

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1062

Port of Copenhagen Date of First Survey 3/11 97 Date of Last Survey 30/11 97 No. of Visits 4
 No. in 5 on the Steel 5/8 Herakles Port belonging to Stockholm - Sweden
 from main g. Book Built at Elsinore By whom Helsingors Jernskibs & Maskinfabrik When built 1897
 Thickness Dycker & Bergningsbolaget "Neptun" Owners' Address Stockholm
 Pitch of rive 68 Electric Light Installation fitted by Hans Mannstädt - Stockholm When fitted 1897
 Stays to do

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Des. Vertical Engine direct coupled to the dynamo. shunt.
 shell by rules Alt meter 80 Volts. Amperemeter 120 Amperes fitted on Switchboard.
 tubes Capacity of Dynamo 100 Amperes at 65 Volts, whether continuous or alternating current continuous
 in bolts Where is Dynamo fixed On Maindeck in Portside of Engine room casing.
 pump rods Position of Main Switch Board at the side of dynamo having switches to groups 4 of lights, &c., as below
 Bolts Positions of auxiliary switch boards and numbers of switches on each group in Berths and Cabins with one
switch for each group; cut outs for flow & return for each individual
wire on switchboard.

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 100 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 - near Main Switchboard.

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases Yes
 Total number of lights provided for 54 Lights, à 3 Vet arranged in the following groups :-
 A 40 lights each of 16 candle power requiring a total current of 29.6 Amperes
 B 2 off à 4 lights each of 25 candle power requiring a total current of each 2-3 Amperes
 C 5 lights each of 16 candle power requiring a total current of 3.7 Amperes
 D 5 lights each of 16 candle power requiring a total current of 3.7 Amperes
 E lights each of candle power requiring a total current of Amperes
 Mast head light with lamps each of candle power requiring a total current of Amperes
 Side light with lamps each of candle power requiring a total current of Amperes
2 Cargo lights of 3000 candle power, whether incandescent or arc lights arc

If arc lights, what protection is provided against fire, sparks, &c. Lanterns with plateguards down to
bottom of Lanterns.

Where are the switches controlling the masthead and side lights placed near Main Switchboard in Engine room - one
for each light.

DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 19 wires, each 0.0041 "fully" diameter, 0.078 square inches total sectional area
 Branch cables carrying 3.7 Amperes, comprised of 1 wires, each 0.0041 "fully" diameter, 0.0041 square inches total sectional area
 Branch cables carrying 29.6 Amperes, comprised of 7 wires, each 0.0041 "fully" diameter, 0.0206 square inches total sectional area
 Leads to lamps carrying Amperes, comprised of wires, each "fully" diameter, square inches total sectional area
 Cargo light cables carrying 25 Amperes, comprised of 7 wires, each 0.0037 "fully" diameter, 0.0259 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Insulated, insulated with pure vulcanizing india-rubber, taped or fitted.
 The whole vulcanized together, then braided with yarn and compounded.

Joints in cables, how made, insulated, and protected Soldered and insulated.

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 all accessible.

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 under Maindeck, protected with wood.



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 *protected by wood*

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 *protected by wood*

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

How are cables carried through beams *about pipes in holes through bulkheads, &c. india-rubber boxes*

How are cables carried through decks *✓*

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 *by wood*

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

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

Where are the main switches and cut outs for these lights fitted *✓*

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

Are any switches or cut outs 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 *✓*

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 *✓* an amperemeter, fixed *✓*

The copper used is guaranteed to have a conductivity of *97-98* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *950* 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.

pp Hans Mannstedt Electrical Engineers Date *Nov. 29-18*
Salust Company

COMPASSES.

Distance between dynamo or electric motors and standard compass *36 feet to Dynamo - 50 feet to the Quarter*

Distance between dynamo or electric motors and steering compass *✓*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>3/4</i>	Amperes	<i>7 1/2</i>	feet from standard compass	feet from steering compass
A cable carrying	<i>3/4</i>	Amperes	<i>7 1/4</i>	feet from standard compass	feet from steering compass
A cable carrying	<i>7</i>	Amperes	<i>14</i>	feet from standard compass	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power *without*

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.

SELSINGORS JERNSKIBS- OG MASKINBYGGER
pp. [Signature] Builder's Signature. Date *2nd December 1899*

GENERAL REMARKS. *The whole electric light installation is as above described, the protection of cables, fitting of cut-outs etc etc is as required by the Rules, the material & workmanship is good throughout.*

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

Committee's Minute *FRI. 7 JAN 1898* *FRI. 10 MAR 1899* *FRI. 24 MAR 1899* *This installation appears to be fitted in accordance with the Rules*

TUES. 20 AUG 1898

Lloyd's Register Foundation