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# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 41710. C

Port of Amsterdam Date of First Survey 31 October Date of Last Survey 11 Decemb No. of Visits 8.

No. in Reg. Book 16 in Supp on the ~~Iron or~~ Steel Motor Petroleum tank vessel Vulcanus Port belonging to 's Gravenhage

Built at Amsterdam By whom Ned Scheepsbouw Maats When built 1910

Owners Ned Indische Tankstoomboot Maats Owners' Address 's Gravenhage

Yard No. 109. Electric Light Installation fitted by Mijnssen & Co When fitted 1910

**DESCRIPTION OF DYNAMO, ENGINE, ETC.**

Deutz motor direct coupled to Dynamo. ✓

Capacity of Dynamo 42½ ✓ 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 Engine room ✓ having switches to groups three ✓ of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 1 Engine room, 2 Chartroom 2 Messroom 1 in passage near Messroom. One Switch on Each ✓

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 — 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 ✓

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

Total number of lights provided for 85 arranged in the following groups :—

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A | 8 | lights each of | 32 | candle power requiring a total current of | 8 | Amperes |
| B | 57 | lights each of | 16 | candle power requiring a total current of | 28½ | Amperes |
| C | 6 | lights each of | 8 | candle power requiring a total current of | 1½ | Amperes |
| D | | lights each of | | candle power requiring a total current of | | Amperes |
| E | | lights each of | | candle power requiring a total current of | | Amperes |
| two | Mast head light with 1 | lamps each of | 16 | candle power requiring a total current of | ½ | Amperes |
| two | Side light with 1 | lamps each of | 16 | candle power requiring a total current of | ½ | Amperes |
| two | Cargo lights of 5 each | | 16 | 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 Chartroom

**DESCRIPTION OF CABLES.**

| | | | | | | |
|---|---|---|---|---|---|---|
| Main cable carrying | 15 Amperes, comprised of | 7 wires, each | 17 | L.S.G. diameter, | 0.0162 ✓ | square inches total sectional area |
| Branch cables carrying | 8 Amperes, comprised of | 7 wires, each | 19 | L.S.G. diameter, | 0.01 ✓ | square inches total sectional area |
| Branch cables carrying | 2 Amperes, comprised of | 7 wires, each | 22 | L.S.G. diameter, | 0.04 ✓ | square inches total sectional area |
| Leads to lamps carrying | 0.5 Amperes, comprised of | 7 wires, each | 25 | L.S.G. diameter, | 0.0018 ✓ | square inches total sectional area |
| Cargo light cables carrying | 2.5 Amperes, comprised of | 7 wires, each | 19 | L.S.G. diameter, | 0.01 ✓ | square inches total sectional area |

**DESCRIPTION OF INSULATION, PROTECTION, ETC.**

Main cables Steel armoured with Vulcanized Indiarubber insulation
Leads to lamps Lead mantle? (lead covered)

Joints in cables, how made, insulated, and protected None ✓

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 None ✓

How are the cables led through the ship, and how protected Along side of trunkdeck in galvanized iron pipes. ✓

**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 pipes ✓

*What special protection has been provided for the cables near galleys or oil lamps or other sources of heat* Iron pipes ✓

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

*What special protection has been provided for the cables in engine room* Steel armoured Cables ✓

*How are cables carried through beams* — *through bulkheads, &c.* —

*How are cables carried through decks* —

*Are any cables run through coal bunkers* — *or cargo spaces* — *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* —

*Cargo light cables, whether portable or permanently fixed* Portable ✓ *How fixed* Connecting boxes. ✓

*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* being ✓ *supplied with a voltmeter and* One ✓ *amperemeter, fixed* On 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* 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 on gas* no lamps at all ✓

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 2000 ✓ 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.**

MIJNSSEN & Co.
AFD. ELECTRICITEIT
AMSTERDAM.

*Electrical Engineers* *Date* December 1910.

**COMPASSES.**

*Distance between dynamo or electric motors and standard compass* 60 ft ✓

*Distance between dynamo or electric motors and steering compass* 54 ft ✓

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

*A cable carrying* two ✓ *Amperes* 10 ✓ *feet from standard compass* 15 *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* Nihil ✓ *degrees on* — *course in the case of the standard compass and* — *degrees on* — *course in the case of the steering compass.* —

NEDERLANDSCHE SCHEEPSBOUW-MAATSCHAPPIJ.

*Builder's Signature.* *Date* December 1910.

**GENERAL REMARKS.** The Electric light installation of this vessel has been fitted in a Careful & efficient manner. Motor and dynamo working during a 24 hours trial without hitches or heating ✓

It is submitted that this vessel is eligible for THE RECORD Elec. light. JWR 21/12/10.

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

*Committee's Minute* FRI. 23 DEC 1910 TUES. 13 JUN. 1911

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

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