4 HP Motor driving Refrigeration Plant, fitted 12.46.

Replaced by a 15 KW Dynamo 12.42.
Additional reconditioned Sunderland Forge 24 KW. 100 V. generator fitted 12.46
Additional Allans 10 KW. 110 V. generator fitted 12.46.

Rpt. 13.

WED. JAN. 11 19..
Received at London Office 19

Y.S. 15.1.47

Total
24 KW
15 KW
10 KW
49 KW

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 41596

Port of Glasgow Date of First Survey 4.10.21 Date of Last Survey 7.12.21 No. of Visits 4

No. in Reg. Book 09996 ~~on the Iron or~~ Steel S S Benreoch Port belonging to Leith

Built at Scotstoun By whom Messrs Charles Connell & Co When built 1921

Owners Wm Thomson & Co Owners' Address 28 Bernard St Leith

Yard No. 395 Electric Light Installation fitted by H. T. Robertson & Co When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC. TOTAL KW: 11.5

One Compound Dynamo Multipolar type, coupled direct an enclosed forced lubricating engine 6" × 4½" stroke @ 520 revs per minute

Capacity of Dynamo 115 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed In recess off mid platform Whether single or double wire system is used double

Position of Main Switch Board " " " " having switches to groups A B C D E of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each

No Auxiliary Switchboards

If fuses are fitted on main switch board to the cables of main circuit yes and on each auxiliary fuse ~~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 80 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 149 arranged in the following groups :—

A Engine Room ~~lights each~~ of 36 lights 16 candle power requiring a total current of 21·6 Amperes

B Engineers ~~lights each~~ of 30 " 16 candle power requiring a total current of 16·8 Amperes

C Saloon & Bridge ~~lights each~~ of 38 " 16 / 2 " 8 candle power requiring a total current of 28·8 Amperes

D Wireless ~~lights each~~ of 5 " 32 candle power requiring a total current of 15·0 Amperes

E Cargo. ~~lights each~~ of 36 " 16 / 2 " 500W ½W. candle power requiring a total current of 31·6 Amperes

2 Mast head lights with 1 lamps each of 32 candle power requiring a total current of included in C Amperes

2 Side lights with 1 lamps each of 32 candle power requiring a total current of " " " Amperes

6 / 2 Cargo lights of 6 of 16 cp in each / " " 1 " 500W ½W " ~~candle power~~, whether incandescent or arc lights Incandescent

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

No Arcs Fitted

Where are the switches controlling the masthead and side lights placed In Bridge Chart House

DESCRIPTION OF CABLES.

Main cable carrying 115 Amperes, comprised of 19 wires, each 13 S.W.G. diameter, ·125 square inches total sectional area

Branch cables carrying 31 Amperes, comprised of 7 wires, each 15 S.W.G. diameter, ·0280 square inches total sectional area

Branch cables carrying 28 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, ·0221 square inches total sectional area

Leads to lamps carrying ·6 Amperes, comprised of 1 wires each 18 S.W.G. diameter, ·0018 square inches total sectional area

Cargo light cables carrying 3·6 Amperes, comprised of 119 wires, each 38 S.W.G. diameter, ·00322 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure Rubber, Vulcanised Rubber, Taped & Lead Covered, & Armoured Cables.

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 Forward thro beams under Bridge Deck & Aft through shaft tunnel on baton. Armoured cable

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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 Galv'd Iron Pipes

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

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 Compo Bushes *through bulkheads, &c.* W/T Glands

How are cables carried through decks In Galv'd Iron 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

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* fork adaptors

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel Double Wire

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 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.

H. J. Robertson & Co. *Electrical Engineers* *Date* 21/12/21

COMPASSES.

Distance between dynamo or electric motors and standard compass 10+ ft

Distance between dynamo or electric motors and steering compass 100 ft

The nearest cables to the compasses are as follows :—

A cable carrying 4·5 *Amperes* 4 *feet from standard compass* 4 *feet from steering compass*

A cable carrying ·6 *Amperes* 4 *feet from standard compass* 4 *feet from steering compass*

A cable carrying ·3 *Amperes* into *~~feet from~~ standard compass* & ·3 into *~~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* every *course in the case of the standard compass and* Nil *degrees on* every *course in the case of the steering compass.*

For CHARLES CONNELL & CO., Limited.

J. McCallum SECRETARY *Builder's Signature.* *Date* 30 Dec 1921

GENERAL REMARKS.

This installation has been fitted on board under special survey. Tested under full working conditions and found satisfactory

Fee: £11-10-0 a/c 15/12/21. Paid 19/12/21.

Elec. Light. L.J. 12/1/22

J. S. Rankin
Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 10 JAN 1922

Elec. Light

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

H.C. 7.1.22.

1m,7,19.—Transfer.