

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2519

Port of Shanghai Date of First Survey 4. 1. 27 Date of Last Survey 2 June 27 No. of Visits 7
 No. in Reg. Book on the Iron or Steel SP "Hsin Yang 38" Port belonging to Shanghai
 Built at Shanghai By whom Shanghai Dock & Engineering Co. Ltd. When built 1927
 Owners Shanghai Pilot Boat Co. (1923) Ltd. Owners' Address Shanghai
 Yard No. 1725 Electric Light Installation fitted by Shanghai Dock & Engineering Co. Ltd. When fitted 1927

DESCRIPTION OF DYNAMO, ENGINE, ETC. Two Sisson Vertical Compound Double acting Engines
Size DC 4, 700 R.P.M. Working pressure 100 lbs. Direct coupled to 2 Compound
Multipolar Dynamos by The Electric Construction Co.

Capacity of Dynamo 118 Amperes at 110 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Engine Room Starboard side Whether single or double wire system is used Double

Position of Main Switch Board Engine Room Starboard side having switches to groups eight of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each ✓

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 ✓ 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Yes.

Are the fuses of non-oxidisable metal Yes. and constructed to fuse at an excess of 10 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 Yes.

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

Total number of lights provided for 258 arranged in the following groups:—

A	34	lights each of	3 @ 140	candle power requiring a total current of	12.5	Amperes
B	2, 16" Fans + 30	lights each of	29 @ 140	candle power requiring a total current of	14	Amperes
C	20, 12" Fans + 77	lights each of	16	candle power requiring a total current of	21	Amperes
D	4, 24" Fans + 52	lights each of	16	candle power requiring a total current of	12	Amperes
E	28	lights each of	16	candle power requiring a total current of	6	Amperes
2	Mast head light with 2 lamps each of	32	candle power requiring a total current of	.5	Amperes	
2	Side light with 2 lamps each of	32	candle power requiring a total current of	.5	Amperes	
7	Bluster lights of	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 Wheel House.

DESCRIPTION OF CABLES.

Main cable carrying	118	Amperes, comprised of	19	wires, each	14	S.W.G. diameter,	.0956	square inches total sectional area
Branch cables carrying	46	Amperes, comprised of	7	wires, each	16	S.W.G. diameter,	.0225	square inches total sectional area
Branch cables carrying	31	Amperes, comprised of	7	wires, each	18	S.W.G. diameter,	.0127	square inches total sectional area
Leads to lamps carrying		Amperes, comprised of	1	wires, each	18	S.W.G. diameter,	.0018	square inches total sectional area
Cargo light cables carrying		Amperes, comprised of		wires, each		S.W.G. diameter,		square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Para Rubber Vulcanized Rubber Tape + Lead Sheathed
Do. Do. Do. Do. Do. + Steel Armoured Wire.

Points in cables, how made, insulated, and protected

Porcelain Joint Boxes, inside Houses.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances None 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 An iron plate ground on underside.

On main deck, wood grounds in accommodation + iron conduit where necessary.

1 Searchlight @ 35 amperes

1 Motor @ 20

Wireless @ 15

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 Lead covered & for armoured, secured to iron plate base or through galv. iron pipe as required.

What special protection has been provided for the cables near galv. or oil lamps or other sources of heat Do.

What special protection has been provided for the cables near boiler casings Galvanized Iron Pipe

What special protection has been provided for the cables in engine room Mains, lead covered & armoured, branch through pipe

How are cables carried through beams holes lead bushed through bulkheads, &c. special fittings

How are cables carried through decks Galvanized Iron Pipe, special water tight fittings.

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, coats, 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 ✓

Cluster 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 ✓

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 on 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 ✓

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 SHANGHAI DOCK & ENGINEERING CO., LTD.

Electrical Engineers

Date 22/4.27

COMPASSES.

Distance between dynamo or electric motors and standard compass Engine room

Distance between dynamo or electric motors and steering compass " "

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>1/4</u>	<u>2</u>	<u>2</u>	<u>2</u>
<u>12.5</u>	<u>26</u>	<u>8</u>	<u>8</u>
<u>2.7</u>	<u>26</u>	<u>6</u>	<u>6</u>

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 Cardinal & Quadrantal points course in the case of the standard compass and nil degrees on Cardinal & Quadrantal points course in the case of the steering compass.

THE SHANGHAI DOCK & ENGINEERING CO., LTD.

Builder's Signature.

Date 2.6.1927

GENERAL REMARKS. The electric lighting installation has been fitted in this vessel in accordance with the Rules, the materials and workmanship are good and the whole electrical equipment has been well tested under working conditions and found satisfactory.

It is submitted that this vessel is eligible for THE RECORD. Elec. Light.

H. L. Fletcher & M. Boylan

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

Committee's Minute

FRI. 29 JUL 1927

Elec. Light



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