

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 11364

Port of *Middlesbrough* Date of First Survey *14.6.22* Date of Last Survey *2.8.22* No. of Visits *7*
 No. in Reg. Book *77929* on the *Iron or Steel* *S/S "Allegany"* Port belonging to *Liverpool*
 Built at *Haverton Hill-on-Tees* By whom *Furness S/B Co Ltd* When built *1922*
 Owners *Furness Wm & Co Ltd* Owners' Address *✓*
 Yard No. *28* Electric Light Installation fitted by *Furness Shipbuilding Co Ltd* When fitted *1922*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo: *Open Type Compound Sunderland Forge No 32207 + 30998 - 15 Kw. + 7 1/2 Kw. Respectively*
 Engine: *End Type Forced Lubrication do do No 30727 + 30718 do do*
 Capacity of Dynamo *150 + 75* Amperes at *100* Volts, whether continuous or *alternating current* *Continuous*
 Where is Dynamo fixed *Tank Room Tween Decks Port Side* Whether single or double wire system is used *Double*
 Position of Main Switch Board *Aft B'head 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. Chart Room B. Engine Room C. Switchboard Room D. Engineers Mess E. Lower Crew Space Aft*

If fuses are 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*

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 *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 *POINTS* provided for *238* arranged in the following groups:—

A Navigation	<i>2 POINTS for Morse Keys</i> <i>13 lights each of 8CP/16CP/32CP</i>	candle power requiring a total current of	<i>9.7</i>	Amperes
B Midship	<i>6 POINTS for 5 Fans</i> <i>96 lights each of 16CP/30 Watts</i>	candle power requiring a total current of	<i>41.3</i>	Amperes
C Engine Room	<i>2 POINTS for 1-600 C.P.</i> <i>73 lights each of 16CP/400 C.P.</i>	candle power requiring a total current of	<i>58.4</i>	Amperes
D Cargo Lights	<i>POINTS for 8-600 C.P.</i> <i>12 lights each of 8CP/16CP/32CP/30 watts</i>	candle power requiring a total current of	<i>24.0</i>	Amperes
E Aft	<i>34 lights each of 8CP/16CP/32CP/30 watts</i>	candle power requiring a total current of	<i>12.6</i>	Amperes
1 Mast head light with	<i>1</i> lamps each of <i>32</i>	candle power requiring a total current of	<i>1.3</i>	Amperes
2 Side light with	<i>1</i> lamps each of <i>32</i>	candle power requiring a total current of	<i>2.6</i>	Amperes
9 Cargo lights of	<i>600</i>	candle power, whether incandescent or arc lights	<i>incandescent</i>	

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

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

DESCRIPTION OF CABLES.

Main cable carrying	<i>150</i> <i>75</i> Amperes, comprised of	<i>37</i> <i>19</i> wires, each	<i>14</i> S.W.G. diameter,	<i>188</i> <i>0.94</i> square inches total sectional area
Branch cables carrying	<i>53.4</i> Amperes, comprised of	<i>19</i> wires, each	<i>0.64</i> S.W.G. diameter,	<i>0.6</i> square inches total sectional area
Branch cables carrying	<i>12.6</i> Amperes, comprised of	<i>7</i> wires, each	<i>0.64</i> S.W.G. diameter,	<i>0.225</i> square inches total sectional area
Leads to lamps carrying	<i>3</i> Amperes, comprised of	<i>3</i> wires, each	<i>0.29</i> S.W.G. diameter,	<i>0.002</i> square inches total sectional area
Cargo light cables carrying	<i>3</i> Amperes, comprised of	<i>110</i> wires, each	<i>0.076</i> S.W.G. diameter,	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Lead covered single cables used in all cabins, Saloon etc including navigation circuits. Lead covered, Armoured & braided Twin cables used in all exposed positions, including Engine + Boiler Room, Tween Decks, Crew Space Aft + F. etc.

Joints in cables, how made, insulated, and protected

Porcelain binding roses with cast iron covers where exposed to damage

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances *Mechanical connections only used* 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 galvanized piping along Shelter Deck*

Piping being protected by Hatch Beaming Bars

*1-5 HP. Ash Hoist Motor fitted in Ash Hoist Space
 Sbd Side Shelter Dk. Fed from D.P. Switch + Fuses on Main Switch*

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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 *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 & braided 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 covered cables through bulkheads, &c. 10/15 glands below Shelter Deck*

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 *yes. Tween Decks*

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 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.

F. S. GLOVER & CO. LIMITED

P. S. Glover

Electrical Engineer

Date 18th September 1922

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	Amperes	Distance from standard compass	Distance from steering compass
9	10	10 feet	10 feet
3	inside	6 feet	6 feet
—	—	—	—

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 *all* degrees on *all* course in the case of the steering compass.

F. S. GLOVER & CO. LIMITED

Builder's Signature

Date 18th Sept 1922

GENERAL REMARKS.

This installation has been fitted in accordance with the Rules: is of good materials and workmanship and on completion was examined under full working conditions and found satisfactory. It is submitted that this vessel is eligible for THE RECORD Elec. light.

Fee £18-15/- applied for 23/8/22 Received

W. Morrison & Co. Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Electric Light



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.