

# REPORT ON ELECTRIC LIGHTING INSTALLATION, No. 13625

Port of Hamburg Date of First Survey 23<sup>rd</sup> June Date of Last Survey 17<sup>th</sup> Septbr. No. of Visits 8  
 No. in Reg. Book on the Iron or Steel S.S. "Mohican" Port belonging to Hamburg  
 Built at Kiel By whom Kowaldtswerke When built 1913  
 Owners Deutsch-Amerik. Petroleum Ges. Owners' Address Hamburg  
 Yard No. 550 Electric Light Installation fitted by Ten Builders When fitted 1913

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

1 compound Steam Engine, coupled direct to Allgemeine Electricitäts Gesellschafts dynamo running about 250 rev. per minute.  
 Capacity of Dynamo 150 Amperes at 110 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed Engine Room Whether single or double wire system is used double  
 Position of Main Switch Board Engine 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 Engine Room with 8 switches, 1 Saloon passage with 16 switches, 1 passage aft Stk. with 10 switches, 1 Messroom with 9 switches, 1 Forecastle with 6 switches, 1 Chartroom 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 yes  
 Are the fuses of non-oxidisable metal yes and constructed to fuse at an excess of 20 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 -  
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 192 arranged in the following groups :-

A	Eng Room & Deck Space	2 lights each of	25	candle power requiring a total current of	20	Amperes
B	Mid Ship Deck	51 lights each of	25	candle power requiring a total current of	38	Amperes
C	Aft	63 lights each of	25	candle power requiring a total current of	47	Amperes
D	Forecastle	14 lights each of	25	candle power requiring a total current of	10	Amperes
E	Chartroom	5 lights each of 4 off 32 & 1 off 25		candle power requiring a total current of	4.5	Amperes
F	2 Mast head light with	1 lamps each of	32	candle power requiring a total current of	2	Amperes
		1 lamps each of	32	candle power requiring a total current of	2	Amperes
incl. in B & D of Cargo lights of each		5	25	candle power, whether incandescent or arc lights	14	"
10 Portable handlamps			25		7	"

If arc lights, what protection is provided against fire, sparks, &c. no arc lights fitted

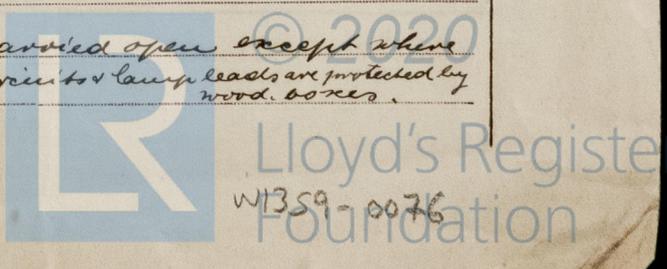
Where are the switches controlling the masthead and side lights placed Chartroom

### DESCRIPTION OF CABLES.

Main cable carrying	150	Amperes, comprised of	19	wires, each	-	S.W.G. diameter,	95	square inches total sectional area	50 sq in
Branch cables carrying	120	Amperes, comprised of	19	wires, each	-	S.W.G. diameter,	70	square inches total sectional area	35
Branch cables carrying	60	Amperes, comprised of	19	wires, each	-	S.W.G. diameter,	35	square inches total sectional area	16
Leads to lamps carrying	.5	Amperes, comprised of	1	wires, each	-	S.W.G. diameter,	15	square inches total sectional area	
Cargo light cables carrying	3.5	Amperes, comprised of	.5	wires, each	-	S.W.G. diameter,	2.4	square inches total sectional area	

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

Main and branch cables copper banded, coated with Pare compound, coated with impregnated jute tape, lead covered, & run with impregnated jute band, double iron band and jute spine and asphalted. Circuits & lamp leads: copper banded coated with compound & rubber, & run with tape insulation.  
 Joints in cables, how made, insulated, and protected Soldered and covered with compound and tape for lamp circuits and leads, metallic screw joints in water tight boxes on incombustible bases for main & 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 & pipes. Circuits & lamp leads are protected by wood boxes.



**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 leads covered cables protected by iron casings on pipes.

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 hand wood bushes through bulkheads, &c. screwed brass bushes

How are cables carried through decks Iron galvanized stand pipes 10" high filled with non conducting 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 —

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 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 hull near the bow

**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 yes

Are any switches, fuses, or joints of cables fitted in the pump room or companion no

How are the lamps specially protected in places liable to the accumulation of vapour or gas all fittings screwed & report tight

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 million <sup>ohms per kilometre</sup> ~~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 undersigned 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 110 ft.

The nearest cables to the compasses are as follows:—

A cable carrying <u>.6</u> Amperes <u>close to</u> feet from standard compass <u>close</u> feet from steering compass
A cable carrying <u>—</u> Amperes <u>—</u> feet from standard compass <u>—</u> feet from steering compass
A cable carrying <u>—</u> Amperes <u>—</u> feet from standard compass <u>—</u> 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.

**HOWALDTSWERKE**

Frank Madgen Builder's Signature. Date 19th September 1913

**GENERAL REMARKS.** The Elec. Light installation on board of this vessel is in my opinion fitted in conformity with the Society's Rules and eligible to be recorded "Elec. Light" in the Society's Register Book.

It is submitted that this vessel is eligible for

**THE RECORD.** Elec. light JWD 20/9/13 Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



In 912.—Transfer.