

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 15448.

Port of Leith Date of First Survey 20/5 Date of Last Survey 20/6/18 No. of Visits 5
 No. in Reg. Book on the Iron or Steel St. Nas Pibroch Port belonging to London
 Built at Allea By whom North S. B. & Co. Ltd. Allea When built
 Owners Controller of Shipping (R. Mackie & Co.) Owners' Address
 Yard No. 35 Electric Light Installation fitted by James Bartholomew Glasgow When fitted June 1918

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Multipolar Compound wound, Coupled to an Open type Inverted Vertical Single Cylinder Engine running at 360 R.P.M. on 100 lbs Steam Pressure
 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 having switches to groups of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each

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 100% 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 136 arranged in the following groups:—

A Navigation 7 lights each of 2-2 1/2 3-8 3-32 C.P. candle power requiring a total current of 7.4 Amperes
 B Cabin - Crew Accom. 37 lights each of 32-20 W. 5-16 C.P. candle power requiring a total current of 9.4 Amperes
 C Engine - Boilers 11 lights each of 47-16 C.P. candle power requiring a total current of 28.2 Amperes
 D Cargo 24 lights each of 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 1 lamps each of 2 1/2 C.P. candle power requiring a total current of Amperes
3 Side light with 1 lamps each of 8 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 Incandescent

If arc lights, what protection is provided against fire, sparks, &c.

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

DESCRIPTION OF CABLES.

Main cable carrying 94.4 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .0944 square inches total sectional area
 Branch cables carrying 22.24 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .02224 square inches total sectional area
 Branch cables carrying 12.54 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .01254 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 3.2 Amperes, comprised of 1 wires, each 16 S.W.G. diameter, .0032 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables for Accommodation V. I. R. Taped, Served & Lead Covered. For Engine, Boilers Room - Cargo Clusters Twin V. I. R. Taped Served & Single wire Armoured & Braided over-all.
 Joints in cables, how made, insulated, and protected Porcelain Connectors enclosed in Hard wood recessed Block with Screwed cover.

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 none

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 Ferid with Clips & Studs, Lead Covered or Armoured.



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 Galvanised wire Armour + Braided over-all.

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

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

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

How are cables carried through beams Lead Bushed. through bulkheads, &c. W. T. Glands.

How are cables carried through decks Deck Tubes.

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

If so, how are they protected 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 No.

Cargo light cables, whether portable or permanently fixed Portable How fixed Cargo Clusters

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 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 _____ 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 & Neave 53 Pitt St. Singapore Electrical Engineers Date 1st Aug. 1918.

COMPASSES.

Distance between dynamo or electric motors and standard compass 70-0

Distance between dynamo or electric motors and steering compass 67-0

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
<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

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 CO. LTD.

Builder's Signature. Date 5/8/18

GENERAL REMARKS.

a. L. Black
Manager
This installation appears to have been fitted in a satisfactory manner and in accordance with the local rule requirements.

It is submitted that this vessel is eligible for THE RECORD. ELEC. LIGHT

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.