

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 3575

Port of SAN FRANCISCO, CAL. Date of First Survey 24th MAY 1921 Date of Last Survey 8th JULY 1921 No. of Visits 7
 No. in Reg. Book on the Iron or Steel S/S SCOPAS Port belonging to GRAVENHAGE
 Built at SAN PEDRO, CAL. By whom SOUTHWESTERN S. B. CO When built 1921
 Owners NEEDERLANDSCH-INDISCHE TANK STOOMBOOTMAATSCHAPPIJ Owners' Address
 Yard No. 24 Electric Light Installation fitted by SOUTHWESTERN S. B. CO When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

ONE - 12 K.W. G.E. Co. 6. POLE 1 1/2 R.P.M. COMPOUND. ENGINE 6 1/2" x 5" ONE. FLUX. - 1/2 K.W. G.E. Co. 6. POLE 550 R.P.M. COMPOUND. ENGINE. 5 1/2" x 4"

Capacity of Dynamo 109 H.P. 68 Amperes at 110 Volts, whether continuous or alternating current DIRECT

Where is Dynamo fixed Dynamo flat in Engine Room Whether single or double wire system is used Double

Position of Main Switch Board Dynamo flat having switches to groups A, B, C and D of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Pilot house. 5 switches for Midships and Forecastle Dynamo flat; switches for Engine Room and Boiler Room. Top of Engine Room three with switches for After quarters.

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 Yes 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 25 per cent over the normal current

Are 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 Standard

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for about 200 arranged in the following groups :-

Group	Number of lights	Watts	Candle power	Amperes
A FORECASTLE	23	25 WATTS	19.80	5.06
A MIDSHIPS	44	30	2.43	
B END B. SPACE	52	50 WATTS	23.40	Amperes
C AFTER QTRS	42	50	18.90	Amperes
D CARGO	20	50	10.00	Amperes
E				Amperes
2 Mast head lights with 1 lamps each of	32		0.9	Amperes
2 Side light with 1 lamps each of	32		0.9	Amperes
4 Cargo lights of	96			Amperes

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

Where are the switches controlling the masthead and side lights placed Wheel house

DESCRIPTION OF CABLES.

Branch Cable
 Main cable carrying 24 Amperes, comprised of 2 wires, each 0.162 S.W.G. diameter, .0412 square inches total sectional area
 Branch cables carrying 10 Amperes, comprised of 2 wires, each 0.128 S.W.G. diameter, .0255 square inches total sectional area
 Branch cables carrying 9 Amperes, comprised of 2 wires, each 0.102 S.W.G. diameter, .0162 square inches total sectional area
 Leads to lamps carrying 2 Amperes, comprised of 2 wires, each 0.051 S.W.G. diameter, .002 square inches total sectional area
 Cargo light cables carrying 6 Amperes, comprised of 2 wires, each 0.0808 S.W.G. diameter, .005 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All wire used is standard single conductor and lead covered, and where exposed run in conduit

Joints in cables, how made, insulated, and protected All joints spliced and soldered, taped first with rubber, then covered with friction tape, and given a heavy coating of insulating compound. All joints in water tight junction boxes.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 Lead covered cable in conduit



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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 *W.T. Conduit*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Steel Conduit*

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

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

How are cables carried through beams *Conduit* through bulkheads, &c. *Conduit with Stuffing Boxes*

How are cables carried through decks *Conduit with Brass deck tubes*

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

If so, how are they protected *Steel conduits*

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 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 *Permanent* How fixed *W.T. Steel Conduits and 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 to *Main Switchboard*

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 *Yes*

Are any switches, fuses, 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 *Vapour proof fittings*

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.

W. H. Smith & Co. Shipbuilding Co. Electrical Engineers Date _____

COMPASSES.

Distance between dynamo or electric motors and standard compass *about 260 feet*

Distance between dynamo or electric motors and steering compass *" 250 feet*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>25</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 *Nil* degrees on *True* course in the case of the standard compass and *Nil* degrees on *True* course in the case of the steering compass.

W. H. Smith & Co. Shipbuilding Co. Surveyor's Signature. Date _____

GENERAL REMARKS.

This installation has been fitted in accordance with the Rules, tested under working conditions and found in order, and the vessel is eligible in my opinion to have the notation "Electric Light" in the Register Book.

FEE *\$172.50* Applied for July 30th, 1921.

It is submitted that this vessel is eligible for THE BOARD. Eke Light Bell 7/31/21

Committee's Minute *New York AUG - 9 1921*

TUE NOV. 1 1921



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

2m.11.10.—1/1921

Elect light