

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 4134^e

Port of Rotterdam Date of First Survey 8 October Date of Last Survey 21 Nov. 04 No. of Visits five
 No. in on the Iron or Steel S.S. Perlak Port belonging to Pangkalan Berenden
 Reg. Book 27 Feb. Built at Rotterdam By whom Maets van S. N. Feyenoord When built 1904
 Owners Kon. Al. tot Exp. Petr. Br. in Ned. India Owners' Address the Hague
 Yard No. 196 Electric Light Installation fitted by de Buitenhof & Housman When fitted 1904

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One single cylinder engine coupled to one compound-wound dynamo

Capacity of Dynamo 100 Amperes at 110 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed in engine room Whether single or double wire system is used double wire

Position of Main Switch Board near dynamo having switches to groups 5 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each each group of 8 lamps is concentrated in one distributing box with double pole switch

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 tin wire and constructed to fuse at an excess of 50 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 all fuses of equal sections

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

Total number of lights provided for 92 arranged in the following groups:— 5 Ventilators and 1 Suez-Searchlight

A) 4 groups lights each of together candle power requiring a total current of _____ Amperes

B) of about lights each of 5 lights of 8 candle power requiring a total current of 1.25 Amperes

C) 20-25 lamps lights each of 83 candle power requiring a total current of 41.5 Amperes

D) 5 Ventilators lights each of motor candle power requiring a total current of 2.5 Amperes

E) 1 Searchlight lights each of _____ candle power requiring a total current of 45.0 Amperes

2 Mast head light with 1 lamp each of 32 candle power requiring a total current of 2.0 Amperes

2 Side light with 1 lamp each of 32 candle power requiring a total current of 2.0 Amperes

2 Cargo lights of 4 lights of 16 candle power, whether incandescent or arc lights incandescent

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

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

DESCRIPTION OF CABLES.

Main cable carrying 45 Amperes, comprised of 13 wires, each 1.937 L.S.G. diameter, 35 square inches total sectional area

Branch cables carrying 12 Amperes, comprised of 7 wires, each 1.47 L.S.G. diameter, 10 square inches total sectional area

Branch cables carrying 2 Amperes, comprised of 3 wires, each 1.07 L.S.G. diameter, 2.5 square inches total sectional area

Leads to lamps carrying 0.5 Amperes, comprised of 1 wires, each 1.137 L.S.G. diameter, 1.0 square inches total sectional area

Cargo light cables carrying 2 Amperes, comprised of 14 wires, each 23 L.S.G. diameter, 0.00634 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

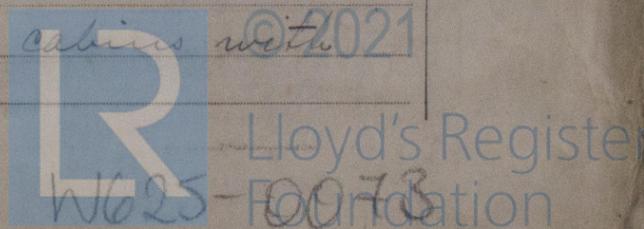
Tinned copper conductor insulated with pure and vulcanized India rubber; taped and cased in continuous drawn lead

Joints in cables, how made, insulated, and protected no joints

Are all the joints of cables thoroughly soldered, resin only having been used as a flux _____ 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 _____

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 by steel tubes; in cabins with brass staples



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *throughout accessible*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *watertight steel tubes*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *these cables are armoured*

What special protection has been provided for the cables near boiler casings *these cables are armoured*

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

How are cables carried through beams *by watertight glands* through bulkheads, &c.

How are cables carried through decks *by watertight conducting boxes*

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

If so, how are they protected *by steel tubes*

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 *no lamps in the spaces*

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 system*

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

Are all the joints with the hull in accessible positions _____

The installation is *duly* supplied with a voltmeter and *also* an amperemeter, fixed *on switchboard*

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 airtight armatures with brass guards*

Cables are protected by steel tubes

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 *1000* 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.

P. van Rietschoten & Houyrens,
J. J. J. J. J. Electrical Engineers Date *29 Nov. 1904*

COMPASSES.

Distance between dynamo or electric motors and standard compass *about 60 feet*

Distance between dynamo or electric motors and steering compass *60 "*

The nearest cables to the compasses are as follows:—

A cable carrying <i>45</i> Amperes	<i>20</i> feet from standard compass	<i>20</i> feet from steering compass
A cable carrying <i>10</i> Amperes	<i>10</i> feet from standard compass	<i>10</i> 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 _____ was found to be *no* degrees on _____ course in the case of the standard compass and *no* _____ course in the case of the steering compass.

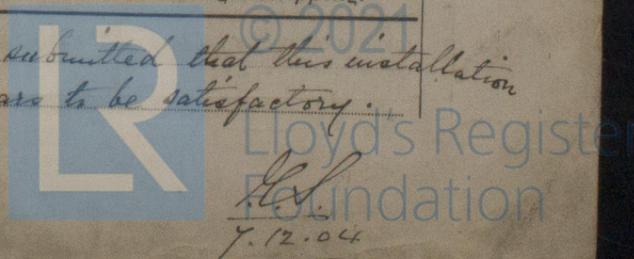
J. Oull Builder's Signature. Date *5 December 1904.*

GENERAL REMARKS. *This installation is in accordance with the Rules and is most satisfactory during repeated trials.*

H. F. D. van Olphen
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

It is submitted that this installation appears to be satisfactory.



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13—5m.24.