

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 32518

Port of Hull Date of First Survey 4/1/21 Date of Last Survey 3/3/21 No. of Visits 4
 No. in Reg. Book 55 on the Iron or Steel "FAEDRELAND" Port belonging to Bergen
 Built at Goole By whom Qua 5/B 6th Lth When built 1921
 Owners 2 Halvorsen Owners' Address _____
 Yard No. 46 Electric Light Installation fitted by Sunderland Forge & Eng 62 Lth When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One combined plant consisting of single cylinder vertical open type engine 100 lbs
steam coupled to compound wound multipolar dynamo both by G F & Co
 Capacity of Dynamo 55 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed In Engine Room Whether single or double wire system is used double
 Position of Main Switch Board close to Dynamo having switches to groups three of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each in Chart Room with switches
controlling Foremast, Mainmast, Port Starb, Stern compasses, Telegraphs
& Morse Lamp.

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 no 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 95 arranged in the following groups:—

A <u>Has Saloon</u>	<u>30</u> lights each of <u>16</u>	candle power requiring a total current of <u>16.80</u>	Amperes
B <u>Accommod</u>	<u>44</u> lights each of <u>"</u>	candle power requiring a total current of <u>24.66</u>	Amperes
C <u>Eng & Blk Rms.</u>	<u>13</u> lights each of <u>"</u>	candle power requiring a total current of <u>4.28</u>	Amperes
D	lights each of	candle power requiring a total current of	Amperes
E	lights each of	candle power requiring a total current of	Amperes
<u>2</u>	Mast head light with <u>2</u> lamps each of <u>16</u>	candle power requiring a total current of <u>2.24</u>	Amperes
<u>2</u>	Side light with <u>2</u> lamps each of <u>"</u>	candle power requiring a total current of <u>2.24</u>	Amperes
<u>14</u>	Cargo lights of <u>16</u> - <u>16</u>	candle power, whether incandescent or arc lights <u>Incandescent</u>	

If arc lights, what protection is provided against fire, sparks, &c. none made (no arc lights fitted)

Where are the switches controlling the masthead and side lights placed In Chart Room

DESCRIPTION OF CABLES.

Main cable carrying 55 Amperes, comprised of 19 wires, each .064 S.W.G. diameter, .06 square inches total sectional area
 Branch cables carrying 24.66 Amperes, comprised of 4 wires, each .036 S.W.G. diameter, .004 square inches total sectional area
 Branch cables carrying 4.28 Amperes, comprised of 4 wires, each 2 1/2 S.W.G. diameter, .0048 square inches total sectional area
 Leads to lamps carrying 56 Amperes, comprised of 3 wires, each .029 S.W.G. diameter, .002 square inches total sectional area
 Cargo light cables carrying 3.36 Amperes, comprised of 3 wires, each .029 S.W.G. diameter, .002 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Mains & Machinery Spaces:— Pure & Pale L.R. Tapes & Vulcanized Ken Announced & Braided
 Accommodation " do do Lead Covered

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 none made

How are the cables led through the ship, and how protected Announced & Braided cables run on
underside of deck or clipped to beams.

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 *Amoured & Braided*

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

What special protection has been provided for the cables near boiler casings *"*

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

How are cables carried through beams *Holes Bored with Fibre* through bulkheads, &c. *W/O Glauert.*

How are cables carried through decks *W/O Deck Tubes*

Are any cables run through coal bunkers *no* or cargo spaces *no* or spaces which may be used for carrying cargo, stores, or baggage *yes*

If so, how are they protected *Amoured & 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 *—*

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 *✓*

Is the installation supplied with a voltmeter *yes*, and with an amperemeter *yes*, fixed on *Main Switches*

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.

p. pro. THE SUNDERLAND FORGE & ENGINEERING CO. Electrical Engineers Date April 6th 1921.

COMPASSES.

Distance between dynamo or electric motors and standard compass *50 feet*

Distance between dynamo or electric motors and steering compass *44 feet*

The nearest cables to the compasses are as follows:—

A cable carrying <i>16.80</i>	Amperes	_____	feet from standard compass	_____	feet from steering compass
A cable carrying <i>.56</i>	Amperes	_____	feet from standard compass	<i>165 into</i>	<i>feet from steering compass</i>
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

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* courses in the case of the steering compass.

HOUSE SHIPBUILDING CO. LTD.

H. Turner

Builder's Signature. Date *9/4/21.*

CHIEF DRAUGHTSMAN.

GENERAL REMARKS.

The materials & workmanship are good. On completion the installation was tried under full load & found satisfactory.

It is submitted that this vessel is eligible for THE RECORD. Elec Light 16th 20/4/21

P. Fitzgerald

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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