

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No.

Date of First Survey \_\_\_\_\_ Date of Last Survey \_\_\_\_\_ No. of Visits \_\_\_\_\_  
 Name of Ship *S. S. Shima Maru* Port belonging to *Wakayama*  
 Built at *Toba* By whom *Teikoku S.S. Ship Co* When built *1920*  
 Owners' Address *6 Itachi boro, Nishiku, Osaka*  
 No. *34* Electric Light Installation fitted by *Teikoku S.S. Co Toba Branch* When fitted *1920*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

C. Open type Compound Generator. Coupled direct to *single* Cylinder *inward*  
 6" dia x 5 1/2" str.

Capacity of Dynamo *7 K.W.* Amperes at *110* Volts, whether continuous or alternating current *Continuous*

Where is Dynamo fixed *Starboard side Eng. Rm.* Whether single or double wire system is used *Double*

Location of Main Switch Board *Starboard side Eng. Rm.* having switches to groups *A. B. C. D. E* of lights, &c., as below

Locations of auxiliary switch boards and numbers of switches on each *None, but instead there are distribution*

*selection boxes, two in engine room: one in chart room: five on the bridge deck & one in the cargo space under the poop deck.*

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 *Yes* and to each lamp circuit *Yes*

Are all circuits 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-oxidizable metal *Yes* and constructed to fuse at an excess of *100* 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 *111* arranged in the following groups:—

*26* lights each of *16 and 10* candle power requiring a total current of *18.6* Amperes

*27* lights each of *16: 10 and 5* candle power requiring a total current of *9.25* Amperes

*24* lights each of *500 Bunsen & 16* candle power requiring a total current of *17.0* Amperes

*29* lights each of *16* candle power requiring a total current of *9.05* Amperes

*5* lights each of *32* candle power requiring a total current of *4.85* Amperes

*2 Mast head light with 2 lamps each of 1-32* candle power requiring a total current of *3.5* Amperes

*2 Side light with 1 lamps each of 32* candle power requiring a total current of *1.75* Amperes

*8 Cargo lights of 4-16* candle power, whether incandescent or arc lights *Incandescent*

Are all lights, what protection is provided against fire, sparks, &c.

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

DESCRIPTION OF CABLES.

Main cable carrying *74* Amperes, comprised of *60* wires, each *20* S.W.G. diameter, *.06* square inches total sectional area

Branch cables carrying *23* Amperes, comprised of *19* wires, each *20* S.W.G. diameter, *.019* square inches total sectional area

Branch cables carrying *8.5* Amperes, comprised of *9* wires, each *20* S.W.G. diameter, *.007* square inches total sectional area

Branch cables carrying *13* Amperes, comprised of *11* wires, each *20* S.W.G. diameter, *.011* square inches total sectional area

Leads to lamps carrying *2* Amperes, comprised of *1* wires, each *18* S.W.G. diameter, *.0018* square inches total sectional area

Cargo light cables carrying *3.5* Amperes, comprised of *1* wires, each *16* S.W.G. diameter, *.003* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

The wires are galvanized, covered with

vulcanized rubber & cotton insulation & protected by lead & iron

tubes

Joints in cables, how made, insulated, and protected *In properly constructed to the 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 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 *Enclosed in iron tubes*



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 wires in steel tubes*

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

What special protection has been provided for the cables near boiler casings *Lead covered in iron tubes*

What special protection has been provided for the cables in engine room *Lead covered in iron tubes*

How are cables carried through beams *Lead tubes thru. handholes through bulkheads, &c. Iron pipes & W.T. hand wood.*

How are cables carried through decks *W.T. pipes lined with wood.*

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 *Lead covered and placed in iron pipes*

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 *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.

*M. Takato, Toba Dockyard.* Electrical Engineers Date *21/6/20*

COMPASSES.

Distance between dynamo or electric motors and standard compass *Over 60 feet*

Distance between dynamo or electric motors and steering compass *Over 80 feet*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>85</i>	<i>3</i>	<i>Over 100</i>	
A cable carrying	Amperes	feet from standard compass	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 *2.8* degrees on *2.8* course in the case of the standard compass and *2.8* degrees on *2.8* course in the case of the steering compass.

Builder's Signature. Date

GENERAL REMARKS.

*This installation has been fitted in accordance to the requirements of the rules.*

Director

*Rel 5/8/20*

*J.G. Fox*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. AUG. 16 1920

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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