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REPORT ON ELECTRIC LIGHTING INSTALLATION. No.

Port of NEWCASTLE-ON-TYNE Date of First Survey 27/5/21 Date of Last Survey 18/7/21 No. of Visits 5
 No. in on the Iron Steel Woron ex. Haines Port belonging to London
 Reg. Book 35712 Built at Vegesack By whom Bremer Vulkan When built 1907
 Owners Werns S. S. Co. Ltd (Globe Bros) Owners' Address
 Yard No. — Electric Light Installation fitted by Heinrich G. Homeyer, Hamburg When fitted 1907

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Dynamo compound multipolar coupled direct to a compound open type steam engine.

Capacity of Dynamo 100 Amperes at 115 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed engine room starboard side Whether single or double wire system is used one wire - return
 Position of Main Switch Board 100 having switches to groups 4 switches - 1 separate for lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each 1 - 6 way D. Box in steering engine room
1 - 8 way D. Box in chart house. 3 way dis box aft. 5 way dis box in crew acc.

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 arranged in the following groups:—

A <u>bay lights</u>	<u>43</u> lights each of <u>49-30 watt, 24-16</u> candle power requiring a total current of <u>25.94</u> Amperes
B <u>Aft.</u>	<u>23</u> lights each of <u>11-30 watt 12-16</u> candle power requiring a total current of <u>9.24</u> Amperes
C <u>Accommodation</u>	<u>50</u> lights each of <u>26-30 watt, 6 1/2 ins. 24-16</u> candle power requiring a total current of <u>19.67</u> Amperes
D <u>Navigation</u>	<u>12</u> lights each of <u>5-32 cp, 5-Pcp, 7-6</u> candle power requiring a total current of <u>2.2</u> Amperes
E <u>Wireless</u>	<u>—</u> requiring a total current of <u>5.0</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>2.4</u> Amperes	
<u>2</u> Side light with <u>1</u> lamps each of <u>32</u> candle power requiring a total current of <u>2.4</u> Amperes	
<u>10-6 light</u> Cargo lights of <u>16</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 house

DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 37 wires, each 15 S.W.G. diameter, .15 square inches total sectional area
 Branch cables carrying 25.94 Amperes, comprised of 7 wires, each 17 S.W.G. diameter, .017 square inches total sectional area
 Branch cables carrying 19.67 Amperes, comprised of 7 wires, each 19 S.W.G. diameter, .0086 square inches total sectional area
 Leads to lamps carrying 2.4 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area
 Cargo light cables carrying 3.05 Amperes, comprised of 70 wires, each .0076 S.W.G. diameter, .003 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All main cables are lead covered armoured & braided. Cables in cabins are V.I.R. cable in wood casing.

Joints in cables, how made, insulated, and protected none made

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 cables clipped by metal clips to beams & underside of beams



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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 armoured braided

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat no

What special protection has been provided for the cables near boiler casings no

What special protection has been provided for the cables in engine room no

How are cables carried through beams bushed holes lead. through bulkheads, &c. watertight glands.

How are cables carried through decks 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 yes

If so, how are they protected lead covered armoured braided

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 flexible from watertight sockets How fixed clipped to bulkhead

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel socket secured to hull with 5/8" bolt.

How are the returns from the lamps connected to the hull by brass screw.

Are all the joints with the hull in accessible positions yes.

Is the installation supplied with a voltmeter yes, and with an amperemeter yes, fixed 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 —

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 — 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.

Electrical Engineers Date 11/21/11

COMPASSES.

Distance between dynamo or electric motors and standard compass 150 feet

Distance between dynamo or electric motors and steering compass 144 feet.

The nearest cables to the compasses are as follows:—

Cable	Amperes	Distance from standard compass	Distance from steering compass
A cable carrying <u>5.09</u>	<u>6</u>	<u>8</u> feet from standard compass	<u>8</u> feet from steering compass
A cable carrying <u>.56</u>	<u>on the</u>	<u>8' 6"</u> feet from standard compass	<u>8' 6"</u> feet from steering compass
A cable carrying <u>.56</u>	<u>8' 6"</u>	<u>on the</u> feet from standard compass	<u>on the</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 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 11/21/11

GENERAL REMARKS. The above installation is in accordance with the Society's Rules, the vessel is eligible in my opinion for notation electric light & wireless

W.T. Badger.
Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 12/11/11