

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 71392

Port of NEWCASTLE-ON-TYNE Date of First Survey 3rd September 18 Date of Last Survey 22nd October 18 No. of Visits 8
 No. in Reg. Book on the Iron or Steel H.M.S. STAKE Port belonging to British Admiralty
 Built at South Shields By whom Charles Remondson When built 1918
 Owners British Admiralty Owners' Address Whitehall London
 Yard No. 199 Electric Light Installation fitted by Thomas Claude Chapman & Co. When fitted 1918

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two enclosed compound engines direct coupled to two compound wound continuous current dynamos

Capacity of Dynamo 119 Amperes at 105 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed In Engine Room lower platform Whether single or double wire system is used Double

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

Positions of auxiliary switch boards and numbers of switches on each Each light & group of lights provided with switches as required

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-oxidisable metal Yes and constructed to fuse at an excess of 50% 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 Brass boxes with mica insulation

Total number of lights provided for 172 arranged in the following groups:—

A Aft Accommodation lights each of 15-lbp. 19-30W MF candle power requiring a total current of 13.4 Amperes

B Engine Room lights each of 15-lbp. 23-30W MF candle power requiring a total current of 39.1 Amperes

C P. Room lights each of 7-lbp. 17-30W MF candle power requiring a total current of 8.5 Amperes

D Navigation lights each of 4-lbp. 11-lbp. 5-30W MF candle power requiring a total current of 9.4 Amperes

E Forward lights each of 5-lbp. 29-30W MF candle power requiring a total current of 10.8 Amperes

F Windows lights each of 1-lbp. 4-30W MF candle power requiring a total current of 1.6 Amperes

1 Mast head light with 1 lamp each of 1-lbp. 1-32 candle power requiring a total current of 1.6 Amperes

2 Side light with 1 lamp each of 1-lbp. 1-32 candle power requiring a total current of 1.6 Amperes

2 Cargo lights of 8-50cp each candle power, whether incandescent or arc lights incandescent

If arc lights, what protection is provided against fire, sparks, &c. None

Where are the switches controlling the masthead and side lights placed On bridge

DESCRIPTION OF CABLES.

Main cable carrying 119 Amperes, comprised of 37 wires, each 15 S.W.G. diameter, .150 square inches total sectional area

Branch cables carrying 39.1 Amperes, comprised of 19 wires, each 20 S.W.G. diameter, .019 square inches total sectional area

Branch cables carrying 10.8 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area

Leads to lamps carrying 1.8 Amperes, comprised of 1 wires, each 17 S.W.G. diameter, .0025 square inches total sectional area

Cargo light cables carrying 0.3 Amperes, comprised of 19 wires, each 22 S.W.G. diameter, .019 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

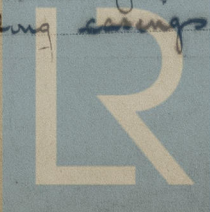
Insulated india rubber taped & braided & lead covered cable

Joints in cables, how made, insulated, and protected No joints except mechanical used

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 bunks, 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 No

How are the cables led through the ship, and how protected Lead covered cables run in galvanized sheet iron plating secured to underside of beams & frames & along casings



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 *Lead covered cables*
covered with galvanized sheet iron plates ✓
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Cables run on raised platform* ✓
 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 *in lead bushes* ✓ through bulkheads, &c. *in WT glands* ✓
 How are cables carried through decks *in WT copper backed deck tiles* ✓
 Are any cables run through coal bunkers *No* or cargo spaces *No* or spaces which may be used for carrying cargo, stores, or baggage *Yes* ✓
 If so, how are they protected *Lead covered cables run on galvanized sheet iron plating* ✓
 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 *Special WT brass & cast iron fittings* ✓
 Where are the main switches and fuses for these lights fitted *in accommodation spaces* ✓
 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 *to WT Connection Boxes* ✓
 In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *Double wire system* ✓
 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 *on Switchboard* ✓

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 *1250* 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.

W. W. W. W. W. Electrical Engineers Date *March 4th 1919*

COMPASSES.

Distance between dynamo or electric motors and standard compass *96 ft*
 Distance between dynamo or electric motors and steering compass *90 "*

The nearest cables to the compasses are as follows:—

A cable carrying	Ampères	feet from standard compass	feet from steering compass
2.1	12	6	
2.1	6	12	
-	-	-	

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.

James J. W. W. W. Builder's Signature Date *March 11th 1919*

GENERAL REMARKS.

Tested & found satisfactory in all respects

It is submitted that this vessel is unique for THE RECORD. Elec Light

W. T. Badger

Surveyor to Lloyd's Register of Shipping.

Committee's Minute



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.