

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 33278

Port of Hull Date of First Survey 2/1/22 Date of Last Survey 2/3/22 No. of Visits 30
 No. in Reg. Book on the Iron or Steel S.S. "TEKOA" Port belonging to Plymouth
 Built at Hull By whom Baker & Co. Ltd. When built 1912
 Owners New Zealand S.S. Co. Ltd. Owners' Address Hull When fitted 1912
 Yard No. 628 Electric Light Installation fitted by Croup Curtis & Co. Ltd.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two Croup Curtis compound Dynamos coupled to enclosed Robey engines

Capacity of Dynamo each 250 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed Special platform in Engine room Whether single or double wire system is used Double
 Position of Main Switch Board Engine room on after Bulkhead of Dynamo space having switches to groups eight circuits 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-oxidisable 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 450 arranged in the following groups:—
 Saloon &
 A Forward Section 67 lights each of 20 watt candle power requiring a total current of 13.4 Amperes
 B Midship Accom. 61 lights each of 30 watt candle power requiring a total current of 20.0 Amperes
 C Aft Accom. 50 lights each of 30 watt candle power requiring a total current of 16.6 Amperes
 D Engine Room & 144 lights each of 20 watt candle power requiring a total current of 28.8 Amperes
 E Deck lights 26 lights each of 30 watt candle power requiring a total current of 8.6 Amperes
2 Mast head light with 2 lamps each of 52 cp candle power requiring a total current of 2.0 Amperes
2 Side light with 2 lamps each of 52 cp candle power requiring a total current of 2.0 Amperes
1 Stern 52 cp " 1.0 "
6 Cargo lights of 96 cp candle power, whether incandescent or arc lights 18.0 "
4 - 1/2 watt fittings 1000 cp " 20.0 "
 If arc lights, what protection is provided against fire, sparks, &c.
Wireless 1 1/2 K.W. set 15.0 "
145.4 total.

Where are the switches controlling the masthead and side lights placed Chart room on Navigating Bridge

DESCRIPTION OF CABLES.

Main cable carrying 236 Amperes, comprised of 2 cables of 19 wires, each 14 S.W.G. diameter, 2 square inches total sectional area
 Branch cables carrying 31 Amperes, comprised of 4 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area
 Branch cables carrying 24 Amperes, comprised of 4 wires, each 20 S.W.G. diameter, .004 square inches total sectional area
 Leads to lamps carrying 7 Amperes, comprised of 5 wires, each 22 S.W.G. diameter, .0018 square inches total sectional area
 Cargo light cables carrying 6.5 Amperes, comprised of 110 wires, each 36 S.W.G. diameter, .003 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All cables insulated with V.I.R. Lead covered, & Lead covered & Armoured.

Joints in cables, how made, insulated, and protected no joints

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances — 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 Armoured & lead covered cables clipped up to Bulkheads & passing through watertight glands & watertight bulkheads. All angle bars, girders, or Bulkheads brushed with lead where lead covered cables pass through same.

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
lased in with wood & tubing (Wrought iron)

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

What special protection has been provided for the cables near boiler casings V.I.R. in steel conduit

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

How are cables carried through beams Holes bushed with lead through beams through bulkheads, &c. Admiralty W.T. glands

How are cables carried through decks Deck pipes

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 Armoured cables

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage Yes

If so, how are the lamp fittings and cable terminals specially protected Heavy l.S. doors & guards

Where are the main switches and fuses for these lights fitted Kiddley

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 —

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.

FOR TROUP, CURTIS & Co. LTD.

COMPASSES

W. L. Grogan Manager

Electrical Engineers

Date 8th March 1922

Distance between dynamo or electric motors and standard compass 160 feet

Distance between dynamo or electric motors and steering compass 140 "

The nearest cables to the compasses are as follows:—

| A cable carrying | Amperes | to | feet from standard compass | feet from steering compass |
|------------------|---------|-----------|-----------------------------------|-----------------------------------|
| <u>.2</u> | | <u>to</u> | <u>feet from standard compass</u> | <u>feet from steering compass</u> |
| <u>.2</u> | | <u>to</u> | <u>feet from standard compass</u> | <u>feet from steering compass</u> |
| <u>—</u> | | <u>—</u> | <u>feet from standard compass</u> | <u>feet from steering compass</u> |

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 all degrees on all course in the case of the steering compass.

G. H. Stead

Builder's Signature.

Date 9/3/22

GENERAL REMARKS.

The materials & workmanship are good on completion
The installation was tried under full load with satisfactory results
It is submitted that this vessel is eligible for THE RECORD. Elec. Light.

Fee £27-10-0
applies for 7/3/22
M.R.

18/3/22

Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. AUG. 25 1922



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