

REPORT ON ELECTRIC LIGHTING INSTALLATION. No.

Port of London (Spencer) Date of First Survey 4th November Date of Last Survey 26th November No. of Visits 3
 No. in Reg. Book on the ~~Iron~~ Steel Screw Tug "H.C. HULL" Port belonging to Cape Town
 Built at Kings Lynn By whom The Kings Lynn Slipway Co. When built 1925
 Owners Union Government, S. Africa Owners' Address Cape Town
 Yard No. 207 Electric Light Installation fitted by P. E. & Hampton of Kings Lynn When fitted 1925

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo made by The Electromotor Co. 1 K.W. coupled to a Poloy Steam Engine.

Capacity of Dynamo 10 Amperes at 100-110 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed In Engine room Whether single or double wire system is used Double
 Position of Main Switch Board In Engine room having switches to groups — of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each None

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 Slates + Porcelain.

Total number of lights provided for 19 arranged in the following groups:—

| | | |
|---|--|--|
| A | <u>Engine Room circuit</u> | <u>3</u> lights each of <u>16</u> candle power requiring a total current of <u>.6</u> Amperes |
| B | " " " | <u>3</u> lights each of <u>One 32 + two 16</u> candle power requiring a total current of <u>.8</u> Amperes |
| C | <u>Group of 3 galley lights</u> | <u>3</u> lights each of <u>16</u> candle power requiring a total current of <u>1.4</u> Amperes |
| D | <u>Navigation</u> | <u>6</u> lights each of <u>32</u> candle power requiring a total current of <u>3.8</u> Amperes |
| E | — | lights each of — candle power requiring a total current of — Amperes |
| | <u>2</u> Mast head light with <u>2</u> lamps each of <u>32</u> candle power requiring a total current of — Amperes | } <u>As above</u> |
| | <u>2</u> Side light with <u>2</u> lamps each of <u>32</u> candle power requiring a total current of — Amperes | |
| | — Cargo lights of — candle power, whether incandescent or arc lights <u>Yes</u> | |

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

Where are the switches controlling the masthead and side lights placed In wheelhouse.

DESCRIPTION OF CABLES.

Main cable carrying 6.6 Amperes, comprised of 7 wires, each .036 S.W.G. diameter, .0070 square inches total sectional area
 Branch cables carrying — Amperes, comprised of — wires, each — S.W.G. diameter, — square inches total sectional area
 Branch cables carrying — Amperes, comprised of — wires, each — S.W.G. diameter, — square inches total sectional area
 Leads to lamps carrying — Amperes, comprised of — wires, each — S.W.G. diameter, — square inches total sectional area
Portable Cargo light cables carrying .2 Amperes, comprised of 14 strands wires, each — S.W.G. diameter, — square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

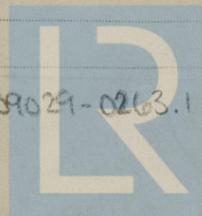
Lead covered.

Joints in cables, how made, insulated, and protected Lead.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances None 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 None.

How are the cables led through the ship, and how protected Lead covered protected by steel conduit.



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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 *Steel conduit*

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

What special protection has been provided for the cables near boiler casings *Steel conduit*.

What special protection has been provided for the cables in engine room *Lead covered*.

How are cables carried through beams *None* through bulkheads, &c. *Glands*.

How are cables carried through decks *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 ✓

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 *None* How fixed ✓

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 *2000* 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.

J. C. C. Hamilton Electrical Engineers Date _____

COMPASSES.

Distance between dynamo or electric motors and standard compass ✓

Distance between dynamo or electric motors and steering compass *About 31 feet* ✓

The nearest cables to the compasses are as follows:—

| A cable carrying | Amperes | feet from standard compass | feet from steering compass |
|------------------|---------|----------------------------|----------------------------|
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |

FOR & ON BEHALF OF THE KING'S LYNN SLIPWAY Co. Ltd. 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 ✓ course in the case of the standard compass and ✓ degrees on ✓ course in the case of the steering compass. ✓

R. A. Hutchinson Builder's Signature. Date _____

GENERAL REMARKS.

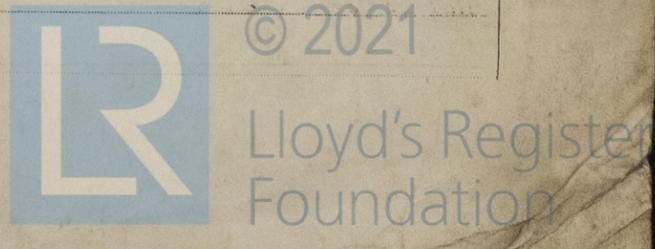
The electric lighting installation has been fitted in accordance with the Rules, tried under working conditions & found satisfactory.

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

See £5:0:0 pd 17.12.25 (68P) 15 DEC 1925 *A. E. Farriner* 16/12/25 Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



2m.11.25.—Transit.