

WED. DEC. 27, 1916

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 472

Port of Seattle Wash. USA Date of First Survey August 30th Date of Last Survey November 3rd 1916 No. of Visits 1
 No. in on the ~~Iron~~ Steel SS "Niels Nielsen" Port belonging to Haugesund
 Reg. Book Built at Seattle By whom Skinner & Eddy Corporation When built
 Owners Dampskibsselskabet Niels Nielsen Owners' Address
 Yard No. 1 Electric Light Installation fitted by Builders When fitted 1916

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two 15 k.w. 125 volt General Electric Co's Compound Wound Generators
 Direct Connected to Single Cylinder Reciprocating Engine
 Capacity of Dynamo 120 125 Amperes at 125 Volts, whether continuous or alternating current D.C. ✓
 Where is Dynamo fixed On platform in Engine Room Whether single or double wire system is used Double ✓
 Position of Main Switch Board On Generator Platform having switches to groups Twelve of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each One in Front of Pilot House, 6 switches,
Two in Port Passage of Ford Deck House, 6 switches Each, One in Stbd & One in Port Passages Midship Deck
House, 4 & 6 switches Respectively, One in Passage Crews Quarters, 6 switches, One in Engine Room, 8 switches
 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 25 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
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases Yes
 Total number of lights provided for 297 arranged in the following groups:—
 A 37 lights each of 40 watts candle power requiring a total current of 11.84 Amperes
 B 33 lights each of 40 " candle power requiring a total current of 10.58 Amperes
 C 65 lights each of 40 " candle power requiring a total current of 22.40 Amperes
 D 32 lights each of 40 " candle power requiring a total current of 10.24 Amperes
 E lights each of candle power requiring a total current of Amperes
 / Mast head light with / lamps each of 40 watts candle power requiring a total current of 0.32 Amperes
 2 Side light with / lamps each of 40 " candle power requiring a total current of 0.64 Amperes
 28 Cargo lights of 4, 40 watts candle power, whether incandescent or arc lights Incandescent
 If arc lights, what protection is provided against fire, sparks, &c.

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

DESCRIPTION OF CABLES.

Main cable carrying 176 Amperes, comprised of 27 wires, each # 11 B.S.G. diameter, 21,600 ^{53,589} square inches total sectional area
 Branch cables carrying 50 Amperes, comprised of 7 wires, each # 14 B.S.G. diameter, 26,250 ^{28,672} square inches total sectional area
 Branch cables carrying 30 Amperes, comprised of 7 wires, each # 16 B.S.G. diameter, 16,510 ^{18,207} square inches total sectional area
 Leads to lamps carrying 2.56 Amperes, comprised of 1 wires, each # 14 B.S.G. diameter, 4,096 ^{4,096} square inches total sectional area
 Cargo light cables carrying 4.11 Amperes, comprised of 1 wires, each # 14 L.S.G. diameter, 4,096 ^{4,096} square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

National Electric Code Standard. Double Braid

Joints in cables, how made, insulated, and protected Soldered, Taped With Splicing Compound, Friction Tape,
& Painted with P & Electrical Paint

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 No

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 Conduit, Pipes & Moulding. © 2021

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible No

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture ^{Metal} Conduit casing

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat ^{Metal} Conduit casing

What special protection has been provided for the cables near boiler casings ^{Metal} Conduits

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

How are cables carried through beams Conduits through bulkheads, &c. Conduits ✓

How are cables carried through decks Conduits ✓

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 Wooden Boxes & Metal Conduits

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage W.T. Switch & Receptacle

If so, how are the lamp fittings and cable terminals specially protected

Where are the main switches and cut outs for these lights fitted In Houses On Upper Deck

If in the spaces, how are they specially protected

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 ^{Two} voltmeters and ^{Two} an amperemeter, fixed On Switchboard.

VESSELS BUILT FOR CARRYING PETROLEUM. No.

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 Underwriters Standard 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.

C. N. McBallum

Electrical Engineers

Date Nov. 3-1916

COMPASSES.

Distance between dynamo or electric motors and standard compass 19 ft.

Distance between dynamo or electric motors and steering compass 11 1/2 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>32</u> Amperes	<u>Two</u> feet from standard compass	<u>One</u> feet from steering compass
A cable carrying	Amperes	feet from standard compass	feet from steering compass
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 _____ degrees on _____ course in the case of the standard compass and _____ degrees on _____ course in the case of the steering compass.

Skinner and Eddy Corp.
per M. H. Keil N. G.

Builder's Signature.

Date Nov. 3. 1916.

GENERAL REMARKS.

The material and workmanship in the Electric Lighting Installation are of the best quality, tested under working condition and found satisfactory. In my opinion the vessel is eligible to have the record of Electric Light in the Register Book

Committee's Minute

Elec Light

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

New York DEC 14 1916

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Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.