Rpt. 13.

Received at London Office ____ 19

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 27140

Port of Glasgow Date of First Survey 11th Sept/08 Date of Last Survey 23 Oct. No. of Visits 12.

No. in Reg. Book ____ on the ~~Iron~~ or Steel T. S. S. "Waratah" Port belonging to London

Built at Glasgow By whom Barclay Curle & Co Ltd When built 1908

Owners Blue Anchor Line Ltd Owners' Address London

Yard No. 472 Electric Light Installation fitted by A. Watson & Co When fitted 1908

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two — four pole dynamos — Each driven by one closed, forced lubrication engine with cyls: 10 dia x 7½ stroke. Engine fitted with separator, governor and steam & exhaust stop valves — to run at a speed of 300 revolutions per minute

Capacity of Dynamo 240 Amperes at 100 Volts, whether continuous or alternating current ____

Where is Dynamo fixed Thwart. Recess. Whether single or double wire system is used Single.

Position of Main Switch Board Thwart. Recess. having switches to groups 14. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Fr. Alleyways. Forward. midships & aft.

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 —

Are the cut outs of non-ozidizable metal Yes. and constructed to fuse at an excess of 100 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 530. arranged in the following groups :—

A ____ lights each of ____ candle power requiring a total current of ____ Amperes

B ____ lights each of ____ candle power requiring a total current of ____ Amperes

C ____ lights each of ____ candle power requiring a total current of ____ Amperes

D ____ lights each of ____ candle power requiring a total current of ____ Amperes

E ____ lights each of ____ candle power requiring a total current of = 320. Amperes

8 circuits. all 16 C.P.

2 Mast head light with 1 lamps each of 32. candle power requiring a total current of 2·4. Amperes

2. Side light with 1 lamps each of 32. candle power requiring a total current of 2·4. Amperes

8. Cargo lights of 80. 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 Chart. Room also Stern light.

DESCRIPTION OF CABLES.

Main cable carrying 300 Amperes, comprised of 61 wires, each 14. L.S.G. diameter, ·302 square inches total sectional area

Branch cables carrying 34. Amperes, comprised of 19 wires, each 18. L.S.G. diameter, ·033 square inches total sectional area

Branch cables carrying 22 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, ·022 square inches total sectional area

Leads to lamps carrying ·6 Amperes, comprised of 1 wires, each 16 L.S.G. diameter, ·003 square inches total sectional area

Cargo light cables carrying 3 Amperes, comprised of 1 wires, each 16 L.S.G. diameter, ·003 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanized Rubber. Braided & all. 600. Megr grade.

Joints in cables, how made, insulated, and protected none.

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 ~~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 in Accomodation. Armoured in hold Spaces & Engine Room.

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.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead Cov: protected with wood.

What special protection has been provided for the cables near boiler casings Wood. insulating grounds.

What special protection has been provided for the cables in engine room Armoured with G.T. wires

How are cables carried through beams Fibre Ferrules. *through bulkheads, &c.* H.T. Glands.

How are cables carried through decks H.T. Deck tubes. 15" long.

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

If so, how are they protected Armoured wires run Close to deck.

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* H.T. Plug will Switch

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel Large Cable Socket on Deck Beam

How are the returns from the lamps connected to the hull 3/8. Brass Screws with 2 brass washers.

Are all the joints with the hull in accessible positions Yes.

The installation is — *supplied with a voltmeter and* both. *an amperemeter, fixed* on 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.*

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.

A. Watson & Co. per W.S. *Electrical Engineers* *Date* 21-10-08.

COMPASSES.

Distance between dynamo or electric motors and standard compass Engine Room to Bridge

Distance between dynamo or electric motors and steering compass " " "

The nearest cables to the compasses are as follows:— L.E. Single Cables. (There is a double wired light in Compass.

A cable carrying 6. *Amperes* 22. *feet from standard compass* Approx Same *feet from steering compass*

A cable carrying — *Amperes* — *feet from standard compass* — *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

The maximum deviation due to electric currents, etc., was found to be — *degrees on* — *course in the case of the standard compass and* — *degrees on* — *course in the case of the steering compass.*

FOR BARCLAY, CURLE & CO., LTD.

H. Scully, Secretary.

Builder's Signature. *Date* 24th Oct '08

GENERAL REMARKS.

The installation has been well fitted, and ran satisfactorily under trial

A. J. Thomas

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

Committee's Minute GLASGOW 3 NOV. 1908

Electric Light.

It is submitted that the Record Elec. Light be noted in the Reg. Book.

REPORT FORM No. 1.—2034.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

LR-FAF-TBS-141