

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2168

Port of Caracas, N.W.I. Date of First Survey 27-6-41 Date of Last Survey 30-3-42 No. of Visits 41No. in Reg. Book 77163 on the ~~Iron~~ Steel m.v. St. Eustachius ex "Karibia" Port belonging to Willemsstad.
Built at Korsör By whom A/S. Vulcanvægt When built 1921Owners Caracasche Scheepvaart Maatschappij Owners' Address Caracas, N.W.I.
Yard No. ✓ Electric Light Installation fitted by Caracasche Scheepvaart Maatschappij When fitted 1942.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Main alt.:- Single cylinder Semi Diesel Engine, 6 7/16" dia. x 7 1/4" stroke #525 r.p.m. A.E.G. dynamo compound wound, 4 poles. Emergency alt.:- Delco motor, dynamo 25A. 32V. paralleled with 5 batteries.Capacity of Dynamo 30 Amperes at 110 Volts, whether continuous or alternating current continuousWhere is Dynamo fixed port side of engine room. Whether single or double wire system is used double.Position of Main Switch Board port side of engine room. having switches to groups A. B. & C. of lights, &c., as belowPositions of auxiliary switch boards and numbers of switches on each 1 in messroom with 3 switches
1 on Bridge with 4 switches.If fuses 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 not. and to each lamp circuit yes.If vessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits yes.Are the fuses of non-oxidizable metal yes. and constructed to fuse at an excess of 10 per cent over the normal currentAre all fuses 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 ✓Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yesTotal number of lights provided for 44 arranged in the following groups:—

A	<u>25</u>	lights each of	<u>60</u>	candle power requiring a total current of	<u>10</u>	Amperes
B	<u>14</u>	lights each of	<u>60</u>	candle power requiring a total current of	<u>7</u>	Amperes
C	<u>5</u>	lights each of	<u>60</u>	candle power requiring a total current of	<u>2 1/2</u>	Amperes
D	<u>✓</u>	lights each of	<u>✓</u>	candle power requiring a total current of	<u>✓</u>	Amperes
E	<u>✓</u>	lights each of	<u>✓</u>	candle power requiring a total current of	<u>✓</u>	Amperes
<u>1</u>	Mast head light with	<u>1</u> lamp each of	<u>60</u>	candle power requiring a total current of	<u>0.5</u>	Amperes
<u>2</u>	Side lights with	<u>1</u> lamp each of	<u>60</u>	candle power requiring a total current of	<u>1.0</u>	Amperes
<u>7</u>	Cargo lights of		<u>60</u>	candle power, whether incandescent or are lights	<u>incandescent.</u>	

If are lights, what protection is provided against fire, sparks, &c. ✓Where are the switches controlling the masthead and side lights placed in W.T. 44 on bridge.

DESCRIPTION OF CABLES.

Main cable carrying	<u>30</u>	Amperes, comprised of	<u>7</u>	wires, each <u>3/4"</u> S.W.G. diameter,	<u>25</u>	square <u>mm.</u> total sectional area
Branch cables carrying	<u>3</u>	Amperes, comprised of	<u>2</u>	wires, each <u>1 1/2"</u> S.W.G. diameter,	<u>3</u>	square <u>mm.</u> total sectional area
Branch cables carrying	<u>9 1/2</u>	Amperes, comprised of	<u>2</u>	wires, each <u>1 1/2"</u> S.W.G. diameter,	<u>3</u>	square <u>mm.</u> total sectional area
Leads to lamps carrying	<u>3</u>	Amperes, comprised of	<u>1</u>	wire, each <u>1 1/2"</u> S.W.G. diameter,	<u>1 1/2</u>	square <u>mm.</u> total sectional area
Cargo light cables carrying	<u>4</u>	Amperes, comprised of	<u>1</u>	wire, each <u>1 1/2"</u> S.W.G. diameter,	<u>1 1/2</u>	square <u>mm.</u> total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Main cables, rubber insulation, cotton covering.
Branch cables, rubber insulation, lead casing, & steel armoured.
Light cables, rubber insulation, lead casing.
Joints in cables, how made, insulated, and protected none.Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances ✓ 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 noHow are the cables led through the ship, and how protected under the decks - protected by armoured casing.

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 *armoured casing and W.T. connections.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *none fitted*

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

What special protection has been provided for the cables in engine room *armoured casing & W.T. connections*

How are cables carried through beams *holes lined with lead.* through bulkheads, &c. *holes lined with lead.*

How are cables carried through decks *W.T. pipes*

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

If so, how are they protected *Armoured casing*

Are any lamps fitted in coal bunkers or spaces which may at times be used for ~~coals~~, coals, or baggage *no*

If so, how are the lamp fittings and cable terminals specially protected */*

Where are the main switches and fuses for these lights fitted */*

If in the spaces, how are they specially protected */*

Are any switches or fuses fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *permanently* How fixed *ground clips & W.T. fittings*

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 */*

Is the installation supplied with a voltmeter *yes* and with an amperemeter *yes* fixed in the main land

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas */*

Are any switches, fuses, 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 not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than *600* megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

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 above information supplied by the *G. P. J. M.* Electrical Engineers Date *30-3-42*

COMPASSES.

Distance between dynamo or electric motors and standard compass *no standard compass.*

Distance between dynamo or electric motors and steering compass *25 meters.*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>1/2</i>	<i>/</i>	<i>/</i>	<i>25</i>
<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>

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 */* degrees on */* course in the case of the standard compass and *4* degrees on *S.W. and N.W.* course in the case of the steering compass.

Builder's Signature. Date */*

GENERAL REMARKS.

The dynamo with its engine have been examined throughout & placed in good condition. All cables, switches, fuses, bulbs & etc. including the main board with meters have been examined. The installation tested & examined under working conditions and all found satisfactory.

D. H. Chapman
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUE 14 JUL 1942*
See Cco. Rpt. 2168