

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 72703

Port of Newcastle-on-Tyne Date of First Survey 4/11/19 Date of Last Survey 12/1/20 No. of Visits 2
 No. in Reg. Book 31973 on the Iron Steel S.S. Daybreak Built at Blyth Port belonging to Cardiff
 Owners Blaymore Shipping Co By whom Blyth Shipbuilding & Drydock Co When built 1919
 Yard No. 210 Electric Light Installation fitted by Clark Chapman & Co When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One single cylinder double acting open type vertical engine direct coupled to a continuous current compound wound dynamo.
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed In Engine Room Whether single or double wire system is used Double
 Position of Main Switch Board near Dynamo 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 Each light & group of lights provided with switches as required

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 slate & porcelain
 Total number of lights provided for 118 arranged in the following groups:—

A Cabin Crew	55	lights each of	16	candle power requiring a total current of	30.8	Amperes
B Engine Room	24	lights each of	16	candle power requiring a total current of	13.4	Amperes
C Cargo Cluster	30	lights each of	16	candle power requiring a total current of	16.8	Amperes
D Navigation	9	lights each of	10	candle power requiring a total current of	5	Amperes
E Wireless	•	lights each of	•	candle power requiring a total current of	2.5	Amperes
2 Mast head light with	1	lamps each of	32	candle power requiring a total current of	2.2	Amperes
2 Side light with	1	lamps each of	32	candle power requiring a total current of	2.2	Amperes
5 Cargo lights of	6 • 16	candle power, whether incandescent or arc lights	<u>incandescent</u>			

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

Where are the switches controlling the masthead and side lights placed In chart room.

DESCRIPTION OF CABLES.

Main cable carrying	100	Amperes, comprised of	19	wires, each	14	S.W.G. diameter, .094 square inches total sectional area
Branch cables carrying	30.8	Amperes, comprised of	7	wires, each	16	S.W.G. diameter, .022 square inches total sectional area
Branch cables carrying	13.4	Amperes, comprised of	7	wires, each	20	S.W.G. diameter, .0070 square inches total sectional area
Leads to lamps carrying	1.6	Amperes, comprised of	1	wires, each	18	S.W.G. diameter, .0018 square inches total sectional area
Cargo light cables carrying	3.3	Amperes, comprised of	168	wires, each	38	S.W.G. diameter, .0050 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

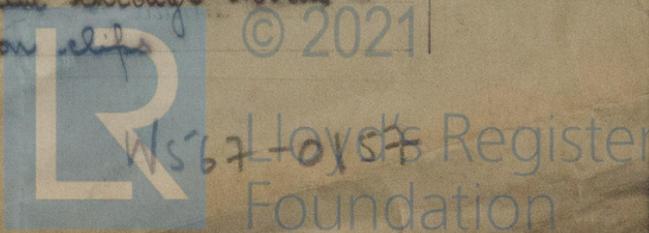
Vulcanized india rubber taped & braided & lead covered where exposed steel armored - small

Joints in cables, how made, insulated, and protected No joints except mechanical ones made with special purpose bolts of brass which seal and die.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances Yes Are all joints in accessible positions, here being made in bulkheads, narrow spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage Yes

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 & armored cables run through bulkheads & clipped to underside of deck with strong galvanized iron clips



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible no

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Lead lined & steel

Armoured cables

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

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 in lead bushes through bulkheads, &c. in WT glands

How are cables carried through decks in galvanized iron deck plates

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 Lead lined & steel armoured 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 portable How fixed to WT connection boxes

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

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 amperometer yes, fixed on Luitelwood

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 Clarke, Chapman & Co. Ltd.

Electrical Engineers

Date Febry 20th 1920

COMPASSES.

A. Walker Chairman

Distance between dynamo or electric motors and standard compass 90 ft

Distance between dynamo or electric motors and steering compass 90 "

The nearest cables to the compasses are as follows:—

A cable carrying	<u>2.2</u> Amperes	<u>12</u> feet from standard compass	<u>6</u> feet from steering compass
A cable carrying	<u>2.2</u> Amperes	<u>6</u> feet from standard compass	<u>12</u> 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 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.

FOR AND ON BEHALF OF

THE BLYTH SHIPBUILDING & DRY DOCKS CO. LTD

Builder's Signature.

Date Febry 26th 1920

GENERAL REMARKS.

The above installation is in accordance with the Society's Rules. It has been tested and found satisfactory.

Lloyd's Register

Committee's Minute

Surveyor to Lloyd's Register of Shipping.



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.