

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 74944

Port of NEWCASTLE-ON-TYNE Date of First Survey 4/10/21 Date of Last Survey 13/10/21 No. of Visits 3
 No. in Reg. Book 16271 on the ~~Iron~~ Steel S. Froques. Built at Newcastle Port belonging to Christiania
 Owners Fearnley Rogers & Co By whom Sir W.G. Armstrong Whitworth & Co Ltd When built 1921
 Owners' Address _____
 Yard No. 966 Electric Light Installation fitted by Sir W.G. Armstrong Whitworth & Co Ltd. When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

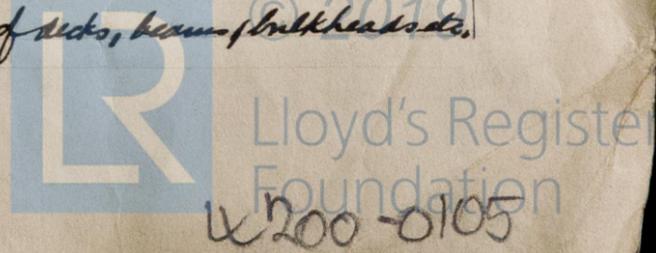
Open type compound multipolar generator coupled direct to a single cylinder vertical type steam engine - makers Clarke Chapman & Co Ltd
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Engine room, starboard side Whether single or double wire system is used Double
 Position of Main Switch Board Engine room starboard side 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 6 way section box in engine casing, 3 way section box in engine casing, 6 way dis box in wheel house, 8 way dis box in officers passage, 6 way dis box in engine casing, 6 way dis box in crew quarters aft, 6 way dis box in engine room
 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 cessel 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 100.0 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 179 arranged in the following groups :-
 A Hangar 12 lights each of 5-32cp, 7-6 candle power requiring a total current of 7.58 Amperes
 B Accommodation 79 lights each of 69-20W, 4-30W, 6-16 candle power requiring a total current of 18.6 Amperes
 C Cargo 62 lights each of 2-32cp, 60-16 candle power requiring a total current of 36.0 Amperes
 D Wireless lights each of candle power requiring a total current of 25.0 Amperes
 E Eng & Boiler Room 26 lights each of 20 watt candle power requiring a total current of 5.2 Amperes
2 Mast head lights with 1 lamp each of 32 candle power requiring a total current of 2.4 Amperes
2 Sid light with 1 lamp each of 32 candle power requiring a total current of 2.4 Amperes
10 Cargo lights of 6-16 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 <u>100</u> Amperes, comprised of <u>19</u> wires, each <u>.083</u> S.W.G. diameter, <u>.1</u> square inches total sectional area
Branch " " <u>7.58</u> " " " " <u>7</u> " " <u>.064</u> " " " " <u>.0225</u> " " " " " "
Branch cables carrying <u>18.6</u> Amperes, comprised of <u>7</u> wires, each <u>.064</u> S.W.G. diameter, <u>.0225</u> square inches total sectional area
" " " <u>36.0</u> " " " " <u>7</u> " " <u>.064</u> " " " " <u>.0225</u> " " " " " "
Branch cables carrying <u>25.0</u> Amperes, comprised of <u>7</u> wires, each <u>.064</u> S.W.G. diameter, <u>.0225</u> square inches total sectional area
" " " <u>5.2</u> " " " " <u>7</u> " " <u>.064</u> " " " " <u>.01</u> " " " " " "
Leads to lamps carrying <u>30</u> Amperes, comprised of <u>3</u> wires, each <u>.029</u> S.W.G. diameter, <u>.002</u> square inches total sectional area
" " " <u>17.2</u> " " " " <u>7</u> " " <u>.044</u> " " " " <u>.01</u> " " " " " "
Cargo light cables carrying <u>17.2</u> Amperes, comprised of <u>3</u> wires, each <u>.18</u> S.W.G. diameter, <u>.0053</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables in crew spaces + accommodation are lead covered. Main cables are armoured - braided cables in cargo space + tween decks
 Joints in cables, how made, insulated, and protected none made.
 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 Lead covered cables clipped with brass clips + armoured + braided cables clipped with galvanised iron clips to underside of decks, beam, 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 Cables run in conduit
conduit.

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

What special protection has been provided for the cables near boiler casings armoured & braided cables

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

How are cables carried through beams through lead lashed holes through bulkheads, &c. Watertight glands

How are cables carried through decks Watertight deck tubes

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 & braided cables.

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 flexible from Watertight sockets How fixed clipped to bulkhead.

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 2500 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. (CMA grade of cable used)

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.

A. Whip & Co. Ltd.

Electrical Engineers

Date _____

COMPASSES.

Distance between dynamo or electric motors and standard compass 115 feet

Distance between dynamo or electric motors and steering compass 110 feet

The nearest cables to the compasses are as follows:—

A cable carrying	<u>.6</u> Amperes	<u>1</u> foot from standard compass	<u>6</u> feet from steering compass
A cable carrying	<u>1.2</u> Amperes	<u>5</u> feet from standard compass	<u>6</u> feet from steering compass
A cable carrying	<u>1.58</u> Amperes	<u>3</u> feet from standard compass	<u>6</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 all course in the case of the standard compass and nil degrees on all course in the case of the steering compass.

SIR W. G. ARMSTRONG, WHITWORTH & CO. LTD.

F. W. Collier.

Builder's Signature.

Date 27th October 1921

GENERAL REMARKS.

The above installation is in accordance with the Society's Rules. The vessel is eligible in my opinion for notation electric light, wireless

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

Elec. Light. L.L.

Fee £10.0.0.

Applied for 14/11/21. pd 24/11/21.

W.T. Badger.

17/11/21.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 22 NOV. 1921

Elec Lt

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

