

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2512

Port of Yokohama Date of First Survey June 5th Date of Last Survey July 21 No. of Visits 9
 No. in Reg. Book on the Iron or Steel "TSURUSHIMA MARU" Port belonging to Uraga
 Built at Uraga By whom Uraga Dock Co When built 1919
 Owners Urajima Unyu Kabushiki Kaisha Owners' Address 37 Oaza Tabushinmachi Urajima-machi Kitauwagu, Shimizu
 Yard No. 140 Electric Light Installation fitted by Uraga Dock Co. When fitted 1919.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

1-6 K.W. Generator direct connected to single vertical engine
1-10 K.W. " " " " " " " "
 Capacity of Dynamos 60 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Lower Engine Room, port side. Whether single or double wire system is used Double
 Position of Main Switch Board Near Generator having switches to groups A.B.C.D. of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Chart Room, 5 switches, all other lamps have independent switches in accommodation spaces

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 No 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 No
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 130 arranged in the following groups:-

A	FORW ^D	22	lights each of <u>13@16, 8@50, & 1@1000</u>	candle power requiring a total current of	<u>12.5</u>	Amperes
B	BRIDGE DECK	42	lights each of <u>5@32, 4@16, & 3@5</u>	candle power requiring a total current of	<u>13.0</u>	Amperes
C	ENG. ROOM	55	lights each of <u>16</u>	candle power requiring a total current of	<u>17.0</u>	Amperes
D	AFT	11	lights each of <u>2@16 - 8@50, & 1@1000</u>	candle power requiring a total current of	<u>10.5</u>	Amperes
E			lights each of	candle power requiring a total current of		Amperes
2	Must head light with	2	lamps each of <u>32</u>	candle power requiring a total current of	<u>2</u>	Amperes
2	Side light with	2	lamps each of <u>32</u>	candle power requiring a total current of	<u>2</u>	Amperes
4	Cargo lights of	each	<u>200</u>	candle power, whether incandescent or arc lights	<u>Incandescent</u>	

If arc lights, what protection is provided against fire, sparks, &c. None fitted
 Where are the switches controlling the masthead and side lights placed Chart Room

DESCRIPTION OF CABLES.

Main cables carrying 100+60 Amperes, comprised of 110+60 wires, each 20 S.W.G. diameter, .110+061 square inches total sectional area
 Branch cables carrying 15 Amperes, comprised of 15 wires, each 20 S.W.G. diameter, .0153 square inches total sectional area
 Branch cables carrying 7 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, .007 square inches total sectional area
 Leads to lamps carrying 1.5 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .008 square inches total sectional area
 Cargo light cables carrying 7 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, .007 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Rubber & tape lead covered & armoured
 Joints in cables, how made, insulated, and protected Brass terminals & air 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 bunks, 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 Through beams, & W.T. stuffing boxes in bulkheads
Armoured cable, & led through steel tubing.



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 cable & steel tubing

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat
Armoured & steel tubing

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

What special protection has been provided for the cables in engine room
Armoured cable & steel tubing

How are cables carried through beams
Armoured cable & steel tubing through bulkheads, &c. W.T. Stuffing boxes

How are cables carried through decks
Steel tubing & W.T. stuffing boxes.

Are any cables run through coal bunkers *Yes* or cargo spaces *Yes* or spaces which may be used for carrying cargo, stores, or baggage *Yes*

If so, how are they protected
Armoured cable, clipped to beams, & steel tubing, others led through beams

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *Yes*

If so, how are the lamp fittings and cable terminals specially protected
Air tight covers & guards, & Cast Iron junction boxes

Where are the main switches and fuses for these lights fitted
Quadrants distribution box.

If in the spaces, how are they specially protected
None

Are any switches or fuses fitted in bunkers
No

Cargo light cables, whether portable or permanently fixed
Portable How fixed *Plugged in, at Gun. on Deck.*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel
None

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

Are all the joints with the hull in accessible positions
Yes

Is the installation supplied with a voltmeter *Yes*, and with an amperemeter *Yes*, fixed *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
Yes

Are any switches, fuses, or joints of cables fitted in the pump room or companion
Yes

How are the lamps specially protected in places liable to the accumulation of vapour or gas
None

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.

Uraga Dock Co *S. Hamamura* Electrical Engineers Date *JUL 1919*

COMPASSES.

Distance between dynamo or electric motors and standard compass
12

Distance between dynamo or electric motors and steering compass
12

The nearest cables to the compasses are as follows:—

A cable carrying	<i>50</i>	Amperes	<i>12</i>	feet from standard compass	<i>12</i>	feet from steering compass
A cable carrying	<i>4</i>	Amperes	<i>12</i>	feet from standard compass	<i>8</i>	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 *NIL* degrees on *EVERY* course in the case of the standard compass and *NIL* degrees on *EVERY* course in the case of the steering compass.

S. Hamamura Builder's Signature. Date *JUL 1919*

GENERAL REMARKS.

The fitting of the wires throughout this vessel are as stated in this report, and appear to be in accordance with the committee's requirements. Eligible in my opinion to have record of ELECTRIC LIGHT in the Register Book.

It is submitted that this vessel is eligible for
THE RECORD. Elec. light. *JUD* 17/9/19.
FRI 19 SEP 1919
A.D. Buchanan.
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN



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