

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6726 ✓

Port of NEWCASTLE-ON-TYNE Date of First Survey Feb. 1. 1915 Date of Last Survey Feb. 25. 1915 No. of Visits 2  
 No. in Reg. Book 11 on the Iron or Steel 11 North Western Miller Port belonging to Northumbrian & D. B. M.  
 Built at Willington Quay By whom Northumbrian & D. B. M. When built 1915  
 Owners Electric Light Installation fitted by Owners' Address Falmer, B. W. S. Co. When fitted 1915  
 Yard No. 221

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

7½ x 6 Open type engine to work with 100 lbs steam pressure.  
 Compound wound dynamo  
 Capacity of Dynamo 104.5 Amperes at 110 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Starting Platform Whether single or double wire system is used Double  
 Position of Main Switch Board Next dynamo having switches to groups A. B. C. D. of lights, &c., as below  
 Positions of auxiliary fuse boards and numbers of fuses on each 6 Wg in Engine Room, 3 Wg Messroom  
4 Wg P.O. berth, 7 Wg 4th Eng. berth, 3 Wg 3rd Eng. berth, 7-3 Wg 1st Class Pass. Partry  
3 in Paint room, 8 in Steward's room  
 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 25 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 181 arranged in the following groups:—  
 A Engine Room 29 lights each of 15.2 candle power requiring a total current of 15.2 Amperes  
 B Al. 20 lights each of 10.9 candle power requiring a total current of 10.9 Amperes  
 C Engine Room 54 lights each of 29.4 candle power requiring a total current of 29.4 Amperes  
 D Steward's 79 lights each of 43 candle power requiring a total current of 43 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 2.1 Amperes  
2 Side lights with 1 lamp each of 32 candle power requiring a total current of 2.1 Amperes  
12 Cargo lights of 6 x 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 Steward's room

## DESCRIPTION OF CABLES.

Main cable carrying 104.5 Amperes, comprised of 37 wires, each 16 S.W.G. diameter, .1176 square inches total sectional area  
 Branch cables carrying 43.0 Amperes, comprised of 19 wires, each 17 S.W.G. diameter, .046 square inches total sectional area  
 Branch cables carrying 29.4 Amperes, comprised of 7 wires, each 15 S.W.G. diameter, .0292 square inches total sectional area  
 Leads to lamps carrying .54 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area  
 Cargo light cables carrying .32 Amperes, comprised of 3 wires, each 20 S.W.G. diameter, .0022 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

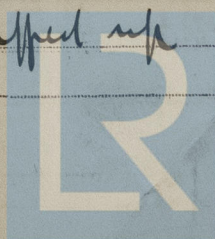
Insulated copper, fine Pure J.R. Rub. J.R. Taped, braided & lead covered

Joints in cables, how made, insulated, and protected

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 Yes

Are there any joints in or branches from the cable leading from dynamo to main switch board

How are the cables led through the ship, and how protected Armoured & braided clipped up



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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible Generally

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Ammoniac Banded

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat 2111

What special protection has been provided for the cables near boiler casings 2111

What special protection has been provided for the cables in engine room 2111

How are cables carried through beams File bushes through bulkheads, &c. N.I. glands

How are cables carried through decks Dark tubes

Are any cables run through coal bunkers Yes or cargo spaces Yes or spaces which may be used for carrying cargo, stores, or baggage Yes

If so, how are they protected Ammoniac & banded

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 fuses for these lights fitted \_\_\_\_\_

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 N.I. 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 \_\_\_\_\_

Is the installation supplied with a voltmeter Yes and with an amperemeter Yes, fixed in Main board

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 600 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.

William C. Condo Electrical Engineers

Date March 5th 1915

COMPASSES.

Distance between dynamo or electric motors and standard compass 106 ft.

Distance between dynamo or electric motors and steering compass 100 "

The nearest cables to the compasses are as follows:—

A cable carrying 11 Amperes 18 feet from standard compass 12 feet from steering compass

A cable carrying 54 Amperes 1 feet from standard compass 1 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 course in the case of the standard compass and Nil degrees on all course in the case of the steering compass.

Richard Garlick Builder's Signature. Date 9th March 1915

GENERAL REMARKS.

This installation has been fitted in accordance with the requirements, it has been tried under full power with satisfactory results. In my opinion the vessel is eligible for the record of Elec. Light.

Charles Cooper Surveyor to Lloyd's Register of British and Foreign Shipping. Date 15/3/15

Committee's Minute TUE MAR 23 1915