

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 9954a

Port of Hamburg Date of First Survey 3<sup>rd</sup> Sept. 1907 Date of Last Survey 9<sup>th</sup> Sept. 1907 No. of Visits 9  
 No. in Reg. Book on the Iron or Steel "Hannau" Port belonging to Hamburg  
 Built at Feensburg By whom Feensburger Schiffbau Ges. When built 1907  
 Owners Deutsch-Austral. Dampfschiffs. Ges. Owners' Address Hamburg  
 Yard No. 275 Electric Light Installation fitted by Feensburger Schiffbau Ges. When fitted 1907

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One compound steam engine coupled direct to dynamo from the Norddeutscher Lloyd, Bremen, running at about 420 rev. per min.

Capacity of Dynamo 73 Amperes at 110 Volts, whether continuous or alternating current continuous

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

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

Positions of auxiliary switch boards and numbers of switches on each Group A switched from main switchboard, Group B, 1 switchboard with 5 switches in Steering Eng. Space, Group C, 1 switchboard with 6 switches in passage of Deckhouse, Group D, 1 switchboard with 5 switches in Steering Room

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

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 30 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 yes

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes

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

A	Eng. Space	13 lights each of	16	candle power requiring a total current of	8	Amperes
B	St. Cabin	24 lights each of	16	candle power requiring a total current of	15	Amperes
C	Foremast	24 lights each of	16	candle power requiring a total current of	15	Amperes
D	Deckhouse	8 lights each of	4 off 16, 2 off 15, 2 off 32	candle power requiring a total current of	7	Amperes
E		lights each of		candle power requiring a total current of		Amperes
2	Mast head light with	2 lamps each of	16 + 32	candle power requiring a total current of	2	Amperes
2	Side light with	2 lamps each of	16 + 32	candle power requiring a total current of	2	Amperes
5 (30 lamps)	Cargo lights of	each 6 x 32	192	candle power, whether incandescent or arc lights	incandescent	

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

Where are the switches controlling the masthead and side lights placed In Steering house

## DESCRIPTION OF CABLES.

Main cable carrying	73 Amperes, comprised of	7 wires, each	L.S.G. diameter,	3.5 square inches	total sectional area
Branch cables carrying	15 Amperes, comprised of	7 wires, each	L.S.G. diameter,	10.5 square inches	total sectional area
Branch cables carrying	8 Amperes, comprised of	1 wires, each	L.S.G. diameter,	4 square inches	total sectional area
Leads to lamps carrying	6.5 Amperes, comprised of	1 wires, each	L.S.G. diameter,	1.5 square inches	total sectional area
Cargo light cables carrying	6 Amperes, comprised of	16 wires, each	L.S.G. diameter,	2.5 square inches	total sectional area

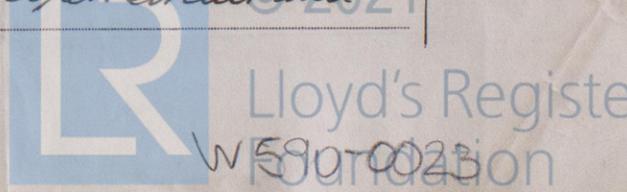
## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Main cables & branch cables copper, tinned covered with Para rubber, coated with impregnated jute tape, lead covered, spun with impregnated jute band, double iron bound and jute spun.  
Circuits of lamps and lamp leads: tinned copper wire, coated with cambric and rubber.  
 Joints in cables, how made, insulated, and protected Soldered and covered with cambric and tape for lamp circuits and leads, metallic screw joints, contained in water tight boxes or in incombustible bases for main and branch cables.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux 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 and branch cables carried open, except where exposed to heat and moisture, where they are carried in iron pipes. Circuit and lamp leads are protected by wooden battens.



**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 from bound lead covered cables protected by iron pipes where exposed to heat.

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

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

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

How are cables carried through beams hard wood bushes through bulkheads, &c. screwed brass bushes

How are cables carried through decks Iron galvanized stand pipes 8" light, with none conducting as shaft.

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 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 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 throughout

How are the returns from the lamps connected to the hull —

Are all the joints with the hull in accessible positions —

The installation is yes supplied with a voltmeter and yes an amperemeter, fixed main switch board

**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 —

Are any switches, cut outs, 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 98 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 50 millions Siemens Units ~~megohms~~ per kilometer ~~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.

The Builders are the Electrical Engineers Date —

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 96 ft.

Distance between dynamo or electric motors and steering compass 85 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.

Flensburger Schiffsbau-Gesellschaft Builder's Signature. Date —

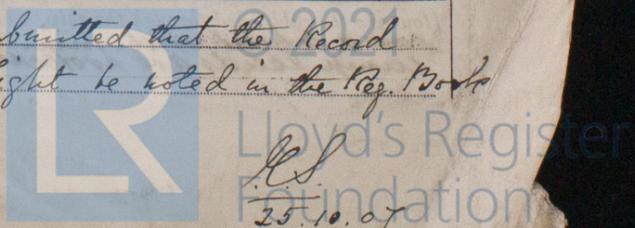
**GENERAL REMARKS.** The electric light installation on board of this vessel is in my opinion fitted in conformity with the Society's Rules and eligible to be recorded "Elec. light" in the Society's Register Book.

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

Committee's Minute It is submitted that the Record Elec. Light be noted in the Reg. Book

REPORT FORM No. 13-2034.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



25.10.07