

REPORT ON ELECTRIC LIGHTING INSTALLATION.

Received at London Office MON. 17 DEC. 1917

Port of **NEWCASTLE-ON-TYNE.**

No. **70512**

No. in Reg. Book

on the Iron or Steel

Y. J. 2

Date of First Survey

27th Sept

Date of Last Survey

22nd Nov 1917

No. of Visits

9

Built at **ARMSTRONG NAVAL YARD.**

Port belonging to

London

Owners **The Secretary of State for War**

By whom **MESSRS SIR W.G. ARMSTRONG WHITWORTH & CO**

When built **1917.**

Yard No. **922**

Electric Light Installation fitted by

MESSRS SIR W.G. ARMSTRONG WHITWORTH & CO LTD

When fitted **1917.**

DESCRIPTION OF DYNAMO, ENGINE, ETC.

MAIN GENERATOR:- DELAYAL TURBINE 30 H.P. 2000 R.P.M. 1000 LBS D" COMPOUND WOUND 100 VOLTS. 20 K.W. DYNAMO.

AUXY " " SINGLE CYLINDER DIRECT COUPLED ENGINE 400 R.P.M. LBS D" 110 VOLTS 5 K.W. DYNAMO.

Capacity of Dynamo MAIN 200 AMPERES AT 100 VOLTS
AUXY 45.5 AMPERES AT 110 VOLTS

Where ARE Dynamos fixed ENGINE ROOM. PORT SIDE. **Fixed**, whether continuous or alternating current CONTINUOUS

Position of Main Switch Board ENGINE ROOM PORT SIDE. Whether single or double wire system is used DOUBLE

Positions of auxiliary switch boards and numbers of switches on each SECTION BOXES (1-2 WAY IN ENGINE RM PORT & 1-4 WAY IN STARBOARD FORWARD CABIN FLAT.) of lights, &c., as below

DISTRIBUTION BOXES (1-12 WAY IN WHEEL HOUSE, 1-6 WAY IN GUNNERS COMPARTMENT FORWARD, 1-10 WAY IN PORT FORWARD CABIN FLAT, 1-8 WAY IN STARBOARD FORWARD CABIN FLAT, 1-8 WAY IN ENGINE ROOM PORT, 1-8 WAY IN ENGINE ROOM STARBOARD, 1-8 WAY IN ENGINE ROOM ENTRANCE PORT, 1-8 WAY IN ENGINE ROOM ENTRANCE STARBOARD, 1-6 WAY IN PORT AFTER CABIN FLAT & 1-6 WAY IN STARBOARD AFTER CABIN FLAT.)

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 YES

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 176 arranged in the following groups:-

A ENGINE & BOILER ROOMS ETC	lights each of 24	44	candle power requiring a total current of 13.2	Amperes
B ACCOMODATION ETC	lights each of 24	76	candle power requiring a total current of 32.836	Amperes
C CAR DECK ETC	lights each of 24	8	candle power requiring a total current of 24.1	Amperes
D WIRELESS TELEGRAPHY	lights each of 10,000	23	candle power requiring a total current of 4.5	Amperes
E SEARCHLIGHTS	lights each of 10,000	1	candle power requiring a total current of 45	90
2 Mast head lights with 1 lamp each of 32			candle power requiring a total current of 2.2	Amperes
2 Side lights with 1 lamp each of 32			candle power requiring a total current of 2.2	Amperes
1 Cargo lights of 72				
1 MORSE SIGNAL LAMP 36				

If are lights, what protection is provided against fire, sparks, &c. NO "ARC" LAMPS 3.24 C.P. INCANDESCENT 6.6 C.P. " "

Where are the switches controlling the masthead and side lights placed IN WHEEL HOUSE.

DESCRIPTION OF CABLES.

Main cable carrying 45.5 Amperes, comprised of 37 wires, each .092" L.S.G. diameter, .25 square inches total sectional area	19
Branch cables carrying 29.236 Amperes, comprised of 7 wires, each 14 L.S.G. diameter, .03588 square inches total sectional area	7
Branch cables carrying 12.7 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .00727 square inches total sectional area	7
Leads to lamps carrying 1.5 Amperes, comprised of 1 wire, each 18 L.S.G. diameter, .00181 square inches total sectional area	1
Cargo light cables carrying .9 Amperes, comprised of 1 wire, each 18 L.S.G. diameter, .00181 square inches total sectional area	1

DESCRIPTION OF INSULATION, PROTECTION, ETC.

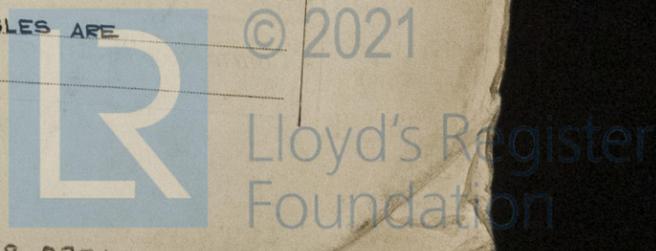
VULCANIZED INDIA RUBBER TAPED & BRAIDED LEAD COVERED & LEAD COVERED & ARMURED. ALL CABLES TO C.M.A. GRADE.

Joints in cables, how made, insulated, and protected NO JOINTS IN CABLES.

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 LEAD COVERED & LEAD COVERED & ARMURED CABLES ARE CLIPPED TO BULKHEADS OR UNDERSIDE OF DECKS BY MEANS OF BRASS OR GALVANISED IRON CLIPS.



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 & LEAD COVERED & ARMoured WITH STEEL WIRE.**

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat **LEAD COVERING & STEEL ARMOUR.**

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 **LEAD BUSHED HOLES** through bulkheads, &c. **WATERTIGHT GLANDS.**

How are cables carried through decks **WATERTIGHT DECK TUBES.**

Are any cables run through coal bunkers **NO** or cargo spaces **NO** or spaces which may be used for carrying cargo, stores, or baggage **NO**

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 **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 _____

Cargo light cables, whether portable or permanently fixed **PORTABLE** How fixed **CAST IRON CONNECTION BOX**

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 **yes** supplied with a voltmeter and **yes** an amperemeter, fixed **ON MAIN 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 **600** megohms per statute mile after 24 hours' immersion in seawater. (C.M.A. GRADE)

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.

Electrical Engineers Date _____

COMPASSES.

Distance between dynamo or electric motors and standard compass **110 FEET FROM DYNAMO 22 FEET FROM W/T. ROTARY CONVERTER**

Distance between dynamo or electric motors and steering compass **96 " " " 18 " " " "**

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	Foot feet from standard compass	Foot feet from steering compass
3	1	6	
3	8	1	

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.

MIR. S. B. ARMSTRONG, WHITEHORN & CO. LIMITED

Edwin L. Orde

Builder's Signature.

Date **Dec 8th 1914**

GENERAL REMARKS.

The above installation has been fitted in a satisfactory manner & in accordance with the Rules

It is submitted that this vessel is eligible for THE RECORD. Elec. light.

THE RECORD. Elec. light.

Sur. J.M. 17/12/14

Thomas Field

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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