

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6452

Port of Belfast Date of First Survey Feb 11<sup>th</sup> Date of Last Survey Mar 23<sup>rd</sup> No. of Visits 9  
 No. in Reg. Book on the Steel S.S. "Manawgnee" Port belonging to Paramaribo (Germans)  
 Built at Belfast By whom Warkman Clark & Co. When built 1908  
 Owner Stourmont Navigation Co. Ltd. Owners' Address Amsterdam.  
 Yard No. 266 Electric Light Installation fitted by Siemens & Co. When fitted 1908

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

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

If arc 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, .726 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.

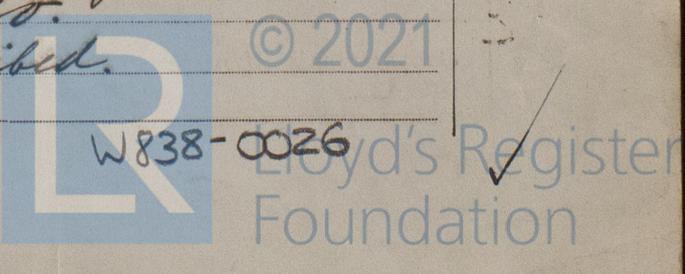
Insulated with pure & vulcanized india rubber, taped, braided & coated with preservative compound, then laid in pine or teak casing.

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.



**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 & sheath casing.

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

R. H. ... 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 <u>75</u> Amperes	<u>6</u> feet from standard compass	<u>6</u> feet from steering compass
A cable carrying <u>—</u> Amperes	<u>—</u> feet from standard compass	<u>—</u> feet from steering compass
A cable carrying <u>—</u> Amperes	<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 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.

R. H. ... Builder's Signature. Date 2<sup>nd</sup> April 1908

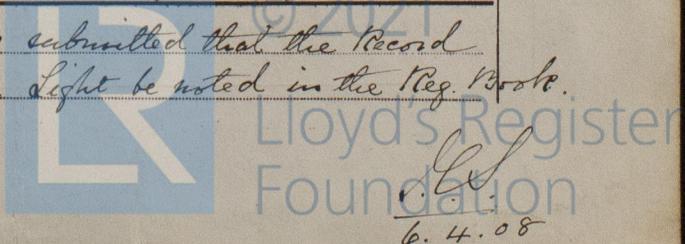
**GENERAL REMARKS.**

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

R. J. ...  
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.



6.4.08

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 15.—5th Ed.