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REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2291 <sup>a</sup>

Port of *Rotterdam* Date of First Survey *3 Aug.* Date of Last Survey *24 Aug.* No. of Visits *5*  
 No. in *on the Iron or Steel S.S. "Halaban"* Port belonging to *'s Gravenhage*  
 Reg. Book *6. Sufferin* Built at *Rotterdam* By whom *Ryker & Co.* When built *1894*  
*Non: 111 tot exploitatie van Petroleum*  
 Owners *Brouwer in Beerland Indis.* Owners Address *'s Gravenhage*  
 Yard No. *84* Electric Light Installation fitted by *ELECTROTECHNISCHE INDUSTRIE.* When fitted *1894*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*Double acting single cylinder direct connected steamdynamo, entirely enclosed with central oiling arrangement, having an enclosed magnetic circuit*

Capacity of Dynamo *60* Amperes at *65* Volts, ~~whether~~ continuous or alternating current

Where is Dynamo fixed *in engine room on starboard side*

Position of Main Switch Board *behind steamdynamo* having switches to groups *5 Groups* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *none*

If cut outs are fitted on main switch board to the cables of main circuit *yes* and on each auxiliary switch boards to the cables of auxiliary circuits *and at each position where a cable is branched or reduced in size* and to each lamp circuit

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 *50 %* per cent over the normal current

Are all cut outs fitted in easily accessible positions *in distribution boxes* 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 *Line of fuses stamped on each fuse*

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases *yes (porcelain)*

Total number of lights provided for *63* arranged in the following groups:—

A	<i>14</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>8.4</i>	Amperes
B	<i>13</i>	lights each of	<i>3 of 32 and 10 of 16</i>	candle power requiring a total current of	<i>9.6</i>	Amperes
C	<i>14</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>8.4</i>	Amperes
D	<i>12</i>	lights each of	<i>, ,</i>	candle power requiring a total current of	<i>7.2</i>	Amperes
E	<i>10 C.L.</i>	lights each of	<i>, ,</i>	candle power requiring a total current of	<i>6</i>	Amperes

(in B) 1 Mast head light with *1* lamps each of *32* candle power requiring a total current of *1.2* Amperes

(in B) 2 Side light with *1* lamps each of *, ,* candle power requiring a total current of *2.4* Amperes

(in E) 2 Cargo lights of *5 lamps each of 16* candle power, whether incandescent or ~~are~~ lights

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

Where are the switches controlling the masthead and side lights placed *chartroom*

## DESCRIPTION OF CABLES.

Main cable carrying	<i>60</i>	Amperes, comprised of	<i>19</i>	wires, each	<i>16</i>	L.S.G. diameter, <i>.061</i> square inches total sectional area
Branch cables carrying	<i>11</i>	Amperes, comprised of	<i>7</i>	wires, each	<i>28</i>	L.S.G. diameter, <i>.0120</i> square inches total sectional area
Branch cables carrying	<i>8</i>	Amperes, comprised of	<i>7</i>	wires, each	<i>20</i>	L.S.G. diameter, <i>.0071</i> square inches total sectional area
Leads to lamps carrying	<i>0.6</i>	Amperes, comprised of	<i>1</i>	wires, each	<i>18</i>	L.S.G. diameter, <i>.0018</i> square inches total sectional area
Cargo light cables carrying	<i>2.5</i>	Amperes, comprised of	<i>7</i>	wires, each	<i>1.8</i>	L.S.G. diameter, <i>.0127</i> square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

*Class II of H. F. Stanley's Telegraph Works & certified*

Joints in cables, how made, insulated, and protected *No joints have been made as all leads come intact from distribution boxes where they are secured on fuse terminals*

Are all the joints of cables thoroughly soldered, resin only having been used as a flux *no joint* 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 *no joints*

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 *in wood casings*



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 tubes have been used in alleyways & on deck lined with Bergman tube*

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

What special protection has been provided for the cables near boiler casings *for lamps at gauge glass*

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

How are cables carried through beams *don't go thro' beams but hang through bulkheads, &c. by means of special frames of fibre*

How are cables carried through decks *underneath them in wood casings or pipes*

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

Cargo light cables, whether portable or permanently fixed *portable* How fixed *by means of stop contacts*

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

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 *yes*

Are any switches, cut outs, 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 *by waterproof globes*

The installation is *properly* supplied with a voltmeter and *an amperemeter, fixed on main switch-board*

The copper used is guaranteed to have a conductivity of *100* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *600* (six hundred) 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.

ELECTROTECHNISCHE INDUSTRIE

*Adriaan Poff*

Electrical Engineers

Date *28 August 1897*

COMPASSES.

Distance between dynamo or electric motors and standard compass *at least 32*

Distance between dynamo or electric motors and steering compass *80*

The nearest cables to the compasses are as follows:— *Dynamo*

A cable carrying *3, 6* Amperes *no* feet from standard compass *+ 9* 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 *yes*

The maximum deviation due to electric currents, etc., was found to be *no* degrees on course in the case of the standard compass and *no* degrees on course in the case of the steering compass.

GENERAL REMARKS.

*The electric light installation worked satisfactory during the trials and did not affect the compasses.*

Builder's Signature

Date *28. August 1897.*

*W. F. D. van Ollefen*

Surveyor to Lloyd's Register of British and Foreign Ships

Committee's Minute

TUES 31 AUG 1897

*This installation appears to be fitted accordance with the Rules.*

*25th 30/8/97*



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