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REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 7912

Port of **DUNDEE** Date of First Survey *30th Sept.* Date of Last Survey *11th Dec., 1915* No. of Visits *5*
 No. in Reg. Book *(68)* on the ~~Iron~~ Steel *S.S. K. "ALIDA" (Ex "JACINTA")* Port belonging to *Fleetwood*
 Built at *Dunfermline* By whom *Dunfermline S.S. Co. Ltd.* When built *1915*
 Owners *J. Marr & Sons, Ltd.* Owners' Address *Fleetwood*
 Yard No. *275* Electric Light Installation fitted by *Hamber Electrical Engineering Co.* When fitted *1915*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Engine *5" x 3" enclosed, 4-cylinder, D.P., coupled to compound wound dynamo by the Phoenix Dynamo Mfg. Co., running at 600 revolutions per minute.*

Capacity of Dynamo *46* Amperes at *6.5* Volts, whether continuous or alternating current *direct* ✓

Where is Dynamo fixed *Starboard side Main Engine Room* Whether single or double wire system is used *double* ✓

Position of Main Switch Board *Main Engine Room* having switches to groups *three* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *1-5 way D.P. distribution board, Cabin entrance aft; 1-3 way ditto, Engine Room; 1-10 way ditto, Wheel House; 1-3 way ditto, Forecastle.*

If fuses are fitted on main switch board to the cables of main circuit *no* 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-oxidizable metal *yes* and constructed to fuse at an excess of *25* 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 *50* arranged in the following groups:—

A	<i>10</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>9.1</i>	Amperes
B	<i>22</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>20.0</i>	Amperes
C	<i>7</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>6.5</i>	Amperes
D	<i>11</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>10.0</i>	Amperes
E		lights each of		candle power requiring a total current of		Amperes
<i>3</i>	Mast head light with	<i>1</i> lamps each of	<i>32</i>	candle power requiring a total current of	<i>1.8</i>	Amperes
<i>2</i>	Side light with	<i>1</i> lamps each of	<i>32</i>	candle power requiring a total current of	<i>1.8</i>	Amperes
<i>1</i>	Cargo lights of	<i>five</i>	<i>16</i>	candle power, whether incandescent or arc lights	<i>incandescent</i>	

If arc lights, what protection is provided against fire, sparks, &c. *none*.

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

DESCRIPTION OF CABLES.

Main cable carrying *46* Amperes, comprised of *7* wires, each *16* S.W.G. diameter, *.022* square inches total sectional area ✓
 Branch cables carrying *20* Amperes, comprised of *3* wires, each *18* S.W.G. diameter, *.0053* square inches total sectional area ✓
 Branch cables carrying *11* Amperes, comprised of *3* wires, each *20* S.W.G. diameter, *.003* square inches total sectional area ✓
 Leads to lamps carrying *9* Amperes, comprised of *1* wires, each *18* S.W.G. diameter, *.0015* square inches total sectional area ✓
 Cargo light cables carrying *5.5* Amperes, comprised of *130* wires, each *40* S.W.G. diameter, *.0025* square inches total sectional area ✓

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Lead covered and armoured cables in all parts except Cabins and Wheel House.

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 *Lead covered and armoured cables, clipped up to bulkheads, ducts &c. with galvanized iron clips. Passes H.T. glands through bulkheads.*



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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 and Armoured Cables

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

What special protection has been provided for the cables near boiler casings Lead and Armoured

What special protection has been provided for the cables in engine room Lead and Armoured

How are cables carried through beams Lead holes & braked with lead for through bulkheads, &c. Also stuffing glands lead covered wires.

How are cables carried through decks —

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 covered and 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 outside

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 —

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 Main Bulkhead

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.

THE NUMBER ELECTRICAL ENGINEERING CO.

Electrical Engineers

Date 11 DEC 1915

COMPASSES.

Distance between dynamo or electric motors and standard compass

43 ft.

Distance between dynamo or electric motors and steering compass

37 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>9</u>	Ampères	<u>16</u>	feet from standard compass	<u>12</u>	feet from steering compass
A cable carrying	<u>4</u>	Ampères	<u>to</u>	feet from standard compass	<u>and</u>	feet from steering compass
A cable carrying		Ampères		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.

Builder's Signature.

Date 13 DEC 1915

GENERAL REMARKS.

The electric lighting installation of this vessel has been fitted on board under special survey: examined under working conditions and found satisfactory, and eligible, in my opinion, to have record of ELEC. LIGHT.

This vessel is eligible for THE RECORD, Elec. light. JWD. 16/12/15

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

Committee's Minute FRIDEC 17 1915

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.