

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 4606.

Port of *Kobe* Date of First Survey *8/4/24* Date of Last Survey *24/7/24* No. of Visits *7*
 No. in on the ~~Iron or~~ Steel *SS. "KOSHIN MARU"* Port belonging to *Kobe*
 Reg. Book Built at *Amosima* By whom *Osaka Iron Works* When built *1924*
 Owners *Kiroumi Shoji Kabushiki Kaisha* Owners' Address *✓*
 Yard No. *918* Electric Light Installation fitted by *Osaka Iron Works* When fitted *1924*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Compound wound dynamo direct coupled to single cylinder, vertical, enclosed, steam engine.
 Capacity of Dynamo *150* Amperes at *100* Volts, whether continuous or alternating current *continuous*
 Where is Dynamo fixed *Starb. side of E.R. lower platform* Whether single or double wire system is used *double*
 Position of Main Switch Board *Starb. side of E.R. on store bulkhead* 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 *6 auxiliary switches on main switch board.*

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 *159* arranged in the following groups:—

A <i>Mach. Room</i>	<i>53</i> lights each of	<i>16</i>	candle power requiring a total current of	<i>10.6</i>	Amperes
B <i>Cabin and Crew Space</i>	<i>80</i> lights each of	<i>16</i>	candle power requiring a total current of	<i>16.8</i>	Amperes
C <i>Navigation</i>	<i>8</i> lights each of	<i>16 & 32</i>	candle power requiring a total current of	<i>5.8</i>	Amperes
D <i>Off. Cargo</i>	<i>10</i> lights each of	<i>16</i>	candle power requiring a total current of	<i>16.0</i>	Amperes
E <i>Fore Cargo</i>	<i>8</i> lights each of	<i>16</i>	candle power requiring a total current of	<i>14.0</i>	Amperes
<i>2</i> Mast head light with	<i>1</i> lamps each of	<i>32</i>	candle power requiring a total current of	<i>2.12</i>	Amperes
<i>2</i> Side light with	<i>1</i> lamps each of	<i>32</i>	candle power requiring a total current of	<i>2.12</i>	Amperes
<i>18</i> Cargo lights	<i>14 clusters and 44 niches</i>		candle power, whether incandescent or arc lights <i>incandescent</i>		

If arc 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	<i>150</i> Amperes, comprised of	<i>80</i> wires, each	<i>18</i> S.W.G. diameter, <i>0.14480</i> square inches total sectional area
Branch cables carrying	<i>10.6 & 16.8</i> Amperes, comprised of	<i>11</i> wires, each	<i>21</i> S.W.G. diameter, <i>0.00884</i> square inches total sectional area
Branch cables carrying	<i>7.4</i> Amperes, comprised of	<i>7</i> wires, each	<i>21</i> S.W.G. diameter, <i>0.00566</i> square inches total sectional area
Leads to lamps carrying	<i>0.2 & 16.0</i> Amperes, comprised of	<i>1</i> wires, each	<i>18</i> S.W.G. diameter, <i>0.00181</i> square inches total sectional area
Cargo light cables carrying	<i>14.0</i> Amperes, comprised of	<i>11</i> wires, each	<i>21</i> S.W.G. diameter, <i>0.00884</i> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

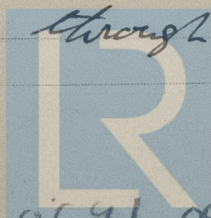
Vulcanised rubber; armoured or lead covered as necessary.

Joints in cables, how made, insulated, and protected *Mechanical joints, insulated with porcelain & slate bases, & protected in can-rin 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 *Armoured wire, led through galvanised 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

Pipes

Galvanised iron

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

Armoured wire

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

Armoured wire

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

Armoured wire & galvanised iron pipes

How are cables carried through beams

Lead bushes

through bulkheads, &c.

W.T. glands

How are cables carried through decks

Flanged, galvanised iron pipes

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 wire, or through galvanised 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 500 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. Kijozumi Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass

95'-0" above-

Distance between dynamo or electric motors and steering compass

150'-0"

The nearest cables to the compasses are as follows:—

A cable carrying	4.8	Amperes	16	feet from standard compass	feet from steering compass
A cable carrying	2.12	Amperes	7	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

degrees on

course in the case of the

standard compass and

degrees on

course in the case of the steering compass.

H. Sasaki

Builder's Signature.

Date

GENERAL REMARKS.

This installation fitted in accordance with the requirements of the Rules. The materials & workmanship are good, and the installation was found satisfactory when tried under full working conditions. This vessel is eligible in my opinion for the notation "Elec. Light."

Fee £ 225.

THE RECORD. Elec. Light.

J. D. Young

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

14 NOV 1924

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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