

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2023

Port of Ser. Shin "Kaijuku Maru" Date of First Survey 24 March Date of Last Survey 14 April 1917 No. of Visits 5  
 No. in on the Iron or Steel Reg. Book Built at Innsushima By whom The Osaka Iron Works Co When built 1917  
 Owners G. Katsuda Owners' Address Sakai Machi Kobe  
 Yard No. 911 Electric Light Installation fitted by The Osaka Iron Works When fitted 1917

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Compound wound, 6 pole, Continuous Current  
Single cylinder engine coupled direct to dynamo.  
 Capacity of Dynamo 10 K.W. 100 Amperes at 100 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed in engine room Whether single or double wire system is used Double  
 Position of Main Switch Board in engine room having switches to groups 4 in No. 1 Cabin 1 Signal  
 Positions of auxiliary switch boards and numbers of switches on each one in chart room which have 7. one in Pastry which have 4. one in mess room which have 5. one in Eng. room which have 6. one in Crew space which have 3 switches.

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 on Switch board  
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for Signal Cabin, Cargo &c. arranged in the following groups:—

|   |  |             |  |              |         |
|---|--|-------------|--|--------------|---------|
| A | 97 lights each of                      | 16          | candle power requiring a total current of        | 5.4.3        | Amperes |
| B | 10 lights each of                      | 10          | candle power requiring a total current of        | 3.5          | Amperes |
| C | 2 lights each of                       | 6           | candle power requiring a total current of        | 0.42         | Amperes |
| D | 2 arc lights each of                   | nearly 1000 | candle power requiring a total current of        | 5.00         | Amperes |
| E | 1 steam lights each of                 | 16          | candle power requiring a total current of        | 0.56         | Amperes |
|   | 2 Mast head light with 2 lamps each of | 32          | candle power requiring a total current of        | 2.24         | Amperes |
|   | 2 Side light with 2 lamps each of      | 32          | candle power requiring a total current of        | 2.24         | Amperes |
|   | 10 Cargo lights of 4 lamps groups      | 16          | candle power, whether incandescent or arc lights | Incandescent |         |

If arc lights, what protection is provided against fire, sparks, &c. metal guard on the glass globe

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

## DESCRIPTION OF CABLES.

|                             |                            |                 |                     |   |
|-----------------------------|----------------------------|-----------------|---------------------|---|
| Main cable carrying         | 100 Amperes, comprised of  | 100 wires, each | 20 S.W.G. diameter, | 0.10170 square inches total sectional area  |
| Branch cables carrying      | 31 Amperes, comprised of   | 19 wires, each  | 18 S.W.G. diameter, | 0.03437 square inches total sectional area  |
| Branch cables carrying      | 14 Amperes, comprised of   | 7 wires, each   | 16 S.W.G. diameter, | 0.02252 square inches total sectional area  |
| Leads to lamps carrying     | 1.26 Amperes, comprised of | 1 wires, each   | 18 S.W.G. diameter, | 0.021809 square inches total sectional area |
| Cargo light cables carrying | 2.12 Amperes, comprised of | 1 wires, each   | 16 S.W.G. diameter, | 0.03217 square inches total sectional area  |

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

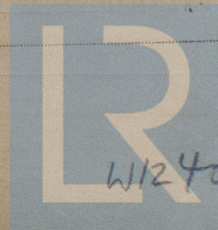
Rubber, tape & lead.

Joints in cables, how made, insulated, and protected In the iron box or porcelain & soldered or fitted screw.

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 in accessible position.

Are there any joints in or branches from the cable leading from dynamo to main switch board No joint & branches

How are the cables led through the ship, and how protected Through ship's side under decks with iron or wooden cover.



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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 Lead covered wire.

Cased in wooden or metal cover

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Covered with metal or Armoured galv. wire

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

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

How are cables carried through beams Protected by lead tube through bulkheads, &c. water tight metal.

How are cables carried through decks metal cover or brass tube & keeping watertightness.

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 Iron cover in coal bunkers. Armoured galv wire in cargo hold.

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage Fitted in latter.

If so, how are the lamp fittings and cable terminals specially protected By metal guard.

Where are the main switches and fuses for these lights fitted in Eng. Room

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 By plug to socket in chest iron box.

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 Main 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.

J. Hintz Electrical Engineers Date

**COMPASSES.**

Distance between dynamo or electric motors and standard compass about 100' 0"

Distance between dynamo or electric motors and steering compass " 120' 0"

The nearest cables to the compasses are as follows:—

| A cable carrying | Amperes | feet from standard compass | feet from steering compass |
|------------------|---------|----------------------------|----------------------------|
| 0.33             | 2       | 3                          |                            |
|                  |         |                            |                            |
|                  |         |                            |                            |

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 OSAKA IRON WORKS LTD. degrees on course in the case of the steering compass.

T. Yamaguchi Builder's Signature. Date

**GENERAL REMARKS.**

The installation has been fitted in accordance with the requirements of the Rules & worked well on trial.

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

JWR 12/7/17

A. L. Jones  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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