

# REPORT ON ELECTRIC LIGHTING INSTALLATION.

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No. 2556

Port of Yokohama Date of First Survey 14-10-19 Date of Last Survey 14-11-19 No. of Visits 6  
 No. in Reg. Book on the ~~XXXX~~ Steel T. S. S. S. "Eastern Merchant" Port belonging to \_\_\_\_\_  
 Built at Tsurumi By whom Asano Shipbuilding Co Ltd When built 1919  
 Owners United States Shipping Board E.F.C. Owners' Address United States America.  
 Yard No. 17 Electric Light Installation fitted by Asano Shipbuilding Co Ltd When fitted 1919

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

A) Vertical high speed compound steam-engine 12" x 7 1/2" x 5" stroke, 600 R.P.M. coupled direct to 6 poles compound wound interpole direct current generator of 25 K.W. capacity. (B) 6 1/2", 4" stroke Single cyl 10K.W.  
 Capacity of Dynamo (B) 100 Amperes at 100 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Starboard side second deck E.R. Whether single or double wire system is used Double

Position of Main Switch Board Dynamo room near dynamo having switches to groups A.B.C.D.E.F.G. of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Engine room 2-12, Boiler room 1 of 4,

shelter deck after 1 of 5, middle after port 1 of 4, middle after starboard 1 of 5,  
middle fore 1 of 5, Boat deck 1 of 6, navigation bridge 1 of 3, shelter deck fore 1 of 4.

Are fuses 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 No and to each lamp circuit Yes  
 Are the fuses of non-oxidizable metal Tin lead alloy and constructed to fuse at an excess of 85 % per cent over the normal current Yes

Are all fuses fitted in easily accessible positions Yes Are the fuses of standard dimensions Main only 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 5 circuits arranged in the following groups :-

Group	Number of lights	Light type	Candle power	Current (Amperes)
Engine & Boiler room circuit	71	lights each of 32		35.5
(After circuit)	30	lights each of 8 to 32		29.5
(Middle after circuit)	53	lights each of 8 to 32		39.5
(Middle fore & fore circuit)	58	lights each of 8 to 32		44.5
(Navigation lamp circuit)	5	lights each of 32		2.5
Mast head light	2	lamps each of 32		1.0
Side light	2	lamps each of 32		1.0
Cargo lights	8	6x(6x32-C.P.), 2x(2x2000-C.P.)		1.0

Are the lights, what protection is provided against fire, sparks, &c. Incandescent  
 One morse signal lamp 6 x 5 - C.P. No arc lamp fitted.

## DESCRIPTION OF CABLES.

Cable description	Capacity (A/B)	Wires	S.W.G. diameter	Total sectional area
1 cable carrying	(B) 100 / (A) 250	27 wires, each 16	(B) 0.0864	square inches
2 cables carrying	A 35.5 / B 29.5	7 wires, each 16	(A) 0.2592	square inches
3 cables carrying	C 39.5 / D 44.5	7 wires, each 15	0.0280	square inches
4 cables to lamps carrying	E 2.5	1 wires, each 18	0.0340	square inches
3 light cables carrying	3 Amperes	168 wires, each 38	0.0125	square inches
			0.0018	square inches
			0.0070	square inches

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Are the wires through water tight (W.T.) gas pipe, lead covered armoured wire used throughout Yes  
 Are the cables in living rooms where lead covered wire used. \_\_\_\_\_  
 Are the cables, how made, insulated, and protected Bronze, Joint blocks, in cast iron boxes.

Are 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 No joint  
 Are any joints in or branches from the cable leading from dynamo to main switch board No  
 Are the cables led through the ship, and how protected In holds, fitted by piping at the lower side of deck

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

Are they in places always accessible Yes, Accessible

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Lead covered armoured

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead covered armoured

What special protection has been provided for the cables near boiler casings Clear of casings, on bunker casings, in stokehold.

What special protection has been provided for the cables in engine room Rubber wire in W.T. pipes where exposed to damp

How are cables carried through beams Lead linings fitted through bulkheads, &c. Brass W.T. sockets

How are cables carried through decks Iron deck tubes 12" high, fibre lined.

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

If so, how are they protected Rubber wires through W.T. gas pipe, lead covered armoured, strongly secured to deck girders.

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage None

If so, how are the lamp fittings and cable terminals specially protected None

Where are the main switches and fuses for these lights fitted None

If in the spaces, how are they specially protected Not in the spaces, bunker lamps are portable from stokehold.

Are any switches or fuses fitted in bunkers No

Cargo light cables, whether portable or permanently fixed Portable How fixed Screw connectors in C.I. boxes

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel Double wire only used

How are the returns from the lamps connected to the hull None

Are all the joints with the hull in accessible positions None

Is the installation supplied with a voltmeter Yes, and with an amperemeter Yes, fixed On main switch board.

**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 xx

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.

T. Tamag Electrical Engineers Date

**COMPASSES.**

Distance between dynamo or electric motors and standard compass From Dynamo 140 feet, Wireless motor 90 feet.

Distance between dynamo or electric motors and steering compass From Dynamo 150 feet, Wireless motor 95 feet.

The nearest cables to the compasses are as follows:—

Cable Carrying	Amperes	feet from standard compass	feet from steering compass
10	15	20	
2.5	10	10	
1/2	0	0	

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 All course in the case of the standard compass and Nil degrees on All course in the case of the steering compass.

M Builder's Signature. Date

**GENERAL REMARKS.**

The installation of this vessel has been fitted in accordance with the Society's Rules, the materials and workmanship are good, and the engines have been satisfactorily tried under steam.

It is submitted that this vessel is eligible for THE RECORD ELEC. LIGHT 27/2/20

W. Boylan.  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE MAR 2 - 1920

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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