Rpt. 13.

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REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 24166

rt of Hull. Date of First Survey Jan 20th Date of Last Survey Jan 27/14 No. of Visits 3

. in Book on the ~~Iron or~~ Steel sc K "Okino". Port belonging to Grimsby

Built at Selby By whom Cochrane & Sons Ltd When built 1914.

ers H. L. Taylor. Owners' Address Fish Docks Grimsby

d No. 590 Electric Light Installation fitted by The Northern Electrical Co When fitted 1914.

CRIPTION OF DYNAMO, ENGINE, ETC.

Siebous Enclosed sc 3 direct Coupled to 3 KW. Newton Dynamo.

pacity of Dynamo 44. Amperes at 65. Volts, whether continuous or alternating current Continuous ✓

here is Dynamo fixed Engine room. Whether single or double wire system is used Double ✓

sition of Main Switch Board Engine room. having switches to ~~groups~~ all groups of lights, &c., as below

nitions of auxiliary switch boards and numbers of switches on each None.

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 ✓ and at each position where a cable is branched or reduced in size ✓ and to each lamp circuit yes.

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

e the fuses of non-oxidizable metal yes. and constructed to fuse at an excess of 25% ✓ per cent over the normal current

e 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.

e all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes.

tal number of lights provided for 34. arranged in the following groups :—

. lights each of ____ candle power requiring a total current of ____ Amperes

All subcircuits from Main Board.

lights each of ____ candle power requiring a total current of ____ Amperes

lights each of ____ candle power requiring a total current of ____ Amperes

lights each of ____ candle power requiring a total current of ____ Amperes

lights each of ____ candle power requiring a total current of ____ Amperes

3 Mast head light with 1 lamps each of 32. candle power requiring a total current of 6. Amperes

2. Side light with 1. lamps each of 32. candle power requiring a total current of 4. Amperes

1 Cargo lights of 4/16 candle power, whether incandescent or arc lights ____

arc lights, what protection is provided against fire, sparks, &c. None

here are the switches controlling the masthead and side lights placed Engine room.

CRIPTION OF CABLES.

in cable carrying 30 Amperes, comprised of 7 wires, each 16. S.W.G. diameter, .022 ✓ square inches total sectional area

nch cables carrying — Amperes, comprised of — wires, each ____ S.W.G. diameter, ____ square inches total sectional area

nch cables carrying — Amperes, comprised of — wires, each ____ S.W.G. diameter, ____ square inches total sectional area

ds to lamps carrying 3. Amperes, comprised of 1. wires, each 18. S.W.G. diameter, .0018 ✓ square inches total sectional area

go light cables carrying 4. Amperes, comprised of 110 wires, each 38. S.W.G. diameter, .0032 ✓ square inches total sectional area

CRIPTION OF INSULATION, PROTECTION, ETC.

VIR Taped & Braided enclosed in Solid Drawn Galvanized Steel tubes.

nts in cables, how made, insulated, and protected Looping in System.

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 ✓

there any joints in or branches from the cable leading from dynamo to main switch board ✓

w are the cables led through the ship, and how protected Steel tubing.

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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 Tubing.

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

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

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

How are cables carried through beams Tubing. *through bulkheads, &c.* "

How are cables carried through decks "

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

If so, how are they protected Tubing.

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 Yes. *, and with an amperemeter* Yes. *, fixed* Engine Room.

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° Farhenheit 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.

THE NORTHERN ELECTRICAL Co. Percy Watson *Electrical Engineers* *Date* 11 FEB 1914

COMPASSES.

Distance between dynamo or electric motors and standard compass About 30ft.

Distance between dynamo or electric motors and steering compass " "

The nearest cables to the compasses are as follows:—

A cable carrying 4. *Amperes* 6. *feet from standard compass* 3. *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 COCHRANE & SONS LTD. DIRECTOR.

Builder's Signature. *Date* 13.2.14.

GENERAL REMARKS.

This installation of electric light has been well fitted. The materials & workmanship are good. It has been tried under full working conditions and found satisfactory.

It is submitted that this vessel is eligible for THE RECORD. Elec. light. 17/2/14

J. G. Mackillop.

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

Committee's Minute

Im.9,12.—Transfer.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.