

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 3536.

Port of Copenhagen Date of First Survey 4th January Date of Last Survey 9th Feb. 12 No. of Visits 7
 No. in Reg. Book 85 on the ~~Iron or~~ Steel Twin Screw Dist. Eng. Inst. Schoon "Selaudia" Port belonging to Copenhagen
 Built at Copenhagen By whom W. Burmeister & Wain When built 1912
 Owners Aktieselskabet Det Ostasiatisk Kompagni Owners' Address Copenhagen
 Yard No. 276 Electric Light Installation fitted by W. Burmeister & Wain When fitted 1912

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 Compound wound dynamos, driven by shunt wound motors, taking current from 2 compound wound dynamos driven by 2 Diesel-motors.
 Capacity of Dynamo 150 Amperes at 110 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed in Engine room
 Position of Main Switch Board in Engine room having switches to groups 6 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each

1 in Chart room	with 13 fuses	and 5 switches.
2 in Pantry	-	12 - - 0 -
1 at fore mast	-	3 - - 3 -
1 at galley	-	3 - - 3 -
1 in Off. mess room	-	3 - - 3 -
1 in Off. mess room	-	6 - - 0 -
1 aft in the poop	-	3 - - - -

 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 yes, where these are made with reduced size of wire.
 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 Edison's tools used.
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for c. 300 arranged in the following groups:—

A	<u>37</u> lights each of <u>10-16-25-32</u> candle power requiring a total current of <u>20</u> Amperes
B	<u>150</u> lights each of <u>-</u> candle power requiring a total current of <u>75</u> Amperes
C	<u>50</u> lights each of <u>-</u> candle power requiring a total current of <u>24</u> Amperes
D	<u>63</u> lights each of <u>-</u> candle power requiring a total current of <u>30</u> Amperes
E	<u>1 Search</u> lights each of <u>-</u> candle power requiring a total current of <u>c 40</u> Amperes
	<u>2</u> Mast head light with <u>1</u> lamp each of <u>32</u> candle power requiring a total current of <u>0.8</u> Amperes
	<u>2</u> Side light with <u>1</u> lamp each of <u>32</u> candle power requiring a total current of <u>0.8</u> Amperes
	<u>6</u> Cargo lights of <u>100</u> candle power, whether incandescent or arc lights <u>incandescent.</u>

If are lights, what protection is provided against fire, sparks, &c. Enclosed type arc lamps used with globes in lanterns with iron wire guard.
 Where are the switches controlling the masthead and side lights placed in Chart room.

DESCRIPTION OF CABLES.

Main cable carrying 145 Amperes, comprised of 19 wires, each 2.52 ^{mm}/_{in} L.S.G. diameter, 95 square ^{mm}/_{inches} total sectional area
 Branch cables carrying 75 Amperes, comprised of 19 wires, each 1.83 L.S.G. diame'er, 50 square ^{mm}/_{inches} total sectional area
 Branch cables carrying 20-24 Amperes, comprised of 7 wires, each 1.70 L.S.G. diameter, 16 square ^{mm}/_{inches} total sectional area
 Leads to lamps carrying 2.25 Amperes, comprised of 1 wires, each 1.4 L.S.G. diameter, 1.5 square ^{mm}/_{inches} total sectional area
 Cargo light cables carrying 3.5 Amperes, comprised of flexible wires, each - L.S.G. diameter, 2.5 square ^{mm}/_{inches} total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

1 Tinned insulated with pure and vulcan. india rubber, taped and lead covered.
2 " " " " " " " " " " " " " " and braided with iron wire.
3 " " " " " " " " " " " " " " and protected by 2 layers of steel tape.
 Joints in cables, how made, insulated, and protected Joints in cables and wires made in jointing boxes with screwed connections.
 Are all the joints of cables thoroughly soldered, resin only having been used as a flux Jointing boxes used. 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 In cargo spaces made in cast iron jointing boxes.
 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 and where necessary protected by iron tubes.



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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 and lead covered cables used.*
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 *No boilers.*
What special protection has been provided for the cables in engine room *— " — — "*
How are cables carried through beams *Iron and lead covered cables used* through bulkheads, &c. *— " — — "*
How are cables carried through decks *In iron 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 *yes.*
If so, how are they protected *Iron and lead covered cables used.*
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 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 *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 *—*

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 *yes.*
Are any switches, cut outs, or joints of cables fitted in the pump room or companion *No special pump room*
How are the lamps specially protected in places liable to the accumulation of vapour or gas *in engine room protected with tight globes.*
The installation is *yes* supplied with a voltmeter and *yes* an amperemeter, fixed *in the switch board.*
The copper used is guaranteed to have a conductivity of *100* per cent. that of pure copper.
Insulation of cables is guaranteed to have a resistance of not less than *600* 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.

J. P. Jones Electrical Engineers Date *17-2-12*

COMPASSES.

Distance between dynamo or electric motors and standard compass *113 feet.*
Distance between dynamo or electric motors and steering compass *120 -*
The nearest cables to the compasses are as follows:—
A cable carrying *20* Amperes *6* feet from standard compass *12* 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 _____ course in the case of the steering compass.

BURMEISTER & WAINSKIN- OG SKIBSBYGGERI. Builder's Signature. Date *17-2-12*

GENERAL REMARKS. *The whole electric lighting installation is as above described, the material and workmanship is good in every respect. Recommend the vessel to have notation of Electric Light in the Reg. Book. It is submitted that this vessel is eligible for THE RECORD Elec. light.*
J. W. D. Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute **TUE. FEB. 20. 1912**

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 11.

