

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 14327

Port of **HAMBURG** Date of First Survey \_\_\_\_\_ Date of Last Survey \_\_\_\_\_ No. of Visits \_\_\_\_\_  
 No. in Reg. Book \_\_\_\_\_ on the **Iron or Steel** **S.S. "LENNER"** Port belonging to **HAMBURG**  
 Built at **Rostock** By whom **Art. Gen. "NEPTUN"** When built **1915**  
 Owners **The Shipping Controller (Goswick)** Owners' Address **LONDON**  
 Yard No. **344** Electric Light Installation fitted by **The Guilden** When fitted **1916**

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

**1 Compound Steam Engine coupled direct to a Siemens Schuckert Dynamo running at 500 revolutions per minute.**

Capacity of Dynamo **110** Amperes at **110** Volts, whether continuous or alternating current **continuous**

Where is Dynamo fixed **Eng. Room** Whether single or double wire system is used **double**

Position of Main Switch Board **Eng. Room** having switches to groups **A, B, C, D & E** of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each **1 Eng. Room with 14 switches 1 Steering house with 6 switches, 1 Saloon passage with 3 switches, 1 Forecastle with 3 switches, 1 Chart house with 5 switches**

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

Are the fuses of non-oxidizable metal **yes** and constructed to fuse at an excess of **25** 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 **187** arranged in the following groups:—

A	Eng. & Boiler Space	49 lights each of	16.	candle power requiring a total current of	22	Amperes
B	Midship & Aft	52 lights each of	16.	candle power requiring a total current of	23	Amperes
C	Forecastle	50 lights each of	16	candle power requiring a total current of	25	Amperes
D	Saloon	20 lights each of	16.	candle power requiring a total current of	9	Amperes
E	Chart house	5 lights each of	32	candle power requiring a total current of	4	Amperes
Int.	2 Mast head light with	1 lamps each of	32	candle power requiring a total current of	7	Amperes
Int.	2 Side light with	1 lamps each of	32	candle power requiring a total current of	8	Amperes
	2 Cargo lights of	1000	candle power, whether incandescent or arc lights	20		

If arc lights, what protection is provided against fire, sparks, &c. **Glass Globes**  
**10, 1000 lamp each 6 lights of 16 candle power int. in B, C & D.**

Where are the switches controlling the masthead and side lights placed **Chart house.**

## DESCRIPTION OF CABLES.

Main cable carrying	110	Amperes, comprised of	19	wires, each	1.83	S.W.G. diameter,	50	square inches total sectional area
Branch cables carrying	35	Amperes, comprised of	19	wires, each	1.58	S.W.G. diameter,	35	square inches total sectional area
Branch cables carrying	10	Amperes, comprised of	7	wires, each	1.7	S.W.G. diameter,	10	square inches total sectional area
Leads to lamps carrying	1	Amperes, comprised of	1	wires, each	—	S.W.G. diameter,	1.5	square inches total sectional area
Cargo light cables carrying	10	Amperes, comprised of	1	wires, each	—	S.W.G. diameter,	2.5	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

**Main & Branch Cables** copper lined, coated with **gum** and **rubber**, coated with impregnated jute tape, spun with impregnated jute band, double iron bound, jute spun and asphalting.  
**Circuit & Lamp leads:** Copper lined, coated with **caulchou** and **rubber** and spun with tape insulation.  
 Joints in cables, how made, insulated, and protected **Soldered and covered with caulchou and tape for lamp circuits and lead. All joints in watertight boxes in incombustible bases for main and branch cables.**

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 **Main & Branch cables carried open except where they are exposed to moisture where they are led in iron boxes or pipes. Lamp leads are protected by insulation.**



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 bound lead*

*covered cables protected by iron casings*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Iron bound cables*

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

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

How are cables carried through beams *hard wood buster*

through bulkheads, &c. *crowed brass buster*

How are cables carried through decks *Iron galvanized hand pipes 16" high, filled with non-inducting*

*asphalt*

Are any cables run through coal bunkers *no*

or cargo spaces *no*

or spaces which may be used for carrying cargo, stores, or baggage *no*

If so, how are they protected *no*

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 *no*

Where are the main switches and fuses for these lights fitted *no*

If in the spaces, how are they specially protected *no*

Are any switches or fuses fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *portable*

How fixed *no*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *no*

How are the returns from the lamps connected to the hull *no*

Are all the joints with the hull in accessible positions *no*

Is the installation supplied with a voltmeter *yes*

and with an amperemeter *yes*

, fixed *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 *50 M. Ohms* 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.

*The Guilders are the* Electrical Engineers

Date *—*

COMPASSES.

Distance between dynamo or electric motors and standard compass *120 ft.*

Distance between dynamo or electric motors and steering compass *130 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying *.6* Amperes *close to* *just from* standard compass *close to* *just 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 *yes*

The maximum deviation due to electric currents, etc., was found to be *nil* degrees on *—* course in the case of the

standard compass and *nil* degrees on *—* course in the case of the steering compass.

*signed. Aktion Exzellenz "Neptun"*  
*Mulhmann.*

Builder's Signature.

Date

GENERAL REMARKS.

*This is a*  
*copy of the Electric Light Installation Report, made out by*  
*Mr. Föhler on the sister vessel, Yacht No 340, which*  
*will probably be found to correspond with that*  
*fitted on this vessel. It is submitted that*  
*this vessel is eligible for*  
**THE RECORD.**

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

Committee's Minute

FRI. 24 JUN. 1921

FRI. 14 JUL. 1921

THE 3 JAN. 1922

FRI. JAN. 27 1922



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