

REPORT ON ELECTRIC LIGHTING INSTALLATION. No.

Port of Antwerp Date of First Survey 17-11-13 Date of Last Survey 4-2-14 No. of Visits Five
 No. in 40 on the Iron or Steel Ship "S.S. Michael Stepanovich" belonging to Odessa
 Book 40 Built at Hoboken By whom Mr. An. John Cookerill When built 1914
 Owners Russian Steam Navigation & Trading Co. Owners' Address Odessa
 Ord No. 535 Electric Light Installation fitted by Mr. An. John Cookerill, Hoboken When fitted 1914

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two generating plants - vertical engines - single cylinder, double acting, enclosed type - 415 rev. p. min.
 16 Kw. - multipolar - compound wound

Capacity of Dynamo each, 140 Amperes at 115 Volts, whether continuous or alternating current continuous

There is Dynamo fixed in engine room, in separate room on main deck level Whether single or double wire system is used double

Position of Main Switch Board near dynamo having switches to groups A, B, C, D, E, F, G, H & I of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 9 switchboards - A in crew accommodation, 4 switches - B 3rd class acc., 6 switches - C 1st class pantry, 8 switches - D & E 1st class acc. 8 switches each - F engines & boiler & st. & H 2nd class acc. 6 switches each - I wheelhouse, 6 switches.

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 no reduced size and to each lamp circuit yes

Where 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 yes

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 plug fuses

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes (mable)

Total number of lights provided for 295 arranged in the following groups: -

| | | | | | | | |
|----------|-----------|------------------------------------|-----------|--|---------------------|--------------|---------|
| <u>F</u> | <u>20</u> | lights each of | <u>16</u> | candle power requiring a total current of | <u>9</u> | <u>16.65</u> | Amperes |
| <u>G</u> | <u>35</u> | lights each of | <u>16</u> | candle power requiring a total current of | <u>15.75</u> | <u>15.3</u> | Amperes |
| <u>H</u> | <u>41</u> | lights each of | <u>16</u> | candle power requiring a total current of | <u>18.45</u> | <u>12.15</u> | Amperes |
| <u>I</u> | <u>39</u> | lights each of | <u>16</u> | candle power requiring a total current of | <u>17.55</u> | <u>10.-</u> | Amperes |
| <u>J</u> | <u>43</u> | lights each of | <u>16</u> | candle power requiring a total current of | <u>19.35</u> | | Amperes |
| <u>1</u> | <u>2</u> | Mast head light with lamps each of | <u>32</u> | candle power requiring a total current of | <u>1.8</u> | | Amperes |
| <u>2</u> | <u>2</u> | Side light with lamps each of | <u>32</u> | candle power requiring a total current of | <u>2.8</u> | | Amperes |
| <u>3</u> | <u>1</u> | anchor | <u>32</u> | | | | |
| <u>4</u> | <u>6</u> | Cargo lights of lamps of | <u>16</u> | candle power, whether incandescent or arc lights | <u>incandescent</u> | | |

Are lights, what protection is provided against fire, sparks, &c. no arc lights

Where are the switches controlling the masthead and side lights placed in wheelhouse

DESCRIPTION OF CABLES.

Main cable carrying 140 Amperes, comprised of 27 wires, each $\frac{19}{10}$ = 14-15 L.S.G. diameter, $105 = 16.68$ square inches total sectional area

Branch cables carrying (W. Tel.) Amperes, comprised of 19 wires, each $\frac{13}{10}$ = 17-18 L.S.G. diameter, $25 = 0.90$ square inches total sectional area

Branch cables carrying 20 Amperes, comprised of 7 wires, each $\frac{15}{10}$ = 16-17 L.S.G. diameter, $165 = 0.191$ square inches total sectional area

Cables to lamps carrying 5 Amperes, comprised of 3 wires, each $\frac{9}{10}$ = 14-15 L.S.G. diameter, $20 = 0.216$ square inches total sectional area

Cargo light cables carrying 2.7 Amperes, comprised of 110 wires, each 38 L.S.G. diameter, $1.0 = 0.0250$ square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

600 megohms per statute mile - insulated with pure rubber, vulcanised rubber, braided & compounded over all: where protection needed, - lead covered and galvanized wire covering braided over all.

Joints in cables, how made, insulated, and protected copper wires thoroughly soldered, insulated with tape, and made watertight

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

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 laid in wood batten, with covers secured on, in accommodation lead covered and protected by galvanized wire armoring, where exposed, and in machinery space.



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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
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat do.
 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 armoured, and if not, had wood bunks through bulkheads, &c. water-tight bunks
 How are cables carried through decks iron pipes, of sufficient height and made water-tight
 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
 If so, how are they protected thoroughly armoured, and fitted between the deck beams
 Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage not in coal bunkers; cargo & baggage spaces, yes.
 If so, how are the lamp fittings and cable terminals specially protected water-tight cast iron covers
 Where are the main switches and cut outs for these lights fitted in accommodation
 If in the spaces, how are they specially protected not in the spaces
 Are any switches or cut outs 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
 The installation is supplied with a voltmeter and two amperemeters, fixed on main switchboard

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.

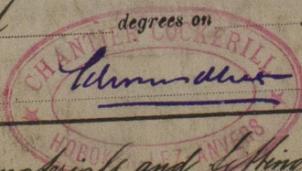


Electrical Engineers

Date 5th Febr 1914

COMPASSES.

Distance between dynamo or electric motors and standard compass 65 feet
 Distance between dynamo or electric motors and steering compass 70 feet
 The nearest cables to the compasses are as follows:—
 A cable carrying 10 Amperes 4 feet from standard compass 4 feet from steering compass
 A cable carrying 45 Amperes 5 feet from standard compass 5 feet from steering compass
 A cable carrying 45 Amperes inside feet from standard compass inside 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 11th Febr 1914

GENERAL REMARKS.

The materials and fittings are good, workmanship is satisfactory and the installation generally is in accordance with Rule requirements. The record of "Electric Light" may, in our opinion, be now made in the Register Book in the case of this vessel. It is submitted that this vessel is eligible for THE RECORD. Elec. light. JWD 16/2/14
Arthur A. Palmer
 Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

FRI. FEB. 27. 1914

TUE. MAR. 3-1914
 FRI. AUG. 28. 1914

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

