

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 236

Port of *Bremen* Date of First Survey *11. 2. 13* Date of Last Survey *15. 3. 13* No. of Visits *6*  
 No. in on the Iron or Steel *SS. Lauterfels* Port belonging to *Bremen*  
 Reg. Book *Sup 23* Built at *Bremen* By whom *Actien-Gesellschaft Weser* When built *1913*  
 Owners *Deutsche Dampfschiff-Ges. Harana* Owners' Address *Bremen*  
 Yard No. *192* Electric Light Installation fitted by *Hans Siemens Schucker Werke Hbg* When fitted *1913*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*One compound-wound dynamo type Siemens Schucker directly coupled to one compound steam engine*

Capacity of Dynamo *122* 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 *in the engine room* having switches to groups *4 for groups* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *one in the engine room with 6 switches, one in the steering machine room with 3 switches, one near the saloon with 10 switches, one foreship with 4 switches, 1 aft with 4 switches.*

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 *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 *yes, on fuse plugs*

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases *yes, on porcelain & marble*

Total number of lights provided for *189* arranged in the following groups:—

A engine, boiler & 89 lights each of	<i>10</i>	candle power requiring a total current of	<i>45</i> Amperes
B foreship 19 lights each of	<i>10</i>	candle power requiring a total current of	<i>8.5</i> Amperes
C midship 78 lights each of	<i>10</i>	candle power requiring a total current of	<i>40</i> Amperes
D aft 3 lights each of	<i>10</i>	candle power requiring a total current of	<i>1.5</i> Amperes
E lights each of		candle power requiring a total current of	Amperes
<i>2</i> Mast head light with <i>2</i> lamps each of	<i>25</i>	candle power requiring a total current of	<i>4.6</i> Amperes
<i>2</i> Side light with <i>2</i> lamps each of	<i>32</i>	candle power requiring a total current of	<i>2.2</i> Amperes
<i>2</i> Arc. lamp lights of <i>about 3000</i>		candle power, whether incandescent or arc lights	<i>arc light</i>

If arc lights, what protection is provided against fire, sparks, &c. *glass globes, enclosed in wire with ashtrays*

Where are the switches controlling the masthead and side lights placed *in the chart-house*

## DESCRIPTION OF CABLES.

Main cable carrying <i>120</i> Amperes, comprised of <i>19</i> wires, each <i>2.52</i> L.S.G. diameter, <i>95</i> square inches total sectional area
Branch cables carrying <i>40</i> Amperes, comprised of <i>19</i> wires, each <i>1.53</i> L.S.G. diameter, <i>35</i> square inches total sectional area
Branch cables carrying <i>35</i> Amperes, comprised of <i>7</i> wires, each <i>2.13</i> L.S.G. diameter, <i>25</i> square inches total sectional area
Leads to lamps carrying <i>0.5</i> Amperes, comprised of <i>1</i> wires, each <i>1.38</i> L.S.G. diameter, <i>1.5</i> square inches total sectional area
Cargo light cables carrying <i>8</i> Amperes, comprised of <i>1</i> wires, each <i>2.30</i> L.S.G. diameter, <i>0</i> square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

*Main and branch cables are insulated by vulcanized rubber lead sheathed and wire armed (double steel)*

Joints in cables, how made, insulated, and protected *in watertight boxes*

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 *cables partly are laid in channels of iron, partly fastened with screwed clips. All cables are rubber insulated, lead covered, and steel armed. (Cable channels filled up with bitumastic).*



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 *cables are laid in L iron.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *they are armed by steel*

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

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

How are cables carried through beams *iron pipes* through bulkheads, &c. *stuffing boxes*

How are cables carried through decks *iron pipes partly brass stuffing boxes.*

Are any cables run through coal bunkers *no* or cargo spaces *no* or spaces which may be used for carrying cargo, stores, or baggage

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 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

How are the returns from the lamps connected to the hull

Are all the joints with the hull in accessible positions

The installation is supplied with a voltmeter and an amperemeter, fixed *on the 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 *500 Siemens Unites* 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.

HANSEATISCHE  
SIEMENS-SCHUCKERT WERKE

Electrical Engineers Date *May 14<sup>th</sup> 1913*

COMPASSES.

Distance between dynamo or electric motors and standard compass *9,5 m*

Distance between dynamo or electric motors and steering compass *8,5 m*

The nearest cables to the compasses are as follows:—

A cable carrying	4	Amperes	3,0 m	feet from standard compass	3,5 m	feet from steering compass
A cable carrying	40	Amperes	7,0 m	feet from standard compass	5,5 m	feet from steering compass
A cable carrying	25	Amperes	7,5	feet from standard compass	7,0 m	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 *no* degrees on *any* course in the case of the standard compass and *no* degrees on *any* course in the case of the steering compass.

ACTION-GESELLSCHAFT „WESER“

*Reuffel* pp November

Builder's Signature. Date *16<sup>th</sup> May 1913*

GENERAL REMARKS.

*This installation has been tried on a 12 hour trial trip and has been found to work well so that in my opinion the notation "Electric light" might be added to the vessel class in the Register Book.*

*It is submitted that this vessel is eligible for*

*J.W.D. G.H.B. Kahr.*

THE RECORD. Elec. light. 22/5/13. Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

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Foundation