

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 3052

Port of *Osaka* Date of First Survey *29. Oct.* Date of Last Survey *7. Dec.* No. of Visits *9*  
 No. in Reg. Book on the ~~Iron~~ Steel screw steamer *Kishu Maru* Port belonging to *Osaka*  
 Built at *Osaka* By whom *The Osaka Ship Works, Ltd.* When built *20*  
 Owners *Osaka Shosen Kaisha* Owners' Address *Osaka*  
 Yard No. *953* Electric Light Installation fitted by *The Osaka Ship Works, Ltd.* When fitted *1920*.

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*Continuous current compound dynamo, direct coupled to enclosed self lubricating high speed single cylinder vertical engine.*

Capacity of Dynamo *7 K.W.* *70* Amperes at *100* Volts, whether continuous or alternating current *continuous*

Where is Dynamo fixed *Bottom platform in engine-room* Whether single or double wire system is used *double*

Position of Main Switch Board *close to dynamo* having switches to groups *A, B, C, D & E* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *on main switch board.*

*Separate switches for engine & boiler spaces, cargo, navigation lights, passenger accommodation, fan motors and wireless current.*

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 *yes*

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 *204* arranged in the following groups:—

A	Crew space	14 lights each of	16	candle power requiring a total current of	7.42	Amperes
B	Bridge deck fore cabin	28 lights each of	16	candle power requiring a total current of	14.84	Amperes
C	" aft cabin	35 lights each of	16	candle power requiring a total current of	18.55	Amperes
D	Upper deck cabin	41 lights each of	16	candle power requiring a total current of	21.73	Amperes
E	Cargo & machinery	42 lights each of	16	candle power requiring a total current of	23.32	Amperes
	3 Mast head light with	1 lamps each of	32	candle power requiring a total current of	2.12	Amperes
	2 Side light with	1 lamps each of	32	candle power requiring a total current of	2.12	Amperes
	6 Cargo lights of	5 lamps each 16 candle power, whether incandescent or arc lights			incandescent	
		2 Nitrogen lamps, each 200 Watts.				

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

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

## DESCRIPTION OF CABLES.

Main cable carrying	70 Amperes, comprised of	60 wires, each	18 S.W.G. diameter,	14469 square inches total sectional area
Branch cables carrying	7.41 " "	7 " "	18 " "	01266 " "
Branch cables carrying	14.84 Amperes, comprised of	13 wires, each	18 S.W.G. diameter,	02341 square inches total sectional area
Branch cables carrying	18.55 " "	15 " "	18 " "	02713 " "
Branch cables carrying	21.73 Amperes, comprised of	19 wires, each	18 S.W.G. diameter,	03436 square inches total sectional area
Branch cables carrying	23.32 " "	19 " "	18 " "	03436 " "
Leads to lamps carrying	5.3 Amperes, comprised of	1 wires, each	18 S.W.G. diameter,	00181 square inches total sectional area
Branch cables	7.15 " "	7 " "	18 " "	01266 " "
Cargo light cables carrying	19.9 Amperes, comprised of	19 wires, each	18 S.W.G. diameter,	03436 square inches total sectional area
Electric fan cables	20.19 " "	19 " "	18 " "	03436 " "

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

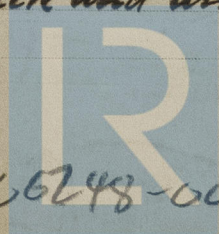
*Insulated rubber, lead covered & where required armoured.*

Joints in cables, how made, insulated, and protected *led to porcelain junction box or cast iron boxes with watertight covers.*

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 *clipped to underside of deck and armoured.*



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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 or in galvanized iron tubes.*

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

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 or in galvanized iron tubes.*

How are cables carried through beams *Special steel lead fitting* through bulkheads, &c. *Gland with putty packing*

How are cables carried through decks *galvanized iron pipe securely fastened to deck & made watertight at top.*

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.*

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 *plug and socket*

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 *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 *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.

*Y. Kiyozumi*

Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass *about 128' - 0"*

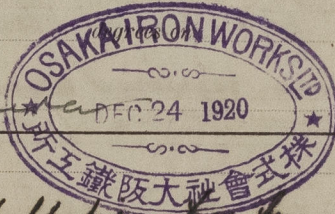
Distance between dynamo or electric motors and steering compass *" 96' - 0"*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>2.12</i>	Amperes	<i>8</i>	feet from standard compass	<i>16</i>	feet from steering compass
A cable carrying	<i>.53</i>	Amperes	<i>9</i>	feet from standard compass	<i>15</i>	feet from steering compass
A cable carrying	<i>2.12</i>	Amperes	<i>20</i>	feet from standard compass	<i>9</i>	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 \_\_\_\_\_ course in the case of the steering compass.



Builder's Signature.

Date

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. *See Light*

*Reed*  
*23/2/21*

*H. Pearson*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

*FRI. 23 FEB. 1921*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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