

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No 15464.

Port of Leith Date of First Survey 1917 Date of Last Survey 14/9/18 No. of Visits 5  
 No. in Reg. Book on the Iron or Steel H. War Claron Port belonging to South S. & C. Co.  
 Built at Alloa By whom South S. & C. Co. When built 1918  
 Owners Controller of Shipping Owners' Address Tram & Bothwell, Glasgow  
 Yard No. 36 Electric Light Installation fitted by Tram & Bothwell, Glasgow When fitted 1918

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Multipolar Compound wound Dynamo Coupled to an Open type  
Inverted Vertical Single Cylinder Engine  
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Engine Room Whether single or double wire system is used Double  
 Position of Main Switch Board Engine Room Bulkhead having switches to groups four of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Navigation, (Chart Room) Engine & Boilers Room  
(Engine Room) Cabin, (Cabin Passage) Crew Accom. (Aft passage) Cargo  
(Engine Room Bulkhead Aft) Wireless,  
 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 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  
 Total number of lights provided for 126 arranged in the following groups:—  
 A NAVIGATION lights each of 3-8 C.P. 2-2 1/2 C.P. 4-16 C.P. candle power requiring a total current of 8.5 Amperes  
 B Cabin - Crew Accom. lights each of 32-20 W.M.F. 5-16 C.P. candle power requiring a total current of 9.4 Amperes  
 C Engine - Boilers Room lights each of 38-16 C.P. 8-16 C.P. Portables candle power requiring a total current of 24.6 Amperes  
 D Cargo lights each of 24-16 C.P. candle power requiring a total current of 14.4 Amperes  
 E lights each of candle power requiring a total current of Amperes  
 2 Mast head light with 2 lamps each of 8 C.P. candle power requiring a total current of Amperes  
 2 Side light with 2 lamps each of 2 1/2 C.P. candle power requiring a total current of Amperes  
 4 Cargo lights of 6-16 C.P. candle power, whether incandescent or arc lights  
 If arc lights, what protection is provided against fire, sparks, &c. None

Where are the switches controlling the masthead and side lights placed Wheel House

## DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .09443 square inches total sectional area  
 Branch cables carrying 25 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .02224 square inches total sectional area  
 Branch cables carrying 12 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .01354 square inches total sectional area  
 Leads to lamps carrying 1.8 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .001810 square inches total sectional area  
 Cargo light cables carrying 3.6 Amperes, comprised of 1 wires, each 16 S.W.G. diameter, .003214 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

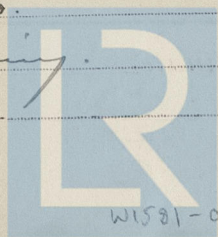
Vulcanised India Rubber, Taped, Braided & Compounded Sheathed, Galv. single wire Armoured & Braided

Joints in cables, how made, insulated, and protected Porcelain Connectors enclosed in Hard wood Blocks recessed & covered with Bismit Block

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 No

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 Galv. wire Armoured



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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

Galv. Wire Armouring.

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

as above

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

as above

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

as above

How are cables carried through beams

Lead Bushed.

through bulkheads, &c.

W. T. Glands.

How are cables carried through decks

Deck Tubes. Glands.

Are any cables run through coal bunkers

No.

or cargo spaces

Yes.

or spaces which may be used for carrying cargo, stores, or baggage

Yes.

If so, how are they protected

Galv. wire armouring.

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

Cargo light cables, whether portable or permanently fixed

Portable

How fixed

Plug Boxes.

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 Main 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 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.

Fraser & Borthwick

Electrical Engineers

Date 9/10/18

COMPASSES.

Distance between dynamo or electric motors and standard compass

70 feet

Distance between dynamo or electric motors and steering compass

67 "

The nearest cables to the compasses are as follows:—

Those supplying current to the binnacle lights.

A cable carrying

Amperes

feet from standard compass

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 THE FORTH SHIPBUILDING AND  
ENGINEERING COY., LTD.

Builder's Signature.

Date

GENERAL REMARKS.

A. L. Blair  
Manager

This installation has been efficiently fitted on board and notation of electric light might be recorded.

THE RECORD. ELEC. LIGHT

Chambers

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

Im. 8.12.—Transfer.



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