

MON. 24. MAR. 1919

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2404

Port of Tokyo Date of First Survey 2<sup>nd</sup> Dec Date of Last Survey 26<sup>th</sup> Dec No. of Visits Six  
 No. in Reg. Book on the Iron or Steel Steel Screw Steam 6michi Port belonging to Tokyo  
 Built at Imashima By whom Osaka Iron Works When built 1918  
 Owners Tokyo Shosen Kaisha Ltd. Kaishi Owners' Address Tokyo  
 Yard No. 445 Electric Light Installation fitted by Osaka Iron Works Ltd. When fitted 1918

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Direct current, Compound Dynamo

Capacity of Dynamo 10 K.W. 100 Amperes at 100 Volts, whether continuous or alternating current D.C.  
 Where is Dynamo fixed At Starb side E.R. platform Whether single or double wire system is used Double wire system  
 Position of Main Switch Board On Starb side bunker E.R. having switches to groups For main circuit breakers of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each One for Engine room, One for crew quarters,  
Two for Officers Rooms, One for signal light.

If fuses are fitted on main switch board to the cables of main circuit Fitted and on each auxiliary switch board to the cables of auxiliary circuits fitted and at each position where a cable is branched or reduced in size Branched and to each lamp circuit Branched

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 fitted

Are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of 30% 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 105 + 2 arc lamps arranged in the following groups:—

A Engine Room 28 lights each of	<u>16</u>	candle power requiring a total current of	<u>14.84</u>	Amperes
B Officers Rooms 31 lights each of	<u>16</u>	candle power requiring a total current of	<u>15.91</u>	Amperes
C Crew Quarters 8 lights each of	<u>16</u>	candle power requiring a total current of	<u>4.24</u>	Amperes
D Stern light 1 lights each of	<u>32</u>	candle power requiring a total current of	<u>1.06</u>	Amperes
E Chart Room 1 lights each of	<u>16</u>	candle power requiring a total current of	<u>.53</u>	Amperes
Mast head light with <u>2</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.12</u>	Amperes
Side light with <u>2</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.12</u>	Amperes
Cargo lights of <u>4-5 clusters</u>		candle power, whether incandescent or arc lights	<u>Both are used</u>	

If arc lights, what protection is provided against fire, sparks, &c. Two arc lamps used, Protection is glass globes, they require a total current of 10.6 x 8 amps

Where are the switches controlling the masthead and side lights placed in the chart room

## DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of lead wires, each # 5/8 S.W.G. diameter, 0.15 square inches total sectional area  
 Branch cables carrying 14.84 Amperes, comprised of lead wires, each # 7/16 S.W.G. diameter, 0.024 square inches total sectional area  
 Branch cables carrying 16.45 Amperes, comprised of lead wires, each # 7/16 S.W.G. diameter, 0.024 square inches total sectional area  
 Leads to lamps carrying .53 Amperes, comprised of lead wires, each # 1/8 S.W.G. diameter, 0.003 square inches total sectional area  
 Cargo light cables carrying 12.6 Amperes, comprised of lead wires, each # 9/16 S.W.G. diameter, 0.035 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

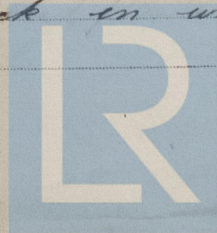
Officers rooms and crew quarters lead covered through wood covers  
Engine room, Boilers room & cargo hatches armoured wire lead through  
wrought iron pipes

Joints in cables, how made, insulated, and protected Porcelain boxes or cast iron boxes are used

Are all the joints of cables thoroughly soldered, and the solder 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 Under the upper deck in wrought iron pipes





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 *By galvanized wrought iron pipes*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Wood fitted behind armoured cable*

What special protection has been provided for the cables near boiler casings *Wood fitted behind armoured cable*

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

How are cables carried through beams *Holes cut + lead covered edges* through bulkheads, &c. *Water tight glands*

How are cables carried through decks *Through pipe with water tight fittings*

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

If so, how are they protected *By galvanized wrought iron pipes*

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

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 *None*

Are any switches or fuses fitted in bunkers *None*

Cargo light cables, whether portable or permanently fixed *Portable* How fixed *None*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *no*

How are the returns from the lamps connected to the hull *no*

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 *at 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 *✓*

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 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.

(Signed)

E. J. Yoshida Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass *about 90'-0"*

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

The nearest cables to the compasses are as follows:—

A cable carrying	<i>.53</i>	Amperes	<i>7/-0-</i>	feet from standard compass	feet from steering compass
A cable carrying	<i>"</i>	Amperes	<i>"</i>	feet from standard compass	feet from steering compass
A cable carrying	<i>"</i>	Amperes	<i>"</i>	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.

Builder's Signature. Date

GENERAL REMARKS. *The installation has been fitted in accordance with the requirements of the rules and worked satisfactory on trials*

*It is submitted that this vessel is eligible for*

THE RECORD. Elec. light.

*AWD*  
*24/3/19*

*John Sim*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 28 MAR. 1919

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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