

TUE. 18 JAN 1921

# REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 19673

Port of New York Date of First Survey 9 Nov Date of Last Survey 8 Dec 20 No. of Visits 5  
 No. in 1 on the Steel Ship "Hopatecong" Port belonging to Groton Comm.  
 No. in 1 Built at Groton, Conn. By whom Groton Iron Works When built 1920-12  
 Owners U.S. Shipping Board, E.F.C. Owners' Address \_\_\_\_\_ When fitted 1920-12  
 Card No. 9 Electric Light Installation fitted by Groton Iron Works

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two dynamos, directed connected to steam turbines manufactured by Terry Steam Turbine Co.,  
 Hartford, Conn.  
 Capacity of Dynamo 15 K.W. 150 Amperes at 120 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Engine Room Whether single or double wire system is used Double Wire  
 Position of Main Switch Board Engine Room having switches to groups 13 of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each None

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  
 Are the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 25% 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  
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 177 arranged in the following groups:—

Group	Description	Watts	Candle Power	Current (Amperes)
A	Forecastle 19 lights each of	40 Watt	30 candle power requiring a total current of	8 Amperes
B	Captain's 30 lights each of	40 "	30 candle power requiring a total current of	12 Amperes
C	Amidships 28 lights each of	40 "	30 candle power requiring a total current of	12 Amperes
	Engine Room 9	100 "	80 candle power requiring a total current of	9 Amperes
D	Engine Room 10 lights each of	40 "	30 candle power requiring a total current of	5 Amperes
E	Poop 28 lights each of	40 "	30 candle power requiring a total current of	12 Amperes
	Fire Room 4	100 "	80 candle power requiring a total current of	4 Amperes
	2 Mast head light with 2 lamps each of	40 Watt	30 candle power requiring a total current of	1.4 Amperes
	1 Stern Light 2	40 "	30 candle power requiring a total current of	.7 Amperes
	2 Side light with 2 lamps each of	40 "	30 candle power requiring a total current of	1.4 Amperes
	12 Cargo lights of	40 Watts 4 Lamps	30 candle power, whether incandescent or are lights	Incandescent

If are lights, what protection is provided against fire, sparks, &c. 0

Where are the switches controlling the masthead and side lights placed Pilot House Tell-tale Board.

## DESCRIPTION OF CABLES.

125 at 120 Volts  
 Main cable carrying 150 Amperes, comprised of 2 wires, each 00 B.S. S.W.G. diameter, .102 square inches total sectional area  
 Branch cables carrying 55 Amperes, comprised of 2 wires, each #4 B.S. S.W.G. diameter, .044 square inches total sectional area  
 Branch cables carrying 30 Amperes, comprised of 2 wires, each #6 B.S. S.W.G. diameter, .020 square inches total sectional area  
 Leads to lamps carrying 8 Amperes, comprised of 2 wires, each #8 B.S. S.W.G. diameter, .016 square inches total sectional area  
 Cargo light cables carrying 13 Amperes, comprised of 2 wires, each #10 B.S. S.W.G. diameter, .008 square inches total sectional area  
#12 B.S. - .005

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Double braid wire in galvanized iron conduit.  
Connecting blocks in watertight iron boxes.  
 Joints in cables, how made, insulated, and protected \_\_\_\_\_  
 Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances Yes  
 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 In and by galvanized iron conduit.



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 Conduit

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

What special protection has been provided for the cables near boiler casings Iron Conduit

What special protection has been provided for the cables in engine room Iron Conduit

How are cables carried through beams Iron Conduit through bulkheads, &c. Iron Conduit & Stuffing Tubes

How are cables carried through decks Iron Conduit and stuffing tubes.

Are any cables run through coal bunkers No or cargo spaces Yes or spaces which may be used for carrying cargo, stores, or baggage

If so, how are they protected Iron Conduit

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 Portable How fixed Plug receptacle on deck.

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 to 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 Yes

How are the lamps specially protected in places liable to the accumulation of vapour or gas Vapor proof globes

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 660 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.

*Floyd L. Fiske,*

Electrical Engineers

Date Nov. 1920

COMPASSES.

Distance between dynamo or electric motors and standard compass 80 Feet

Distance between dynamo or electric motors and steering compass 110 Feet

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	Distance from standard compass	Distance from steering compass
<u>.2</u>	<u>4 Inches</u>	<u>4</u> feet from standard compass	<u>4</u> feet from steering compass
<u>.4</u>	<u>Amperes</u>	<u>6</u> feet from standard compass	<u>6</u> feet from steering compass
<u>30</u>	<u>Amperes</u>	<u>10</u> feet from standard compass	<u>12</u> 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 degrees on course in the case of the standard compass and degrees on course in the case of the steering compass.

*Groton, Iron Works.*

*J. W. Main.*

Builder's Signature.

Date

GENERAL REMARKS.

*The fitting of the wires throughout this vessel is as stated in this Report and appears to be in accordance with the Committee's requirements.*

*It is submitted that this vessel is eligible for THE RECORD. Elec Light*

*Recd 21/1/21*

*J. Hudson.*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

New York JAN - 4 1921



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