

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 65684

Port of Newcastle-on-Tyne Date of First Survey 2nd Feb. 1914 Date of Last Survey 25th Feb 14 No. of Visits 10
 No. in Reg. Book on the Iron or Steel S.S. S. "Yotto" Port belonging to London
 Built at Newcastle By whom Swan Hunter & Wigham Richardson built 1914
 Owners Lobitos Oilfields Ltd Owners' Address London
 Yard No. 928 Electric Light Installation fitted by Siemens Bros. Dynamo Works Ltd When fitted 1914

DESCRIPTION OF DYNAMO, ENGINE, ETC.

1 Siemens multipolar compound wound dynamo direct coupled to a Shanks single cylinder open type engine
 Capacity of Dynamo 92 Amperes at 65 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 A to E 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
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases YES

Total number of lights provided for 111 arranged in the following groups:—
 A 1 fan & 18 lights each of 14 of 11 cp & 4 of 32 candle power requiring a total current of 11.2 Amperes
 B 1 fan & 28 lights each of 26 of 16 cp & 2 of 32 candle power requiring a total current of 15.4 Amperes
 C 45 lights each of 44 of 16 cp & 1 of 32 candle power requiring a total current of 22.9 Amperes
 D 20 lights each of 16 candle power requiring a total current of 10.0 Amperes
 E Wireless lights each of candle power requiring a total current of about 14.0 Amperes
2 Mast head light with 1 lamp each of 32 candle power requiring a total current of 1.8 Amperes
2 Side light with 1 lamp each of 32 candle power requiring a total current of 1.8 Amperes
2 Cargo lights of 6 x 16 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 in Wheel House

DESCRIPTION OF CABLES.

Main cable carrying 46.5 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .094 square inches total sectional area
 Branch cables carrying 22.9 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area
 Branch cables carrying 14 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area
 Leads to lamps carrying .5 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area
 Cargo light cables carrying 3 Amperes, comprised of 225 wires, each 40 S.W.G. diameter, .004042 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanized india rubber cables in steel tubes for mains etc.
Armoured and lead covered in engine room
Lead covered in accommodation etc.

Joints in cables, how made, insulated, and protected

Jointless system with extension boxes

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 V. S. R. cables in steel tubes in exposed positions; other cables lead covered and armoured slipped direct to bulkheads etc.

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 Tubes

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

What special protection has been provided for the cables near boiler casings Lead covered and armoured

What special protection has been provided for the cables in engine room Lead covered and armoured

How are cables carried through beams In bushed holes through bulkheads, &c. W. F. Glands

How are cables carried through decks W. F. Decktubes

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 by Steel Tubes

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 -

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 - and with an amperemeter -, 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 Yes

Are any switches, fuses, or joints of cables fitted in the pump room or companion No

How are the lamps specially protected in places liable to the accumulation of vapour or gas Water Tight fittings

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.

SIEMENS BROTHERS DYNAMO WORKS LIMITED.

MAINE DEPARTMENT.

Electrical Engineers

Date

17 April 1914

COMPASSES.

Distance between dynamo or electric motors and standard compass 250 feet

Distance between dynamo or electric motors and steering compass 250 feet.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>11.2</u>	Amperes	<u>about 15</u>	feet from standard compass	<u>15</u>	feet from steering compass
A cable carrying	<u>14.0</u>	Amperes	<u>" 15</u>	feet from standard compass	<u>15</u>	feet from steering compass
A cable carrying	<u>.5</u>	Amperes	<u>in</u>	feet from standard compass	<u>in</u>	feet from steering compass

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 each course in the case of the standard compass and nil degrees on each course in the case of the steering compass.

SWAN, HUNTER & WIGHAM RICHARDSON, LTD.

G. F. Dwyer

Builder's Signature.

Date

25 April 1914

GENERAL REMARKS.

This installation has been efficiently fitted on board & tried under working conditions and found satisfactory. In my opinion the vessel is eligible to have the notation of Electric Light made in the Register Book.

It is submitted that this vessel is eligible for

THE RECORD. Elec. Light

J. W. [Signature]

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

W. C. [Signature]

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

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