

REPORT ON ELECTRIC LIGHTING INSTALLATION.

Received at London Office MON. 17 DEC. 1917

Port of **NEWCASTLE-ON-TYNE**No. **70512**No. in
Reg. Bookon the **Iron or Steel**

Date of First Survey

27th Sept

Date of Last Survey

22nd Nov 1917

No. of Visits

9Built 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:- DELAVAL 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
AUXY 45.5Amperes at } 100 VOLTS
110 VOLTS

Where ARE Dynamos fixed ENGINE ROOM. PORT SIDE.

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 STARD FORW CABIN FLAT.)

of lights, &c., as below

DISTRIBUTION BOXES (1-12 WAY IN WHEEL HOUSE, 1-6 WAY IN GUNNERS COMP FORW 1-10 WAY IN PORT FORW CABIN FLAT, 1-8 WAY IN STARD FORW CABIN FLAT, 1-8 WAY IN ENGINE ROOM PORT, 1-8 WAY IN ENGINE RM STARD, 1-8 WAY IN ENGINE RM ENTRANCE PORT, 1-8 WAY IN E. RM ENTRANCE STARD 1-6 WAY IN PORT AFTER CABIN FLAT & 1-6 WAY IN STARD AFTER CABIN FLAT.)

If cut outs are fitted on main switch board to the cables of main circuit YES.

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 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

candle power requiring a total current of 13.2

Amperes

B ACCOMODATION ETC 76 } lights each of 24

24 }
32 }
6 }

candle power requiring a total current of 32.836

Amperes

C CAR DECK ETC { 23 } lights each of 24

15 }
1 }
200 }

candle power requiring a total current of 24.1

Amperes

D WIRELESS TELEGRAPHY lights each of 10,000

candle power requiring a total current of 4.5

Amperes

E SEARCHLIGHTS 1 FORW } lights each of 10,000

1 AFT }

candle power requiring a total current of 45 } 90

Amperes

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

candle power, whether incandescent or arc lights 3.24 C.P. INCANDESCENT

6.6 C.P.

1 MORSE SIGNAL LAMP 36

If are lights, what protection is provided against fire, sparks, &c. NO "ARC" LAMPS

"

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

DESCRIPTION OF INSULATION, PROTECTION, ETC.

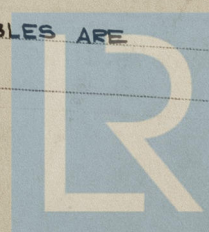
VULCANIZED INDIA RUBBER TAPED & BRAIDED LEAD COVERED & LEAD COVERED & ARMoured.
ALL CABLES TO C.M.A. GRADE.

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



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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 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 supplied with a voltmeter and

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 3 Amperes 1 foot from standard compass 6 feet from steering compass

A cable carrying 3 Amperes 8 feet from standard compass 1 foot 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.

MIR & 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.

17/12/17

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

Committee's Minute



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.