

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 11632

Port of West Hartlepool Date of First Survey June 18 Date of Last Survey 19th Aug 1901 No. of Visits 18
 No. in 88 on the Iron or Steel "Soestdyk" Port belonging to Rotterdam
 Reg. Book 1002 Built at West Hartlepool By whom Furness Withy & Co. Ltd When built 1901
 Owners Nederlandsch-Amsterdamsche Stoomvaart Maatschappij Owners' Address Rotterdam
 Yard No. 255 Electric Light Installation fitted by W. H. Allen Son & Co. Ltd When fitted 1901

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Double acting vertical open Engine direct coupled to inverted horse-shoe two pole dynamo both of W. H. Allen Son & Co. Ltd make

Capacity of Dynamo 150 Amperes at 62 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Starboard side of engine room in recess under the store

Position of Main Switch Board on bunker bulkhead by engine switches to groups four of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each one for cattle lights containing 4 switches at top of engine room, in Starboard side

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 yes

Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of 50% 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 = 141 16 cp. arranged in the following groups:—

A	<u>35</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>35</u>	Amperes
B	<u>13</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>13</u>	Amperes
C	<u>36</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>36</u>	Amperes
D	<u>47</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>47</u>	Amperes
E		lights each of		candle power requiring a total current of		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>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>4</u> Amperes
<u>6</u>	Cargo lights of			<u>96</u>	candle power, whether incandescent or arc lights	<u>incandescent</u>

If arc lights, what protection is provided against fire, sparks, &c. No Arc lamps

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

DESCRIPTION OF CABLES.

Main cable carrying 136 Amperes, comprised of 37 wires, each no. 15 L.S.G. diameter, 0.157 square inches total sectional area

Branch cables carrying 36 Amperes, comprised of 19 wires, each no. 18 L.S.G. diameter, 0.0344 square inches total sectional area

Branch cables carrying 21 Amperes, comprised of 7 wires, each no. 16 L.S.G. diameter, 0.0225 square inches total sectional area

Leads to lamps carrying 163 Amperes, comprised of 1 wires, each no. 16 L.S.G. diameter, 0.00322 square inches total sectional area

Cargo light cables carrying 6 Amperes, comprised of 37 wires, each no. 30 L.S.G. diameter, 0.0042 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

600 meg vulcanized rubber cable insulated with braiding, armouring, or lead sheathed and armoured.

Joints in cables, how made, insulated, and protected no joints in cable

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 Clipped up to the deck, on to side of steering rod boxing and along special grounds, the cables being arm^d for protection

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 *by enclosing in galv'd in piping, lead sheathing & armour*

What special protection has been provided for the cables near galley or oil lamps or other sources of heat *lead sheathing and armour*

What special protection has been provided for the cables near boiler casings *lead sheathing & armour*

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

How are cables carried through beams *through holes bushed with fibre* through bulkheads, &c. *holes bushed with fibre*

How are cables carried through decks *through pipes secured by flanges to the deck & reaching from 12 1/8" above*

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 *by lead sheathed & armour*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *yes in cattle spaces*

If so, how are the lamp fittings and cable terminals specially protected *by enclosing in cast iron fitting with hinged lid*

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

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

Are any switches or cut outs fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *portable* How fixed *all d'ble wired*

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 *—*

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 installation is *—* supplied with a voltmeter and *not* an amperemeter, fixed *on main board*

The copper used is guaranteed to have a conductivity of *100* 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.

For W. H. ALLEN, SON & CO. d.

C. C. Hawkins

Electrical Engineers

Date *Aug. 20 07.*

COMPASSES.

Distance between dynamo or electric motors and standard compass *118 feet*

Distance between dynamo or electric motors and steering compass *112 feet*

The nearest cables to the compasses are as follows:— *all being d'ble wired, the lead & return running together*

A cable carrying	<i>11</i>	Amperes	<i>9</i>	feet from standard compass	<i>7 1/2</i>	feet from steering compass
A cable carrying	<i>2</i>	Amperes	<i>3</i>	feet from standard compass	<i>3 1/2</i>	feet from steering compass
A cable carrying	<i>1</i>	Amperes	<i>3</i>	feet from standard compass	<i>3 1/2</i>	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power *not considered necessary*

The maximum deviation due to electric currents, etc., was found to be *0* degrees on *0* course in the case of the standard compass and *0* degrees on *0* course in the case of the steering compass.

FURNESS, WITBY & CO., LIMITED.

Per L. Mills

Builder's Signature.

Date *Aug. 23/1907.*

GENERAL REMARKS.

The fitting of the wires throughout this vessel are as stated on this report and appears to be in accordance with the Committee's requirements

E. B. Humphress

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

Committee's Minute

It is submitted that this installation appears to meet the Rule requirements

Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.