

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 3099

Port of Kobe Date of First Survey Nov. 29th 1920 Date of Last Survey Jan. 14th 1921 No. of Visits 5
 No. in Reg. Book on the Iron or Steel S/S IWATE MARU Port belonging to OH. HARIMA.
 Built at HARIMA By whom Teikoku Steamship Co. When built 1921
 Owners Teikoku Steamship Co. Owners' Address (HARIMA DOCKYARD) Kobe
 Yard No. 50. Electric Light Installation fitted by TEIKOKU S. S. Co. (HARIMA DOCKYARD) When fitted 1921.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One Direct current open type compound Dynamo directly coupled with special high speed single engine

Capacity of Dynamo 10 K.W. 100 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Starboard of the E.R. floor Whether single or double wire system is used double
 Position of Main Switch Board on E.R. floor having switches to groups A. B. C. D. E. F. of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Six switches for each circuit A. B. C. D. E. F. on the same panel.

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

Are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of 50 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 Six circuits arranged in the following groups :-

A Engine Room	lights each of <u>2-400 C.P. 2-32 C.P.</u>	candle power requiring a total current of	<u>11.2</u>	Amperes
B Bridge Amid	lights each of <u>23-16 C.P. 1-32 C.P.</u>	candle power requiring a total current of	<u>19.0</u>	Amperes
C Fan motor	lights each of <u>14-40 watts</u>	candle power requiring a total current of	<u>56</u>	Amperes
D Cargo lights	lights each of <u>2-1000 C.P. of 32</u>	candle power requiring a total current of	<u>18.0</u>	Amperes
E Navigation lamp	lights each of <u>3-16 C.P. 5-32 C.P.</u>	candle power requiring a total current of	<u>6.2</u>	Amperes
F Wireless	Mast head light with <u>2</u> lamps each of <u>32</u>	candle power requiring a total current of	<u>2.24</u>	Amperes
	+ stern			
	Side light with <u>3</u> lamps each of <u>32</u>	candle power requiring a total current of	<u>3.36</u>	Amperes
	<u>5</u> Cargo lights of each cluster with 4 lamps <u>of 32 C.P.</u>	candle power, whether incandescent or arc lights	<u>incandescent</u>	

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

Where are the switches controlling the masthead and side lights placed in the Chart Room

DESCRIPTION OF CABLES.

Main cable carrying	<u>100</u> Amperes, comprised of	<u>19</u> wires, each	<u># 14</u> S.W.G. diameter,	<u>0.094</u> square inches total sectional area
A Branch cables carrying	<u>11.2</u> Amperes, comprised of	<u>7</u> wires, each	<u># 20</u> S.W.G. diameter,	<u>0.007</u> square inches total sectional area
B Branch cables carrying	<u>19.0</u> Amperes, comprised of	<u>7</u> wires, each	<u># 18</u> S.W.G. diameter,	<u>0.0125</u> square inches total sectional area
C Leads to lamps carrying	<u>5.6</u> Amperes, comprised of	<u>7</u> wires, each	<u># 20</u> S.W.G. diameter,	<u>0.007</u> square inches total sectional area
E " " "	<u>6.2</u> " " "	<u>7</u> " " "	<u># 20</u> " " "	" " "
D Cargo light cables carrying	<u>18.0</u> Amperes, comprised of	<u>7</u> wires, each	<u># 16</u> S.W.G. diameter,	<u>0.022</u> square inches total sectional area
F Branch cable	<u>38.0</u> " " "	<u>7</u> " " "	<u># 16</u> " " "	" " "

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Conductors are doubly insulated with india rubber and vulcanized rubber & tape.

Cables are protected against mechanical injury such chemical action by steel armouring or lead covering according to the requirements.

Joints in cables, how made, insulated, and protected Cables are jointed in a joint box which is made of iron plate, and the joints are all soldered and wound with insulating tape.

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 none

How are the cables led through the ship, and how protected Clipped to plate fastened to under side of beams & armoured

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 and armoured.

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

What special protection has been provided for the cables near boiler casings Armoured.

What special protection has been provided for the cables in engine room Armoured.

How are cables carried through beams Bushed with lead through bulkheads, &c. Gland + packing

How are cables carried through decks In galvanized pipes securely fastened to the deck.

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 Armoured.

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 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 yes

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.

S. K. Seng

Electrical Engineers

Date February 19th 1921

COMPASSES.

Distance between dynamo or electric motors and standard compass about 135 feet.

Distance between dynamo or electric motors and steering compass about 153 feet.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>6.2</u>	Amperes	<u>about 8</u>	feet from standard compass	<u>about 127</u>	feet from steering compass
A cable carrying	<u>1.6</u>	Amperes	<u>" 24</u>	feet from standard compass	<u>" 104</u>	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

The maximum deviation due to electric currents, etc., was found to be _____ degrees on _____ course in the case of the standard compass and _____ degrees on _____ course in the case of the steering compass.

THE TEIKOKU SHIPBUILDING CO., LTD.

S. K. Seng
for Director

Builder's Signature.

Date February 19th 1921

GENERAL REMARKS.

This installation has been fitted in accordance with the requirements of the Rules and worked satisfactorily on trial

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

Electric Light
Roll 28/4/21

A. Watt

Surveyor to Lloyd's Register of Shipping.

Committee's Minute