

REPORT ON ELECTRIC LIGHTING INSTALLATION. No.

Port of Gothenburg Date of First Survey Oct. 24 Date of Last Survey Dec 29 No. of Visits 17
 No. in Nuolja on the Iron or Steel Stockholm Port belonging to
 Reg. Book 40213 Built at Gothenburg By whom A/B Götaverken When built 1923
 Owners Trafik A/B. Grängesberg-Oxelösund Owners' Address Stockholm
 Yard No M/S 361 Electric Light Installation fitted by Luth & Roséns Elektriska A/Bol. When fitted 1923

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Converter from 220 volts continuous, to 110/volt/continuous current. This converter is delivered by Thomas Thrige, Odense, Danmark, *This motor generator is driven from the main dynamo, 3 in number each of 50 KW, 220 volt & 228 ampere.*

Capacity of Dynamo 125 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

Position of Main Switch Board " " " having switches to groups 8 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each one (A) of 6 gr. in the after-accommodation, one (B) of 6 gr. on stern-mast, one (C) of 8 gr. in the officers-accommodation and one (D) of 6 gr. in the saloon-accommodation, one (E) of 4 gr. in the chartroom, one (F) of 4 gr. on deck midships, one (G) of 6 gr. on fore-mast, one (H) of 3 gr. in fore-castle, one (I) of 12 gr. in the engine-room

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 yes

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 253 arranged in the following groups:—

A	32	lights each of	16-25	candle power requiring a total current of	8	Amperes
B	22	lights each of	25-1000	candle power requiring a total current of	15	Amperes
C	44	lights each of	16-25	candle power requiring a total current of	11	Amperes
D	32	lights each of	"	candle power requiring a total current of	6	Amperes
E	4	lights each of	32	candle power requiring a total current of	4	Amperes
F	16	lights each of	25-1000	candle power requiring a total current of	7.5	Amperes
G	22	lights each of	"	candle power requiring a total current of	5.5	Amperes
H	13	lights each of	16-25	candle power requiring a total current of	3	Amperes
I	68	lights each of	16-100	candle power requiring a total current of	19	Amperes
2		Mast head light with	1 lamps each of 32	candle power requiring a total current of	2	Amperes
2		Side light with	1 lamps each of 32	candle power requiring a total current of	2	Amperes
10		Cargo lights of	125	candle power, whether incandescent or arc lights	incandescent	
5		" " "	1000	" " "	" " "	

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	79	Amperes, comprised of	19	wires, each	2.17 mm. S.W.G. diameter,	70 mm ² square inches total sectional area
Branch cables carrying	15	Amperes, comprised of	7	wires, each	1.35" S.W.G. diameter,	10 " square inches total sectional area
Branch cables carrying	10	Amperes, comprised of	7	wires, each	1.05" S.W.G. diameter,	6 " square inches total sectional area
Leads to lamps carrying	2	Amperes, comprised of	7	wires, each	0.52" S.W.G. diameter,	1.5 " square inches total sectional area
Cargo light cables carrying	4.5	Amperes, comprised of	7	wires, each	0.67" S.W.G. diameter,	2.5 " square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables are insulated with vulcanized rubber, lead armour covered with rubber tape, Where necessary rubber tape and steel armour is used.

Joints in cables, how made, insulated, and protected by porcelain boxes and, where required, by watertight metal boxes.

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

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 by steel clips, screwed fast and where required protected by iron pipes.



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 lead and steel armour.**

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat **lead and steel armoured,**

What special protection has been provided for the cables near boiler casings **- -**

What special protection has been provided for the cables in engine room **lead and steel armoured**

How are cables carried through beams **armouring as above** through bulkheads, &c. **by watertight boxes**

How are cables carried through decks **through ironpipes**

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 **steel armoured and ironpipes where required**

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 **- -**

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 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 **- -**

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 **1000** ^{kilometer 15° Celsius} 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** ¹⁰⁰⁰ 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.

LUTH & ROSENS ELEKTRISKA AKTIEBOLAG

Electrical Engineers

Date **13/12 1923.**

COMPASSES.

Herman Duse
Boon Christensen / *Per.*

Distance between dynamo or electric motors and standard compass **Engine-room to flying bridge.**

Distance between dynamo or electric motors and steering compass **Engine-room to flying bridge.**

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	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.

H. G. H. H. H.

Builder's Signature.

Date **9 Jan. 1924.**

GENERAL REMARKS.

This electric installation has been fitted aboard under our inspection and has been tested and found satisfactory.

All the Rule requirements have been complied with.

It is submitted that

this vessel is eligible for

THE RECORD Elec. light

[Signature] *[Signature]*
[Signature] *[Signature]*

Fee:— Kv. 618, 80 Applied for **9** ^{Jan. 1924} **13/2/24**

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

24.11.20.—Transfer.



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