carrying *1/2* Amperes, comprised of *1* wires, each *1/18* L.S.G. diameter, .001810 square inches total sectional area
 Cargo light cables carrying *3* Amperes, comprised of *3* wires, each *1/20* L.S.G. diameter, .003010 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

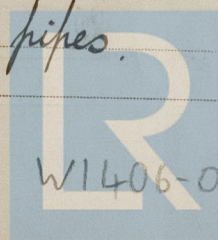
All cables used 2,500 megohm grade lead covered, served & armoured with galvanized iron wires.

Joints in cables, how made, insulated, and protected *No joints cables connected direct to distribution Boards as above.*

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 *yes*

Are there any joints in or branches from the cable leading from dynamo to main switch board *none*

How are the cables led through the ship, and how protected *along Bulwarks in iron pipes.*



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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 Iron pipes and galvanized wires

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

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

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

How are cables carried through beams none through bulkheads, &c. iron piping.

How are cables carried through decks iron pipes with check nuts each side.

Are any cables run through coal bunkers no or cargo spaces none or spaces which may be used for carrying cargo, stores, or baggage none

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 none

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 Portable 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 Switch board

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 none

How are the lamps specially protected in places liable to the accumulation of vapour or gas none

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 2,500 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.

George Richmond Electrical Engineers Date May 12th 1909

COMPASSES.

Distance between dynamo or electric motors and standard compass 25 feet

Distance between dynamo or electric motors and steering compass " "

The nearest cables to the compasses are as follows:—

A cable carrying <u>1/2</u> Amperes	<u>1</u> feet from standard compass	<u>1</u> feet from steering compass
A cable carrying <u>_____</u> Amperes	<u>_____</u> feet from standard compass	<u>_____</u> feet from steering compass
A cable carrying <u>_____</u> Amperes	<u>_____</u> feet from standard compass	<u>_____</u> 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 the course in the case of the standard compass and nil degrees on the course in the case of the steering compass.

FOR SMITH'S DOCK CO., L^d

W. Spencer Builder's Signature. Date 12th May 1909

GENERAL REMARKS.

In my opinion this installation is worthy of the favourable consideration of the Committee

Leonard J. Shallcross

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. Books.

Lloyd's Register Foundation

15.5.09

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.