

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6737.

Port of Copenhagen Date of First Survey 20th November 1923 Date of Last Survey 19th January 1924 No. of Visits 10
 No. in on the Iron on Steel S.S. "SCOTIA" Port belonging to Copenhagen
 Reg. Book 2911 Built at Hyge By whom Akts. Høne Skibsbyggeri When built 1923-24
 Owners Akts. De Forenede Huleimportører Owners' Address Copenhagen, Holmens Kanal 5.
 Card No. 9 Electric Light Installation fitted by Nic. Schultz Elsinore When fitted 1923-24

DESCRIPTION OF DYNAMO, ENGINE, ETC.

A compound wound 5 K.W. dynamo, driven by a directly coupled, vertical single cylinders steam engine. —
 Capacity of Dynamo 45.5 Amperes at 110 Volts, whether continuous or alternating current continuous.
 Where is Dynamo fixed In the engine room. Whether single or double wire system is used double wire system.
 Position of Main Switch Board In the engine room having switches to groups 5 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each A. forward - 1 switch, B. saloon - 4 switches, C. engine casing 3 sw.
D. aft - 2 switches, E. chart room - 5 switches (Navigation lights)

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 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 Edison's tools used.
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 76 arranged in the following groups:—
 A 9 lights each of 16 candle power requiring a total current of 2.5 Amperes
 B 28 lights each of 16 candle power requiring a total current of 7 Amperes
 C 17 lights each of 16 candle power requiring a total current of 4.5 Amperes
 D 13 lights each of 16 candle power requiring a total current of 3.5 Amperes
 E 5 lights each of 25 candle power requiring a total current of 3 Amperes
2 Mast head light with 2 lamps each of 25 candle power requiring a total current of 1 Amperes
2 Side light with 2 lamps each of 25 candle power requiring a total current of 1 Amperes
4 Cargo lights of 6 x 25 candle power, whether incandescent or arc lights incandescent, 4 x 3 - 11-

If arc lights, what protection is provided against fire, sparks, &c. ✓

Where are the switches controlling the masthead and side lights placed In the chart room.

DESCRIPTION OF CABLES.

Main cable carrying 95 Amperes, comprised of 19 wires, each 0.072 inches S.W.G. diameter, 0.075 square inches total sectional area
 Branch cables carrying 12 Amperes, comprised of 1 wires, each 0.064 inches S.W.G. diameter, 0.003 square inches total sectional area
 Branch cables carrying 8 Amperes, comprised of 1 wires, each 0.064 inches S.W.G. diameter, 0.003 square inches total sectional area
 Leads to lamps carrying 4 Amperes, comprised of 1 wires, each 0.064 inches S.W.G. diameter, 0.003 square inches total sectional area
 Cargo light cables carrying 1.5 Amperes, comprised of 1 wires, each 0.064 S.W.G. diameter, 0.003 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

The copper wires are tinned and insulated with pure and vulcanized india rubber, then taped and lead covered.
 The copper wires are tinned and insulated with pure and vulcanized india rubber, taped and lead covered, then braided and armoured with steel wire. —

Joints in cables, how made, insulated, and protected In watertight junction boxes with screwed connections and covers.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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, none

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 Secured by screwed clips, in cargo spaces carried through iron tubs.



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W-63-0016

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 *Lead covered and armoured cables used and where necessary protected by iron tubes or casings.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Lead covered and armoured cables used.*

What special protection has been provided for the cables near boiler casings *Lead covered and armoured cables used.*

What special protection has been provided for the cables in engine room *Lead covered and armoured cables used.*

How are cables carried through beams *No cables carried through beams, through bulkheads, &c. Watertight, screwed glands used.*

How are cables carried through decks *Through iron tubes.*

Are any cables run through coal bunkers *none* or cargo spaces *yes* or spaces which may be used for carrying cargo, stores, or baggage *yes*

If so, how are they protected *Lead covered and armoured, and where necessary protected by iron tubes or casings.*

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 *✓*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *Double wire system used*

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 the main switch board*

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 2500 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.

Nic. Schultz

NIC: SCHULTZ
AUT. INSTALLATOR
ELECTRICAL ENGINEERS
TELEFON 519

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass *about 56' 0"*

Distance between dynamo or electric motors and steering compass *about 53' 6"*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
0.25	to the lamp in the	feet from standard compass	feet from steering compass
2.5	Amperes	10	7
	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 *yes*

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

KJØBENHAVNS LYS- OG SKIBSVÆRFT.

A. Uggerløse

Builder's Signature. Date

GENERAL REMARKS. The whole electric lighting installation, as above described, is fitted in accordance with the Rules, the approved plan, and the requirements contained in letter E. dated the 9th November 1923.—

The workmanship and material are of good description in every respect, — the installation has been tested under working condition and found satisfactory. —

Recommend the vessel to have notation of "Electric Light" in the Register Book.

It is submitted that this vessel is eligible for THE RECORD Electric Light Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE MAR 4 1924

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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