

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6452

Port of *Belfast* Date of First Survey *Feb 11th* Date of Last Survey *Mar 23rd* No. of Visits *9*
 No. in on the *Steel* *S.S. "Manawynne"* Port belonging to *Paramaribo (Guernsey)*
 Reg. Book Built at *Belfast* By whom *Warkman Clark & Co.* When built *1908*
 Owner *Stewart Macpherson* Owners' Address *Amsterdam.*
 Yard No. *266* Electric Light Installation fitted by *Siemens & Co.* When fitted *1908*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

3. (Spec) Warkman Clark & Co. 9" x 8" open engine coupled direct to Siemens 16. G. 4 pole compound dynamo.

Capacity of Dynamo *250.* Amperes at *110.* 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 *"* having switches to groups *A to E.* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *"*

If cut outs 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits

Are the cut outs of non-oxidizable metal *Yes.* and constructed to fuse at an excess of *100* per cent over the normal current

Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases *Yes.*

Total number of lights provided for *241.* arranged in the following groups:—

A	<i>81.</i>	lights each of	<i>16.</i>	candle power requiring a total current of	<i>40.</i>	Amperes
B	<i>54.</i>	lights each of	<i>"</i>	candle power requiring a total current of	<i>27.</i>	Amperes
C	<i>69.</i>	lights each of	<i>"</i>	candle power requiring a total current of	<i>35.</i>	Amperes
D	<i>37.</i>	lights each of	<i>"</i>	candle power requiring a total current of	<i>18.</i>	Amperes
E	<i>4. Under circuits</i>	lights each of	<i>"</i>	candle power requiring a total current of	<i>125.</i>	Amperes
	<i>2.</i>	Mast head light with	<i>1.</i>	lamps each of	<i>32.</i>	candle power requiring a total current of <i>2.</i> Amperes
	<i>2.</i>	Side light with	<i>1.</i>	lamps each of	<i>"</i>	candle power requiring a total current of <i>2.</i> Amperes
	<i>4.</i>	Cargo lights of	<i>96 & 64.</i>	candle power, whether incandescent or arc lights	<i>incandescent</i>	

If are 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 *250.* Amperes, comprised of *795.* wires, each *25.* L.S.G. diameter, *.25* square inches total sectional area

Branch cables carrying *125.* Amperes, comprised of *19.* wires, each *13.* L.S.G. diameter, *.126* square inches total sectional area

Branch cables carrying *27 & 30.* Amperes, comprised of *7.* wires, each *14.* L.S.G. diameter, *.35* square inches total sectional area

Leads to lamps carrying *0.5.* Amperes, comprised of *1.* wires, each *18.* L.S.G. diameter, *.0018* square inches total sectional area

Cargo light cables carrying *3.* Amperes, comprised of *7.* wires, each *2 1/2.* L.S.G. diameter, *.005* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Insulated with pure & vulcanized india rubber, taped, braided & coated with preservative compound, then laid in pine or deal casing.

Joints in cables, how made, insulated, and protected

generally jointless

Are all the joints of cables thoroughly soldered, resin only having been used as a flux *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 & No.*

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 *as above described.*

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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 *iron pipe & leak casing.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *leak casing.*

What special protection has been provided for the cables near boiler casings *lead covered & armoured.*

What special protection has been provided for the cables in engine room *"*

How are cables carried through beams *in a fibre plug.* through bulkheads, &c. *water-tight gland*

How are cables carried through decks *special deck tube.*

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

If so, how are they protected *wrought iron pipe of ample size.*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *Yes in fruit rooms.*

If so, how are the lamp fittings and cable terminals specially protected *with brass guards.*

Where are the main switches and cut outs for these lights fitted *in cooler room.*

If in the spaces, how are they specially protected *—*

Are any switches or cut outs fitted in bunkers *—*

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 *—*

The installation is *—* supplied with *3* voltmeter and *3* amperemeter, fixed *on Main Switch Board.*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas *—*

Are any switches, cut outs, 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 *98.* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *600.* megohms per statute mile after 24 hours' immersion in seawater.

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.

SIEMENS BROTHERS DYNAMO WORKS LIMITED.

Richard

Electrical Engineers

Date *30/3/08*

COMPASSES.

Distance between dynamo or electric motors and standard compass *85 ft*

Distance between dynamo or electric motors and steering compass *97 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying *75* Amperes *6* feet from standard compass *6* feet from steering compass

A cable carrying *—* Amperes *—* feet from standard compass *—* 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* courses in the case of the

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

Richard

Builder's Signature.

Date *2nd April 1908*

GENERAL REMARKS.

This installation is of good description, and has been fitted in accordance with the Rules.

R. J. Brennan

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

Committee's Minute *—*

It is submitted that the Record Elec. Light be noted in the Reg. Book.

Lloyd's Register Foundation

6. 4. 08

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.