

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 11178.

Port of MIDDLESBRO' Date of First Survey 5.1.21. Date of Last Survey 20.10.21 No. of Visits 26.
 No. in Reg. Book on the Steel S.S. JUNISIANA Port belonging to Liverpool.
39592. Built at Middlesbrough By whom Furness Shipbg Co Ltd When built 1921
 Owners Furness Withy & Co Ltd Owners' Address Liverpool.
 Yard No. 24 Electric Light Installation fitted by Furness Shipbuilding Co Ltd When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

DYNAMOS: Open Type Compound, Sunderland Forge No. 32204 - 15 Kw/ Set
30994 - 7 1/2 " "
ENGINES: Enclosed Type with forced Lubrication 15 Kw/ 30724 - 7 1/2 Kw/ 30714
 Capacity of Dynamo A-150 amps - B-75 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Tank Room Tween Deck Port Side Whether single or double wire system is used Double
 Position of Main Switch Board After Bulkhead of Tank Room having switches to groups A. B. C. D. & E. of lights, &c., as below
 Positions of auxiliary ^{FUSE}boards and numbers of switches on each "A" Chartroom (8 switches) "B" Engineers Mess "C" Switchboard Room "D" Switchboard Room "E" Lower Crew Space Aft.

Are fuses fitted on main switch board to the cables of main circuit Yes and on each auxiliary ^{FUSE}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
 Are vessels 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 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

Total number of lights provided for 217 arranged in the following groups:—

Navigation	{ 8 lights each of 8 C.P.	candle power requiring a total current of	8.4	Amperes
Midship	{ 80 lights each of 30 Watt M.F.	candle power requiring a total current of	33.8	Amperes
Engine Rm	{ 12 lights each of 16 C.P.	candle power requiring a total current of	43.4	Amperes
Clusters	{ 9 lights each of 300 Watt	candle power requiring a total current of	27.0	included in "A" Amperes
Aft.	{ 2 lights each of 32 C.P.	candle power requiring a total current of	21.0	" Amperes
	{ 3 " " " 16 C.P.			
1	Must head light with 1 lamps each of 32	candle power requiring a total current of	1.2	Amperes
2	Side light with 1 lamps each of 32	candle power requiring a total current of	2.4	Amperes
3	Cargo lights of 600	candle power, whether incandescent or arc lights	<u>INCANDESCENT.</u>	

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

Where are the switches controlling the masthead and side lights placed Chart Room

DESCRIPTION OF CABLES.

Main cable carrying 150 Amperes, comprised of 37 wires, each 14 S.W.G. diameter, .1824 square inches total sectional area
 Branch cables carrying 43.4 Amperes, comprised of 19 wires, each .064 S.W.G. diameter, .06 square inches total sectional area
 Branch cables carrying 21.0 Amperes, comprised of 7 wires, each .064 S.W.G. diameter, .0225 square inches total sectional area
 Leads to lamps carrying 3.0 Amperes, comprised of 3 wires, each .029 S.W.G. diameter, .002 square inches total sectional area
 Cargo light cables carrying 3.0 Amperes, comprised of 40 wires, each .0076 S.W.G. diameter, .0048 square inches total sectional area

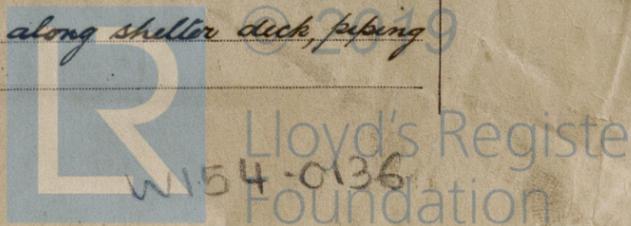
DESCRIPTION OF INSULATION, PROTECTION, ETC.

Lead covered cables used in all cabins, saloon etc, including Navigation Circuits
 Lead covered, Armoured, & braided cables used in all exposed positions, including Engine Room & Boiler Room, Tween Decks, Crew Space Aft, & Forecastle
 Joints in cables, how made, insulated, and protected
Porcelain culing roses, with cast iron covers, where exposed to damage

Mechanical Connections Used
 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, none being made in bunkers, cargo 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 Through galvanised piping along sheller deck, piping being protected by hatch coaming bars



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 Lead covered, armoured & braided cables used in alleyways, iron pipes to exposed deck lights

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

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

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

How are cables carried through beams Lead bushes for Lead Cov^d Cables through bulkheads, &c. W/T Stands below Shelter Dk

How are cables carried through decks Iron deck 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 Tween Dks Yes Tween Dks

If so, how are they protected Lead covered, Armoured, & Braided cables used

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage Yes Tween Decks

If so, how are the lamp fittings and cable terminals specially protected Fittings have iron guards & hinged iron covers

Where are the main switches and fuses for these lights fitted Switchboard Room & Saloon Pantry

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 BOTH How fixed IRON PIPES ON MASTS

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 ampèremeter 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.

FURNESS SHIPBUILDING CO. LIMITED

P. S. Glover

Electrical Engineers

Date

27th Oct 1921

COMPASSES.

Distance between dynamo or electric motors and standard compass APPROX 100 ft

Distance between dynamo or electric motors and steering compass " 100 ft

The nearest cables to the compasses are as follows:—

A cable carrying	<u>8.4</u>	Ampères	<u>10</u>	feet from standard compass	<u>10</u>	feet from steering compass
A cable carrying	<u>.3</u>	Ampères	<u>INSIDE</u>	feet from standard compass	<u>6</u>	feet from steering compass
A cable carrying	<u>/</u>	Ampères	<u>/</u>	feet from standard compass	<u>/</u>	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power Compasses not adjusted (wired laid up)

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.

FURNESS SHIPBUILDING COMPANY, LTD.

J. Haverton Hill Director

Builder's Signature.

Date

27th Oct. 1921.

GENERAL REMARKS.

This installation has been fitted in accordance with the Rules and is of good materials and workmanship; It requires to be examined under full working conditions and it is stated this will be done before the vessel proceeds to sea

It is submitted that

this vessel is eligible for THE RECORD.

Elec. light.

W.D. Morrison 21/10/21

Fee £ 18-15-0

Applied for: 15/10/21.

W.D. Morrison

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.