

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 65301

Port of Newcastle Date of First Survey 1st Dec 1913 Date of Last Survey 12th Dec 1913 No. of Visits 8
 No. in Reg. Book on the Iron or Steel S. S. "San Valerio" Port belonging to London
 Built at Garrow-on-Tyne By whom Palmer's Shipbuilding Co. Ltd. When built 1913
 Owners Eagle Oil Transport Corp. Owners' Address London
 Yard No. 830 Electric Light Installation fitted by Siemens Bros. Dynamo Works Ltd. When fitted 1913

DESCRIPTION OF DYNAMO, ENGINE, ETC.

1 Siemens multipolar dynamo coupled direct to Shanks single cylinder engine

Capacity of Dynamo 138.5 Amperes at 65 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed In main engine room Whether single or double wire system is used Double
 Position of Main Switch Board In main engine room having switches to groups A G F of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each None fitted

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-oxidizable metal Yes and constructed to fuse at an excess of 100 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 146 arranged in the following groups:—

A	23	lights each of	19 @ 16 C.P. 4 @ 32	candle power requiring a total current of	16.5	Amperes
B	23	lights each of	16	candle power requiring a total current of	11.5	Amperes
C	39	lights each of	16	candle power requiring a total current of	28.5	Amperes
D	27	lights each of	16	candle power requiring a total current of	17.5	Amperes
E	34	lights each of	16	candle power requiring a total current of	17.0	Amperes
F	Wireless				30.0	
	2	Mast head light with	1 lamp each of 32	candle power requiring a total current of	4	Amperes
	2	Side light with	1 lamp each of 32	candle power requiring a total current of	4	Amperes
	3	Cargo lights, each	6x16	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 wheelhouse

DESCRIPTION OF CABLES.

Main cable carrying	138.5	Amperes, comprised of	37	wires, each	14	S.W.G. diameter,	.182	square inches total sectional area
Branch cables carrying	28.5	Amperes, comprised of	7	wires, each	14	S.W.G. diameter,	.035	square inches total sectional area
Branch cables carrying	16.5	Amperes, comprised of	7	wires, each	7	S.W.G. diameter,	.017	square inches total sectional area
Leads to lamps carrying	3	Amperes, comprised of	1	wires, each	18	S.W.G. diameter,	.0018	square inches total sectional area
Cargo light cables carrying	3	Amperes, comprised of	136	wires, each	40	S.W.G. diameter,		square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Conductors of high conductivity tinned copper wire, insulated with pure and vulcanised india-rubber, taped and lead covered. Where necessary, as before and armoured with galvanised iron wires.

Joints in cables, how made, insulated, and protected

Jointless system with extension boxes

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 Clipped direct to bulkheads etc. with brass or iron clips. Protection as above

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

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

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

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

How are cables carried through beams In fibre bashed slots through bulkheads, &c. In watertight glands

How are cables carried through decks In watertight deck tubes

Are any cables run through coal bunkers Yes or cargo spaces Yes or spaces which may be used for carrying cargo, stores, or baggage.

If so, how are they protected Lead covered and armoured cables in heavy wood casing

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

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 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 Yes

Are any switches, fuses, or joints of cables fitted in the pump room or companion No

How are the lamps specially protected in places liable to the accumulation of vapour or gas Enclosed fittings with wiring in tubes

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 1200 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 SIEMENS BROTHERS DYNAMO WORKS LIMITED.

MARINE DEPARTMENT

Electrical Engineers

Date 20th Jan 1914

COMPASSES.

Distance between dynamo or electric motors and standard compass

200 feet
200 feet

Distance between dynamo or electric motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>28.5</u>	<u>28</u>	<u>20</u>	<u>20</u>
<u>6</u>	<u>in</u>	<u>in</u>	<u>in</u>
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 no degrees on all courses in the case of the standard compass and all degrees on all course in the case of the steering compass.

Builder's Signature.

Date 23rd January 1914

GENERAL REMARKS.

The above installation has been fitted in a satisfactory manner and in accordance with the Rules.

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

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

