

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2405.

*Kobe*  
 Date of First Survey *Sept 23<sup>rd</sup>* Date of Last Survey *October 23<sup>rd</sup>* No. of Visits *5*  
 on the ~~Iron or Steel~~ *Single Screw Steam* *Koyisan Maru* port belonging to *Kobe*  
 Built at *Inoshima* By whom *Osaka Iron Works (Inoshima branch)* When built *1918*  
*Mitsui Bussan Kaishiki Kaisha* Owners' Address  
*928* Electric Light Installation fitted by *Osaka Iron Works* When fitted *1918*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*Direct current Compound dynamo*  
 of Dynamo *15 KW 150* Amperes at *100* Volts, whether continuous or alternating current *DC*  
 Dynamo fixed *lhd side ER bottom platform* Whether single or double wire system is used *double wire system*  
 of Main Switch Board *Bulkhead lhd bunker* having switches to groups *main circuit + 6 branches* of lights, &c., as below

of auxiliary switch boards and numbers of switches on each  
*Engine room: One. Crews Quarters: One. Officers Quarters: Two.*  
*Signal light: One. Wireless: One.*  
 switches 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 *branched* and to each lamp circuit *branched*  
 cables are wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits  
 fuses of non-oxidizable metal *Yes* and constructed to fuse at an excess of *30* per cent over the normal current  
 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*  
 all switches and fuses constructed of incombustible materials and fitted on incombustible bases *Yes*

number of lights provided for *80 + 2 arc lamps* arranged in the following groups: -

| Location                    | Number of lights      | Candle power   | Current (Amperes) |
|-----------------------------|-----------------------|----------------|-------------------|
| <i>Engine Room</i>          | <i>32</i>             | <i>16</i>      | <i>16.96</i>      |
| <i>Officers Rooms</i>       | <i>63</i>             | <i>10 - 16</i> | <i>33.39</i>      |
| <i>Crews Quarters</i>       | <i>13</i>             | <i>16</i>      | <i>6.89</i>       |
| <i>Wireless</i>             | <i>lights each of</i> |                | <i>4.8</i>        |
| <i>Chart Room</i>           | <i>2</i>              | <i>16 + 32</i> | <i>1.59</i>       |
| <i>Mast head light with</i> | <i>2</i>              | <i>32</i>      | <i>2.12</i>       |
| <i>Side light with</i>      | <i>2</i>              | <i>32</i>      | <i>2.12</i>       |
| <i>Cargo lights of</i>      | <i>13-5 Clustered</i> | <i>16</i>      | <i>both</i>       |

arc lights, what protection is provided against fire, sparks, &c.  
*Glass Globe*  
 where are the switches controlling the masthead and side lights placed

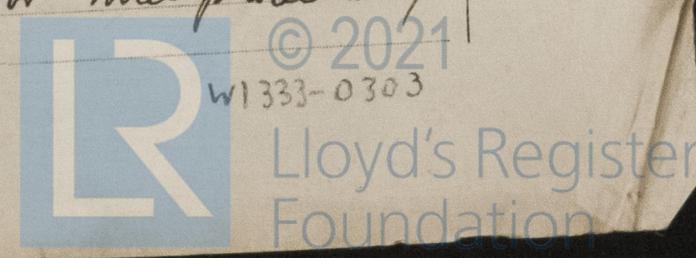
### DESCRIPTION OF CABLES.

| Use                                | Current (Amperes) | Wires     | Diameter (S.W.G.) | Total sectional area (square inches) |
|------------------------------------|-------------------|-----------|-------------------|--------------------------------------|
| <i>Main cable carrying</i>         | <i>150</i>        | <i>50</i> | <i>18</i>         | <i>.15</i>                           |
| <i>Branch cables carrying</i>      | <i>16.96</i>      | <i>do</i> | <i>16</i>         | <i>.026</i>                          |
| <i>Branch cables carrying</i>      | <i>33.39</i>      | <i>do</i> | <i>16</i>         | <i>.024</i>                          |
| <i>Leads to lamps carrying</i>     | <i>53</i>         | <i>do</i> | <i>18</i>         | <i>.003</i>                          |
| <i>Cargo light cables carrying</i> | <i>13.65</i>      | <i>do</i> | <i>18</i>         | <i>.005</i>                          |

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

*Officers Rooms & Crews Quarters: Lead covered wires led through wood casings*  
*Engine & Boiler space & Cargo space Armoured wires or led through Galvanized*  
*WI piping*  
 Joints in cables, how made, insulated and protected  
*Enclosed in porcelain or Cast Iron box*

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 wires are used or wires protected by Galvanized WI 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 *Wires led through Calvanized KI pipes*

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

What special protection has been provided for the cables near boiler casings *Armoured wire is used*

What special protection has been provided for the cables in engine room *Armoured wire Wires led through Galv'd KI pipes*

How are cables carried through beams *through bulkheads, &c. Gland & packing complete*

How are cables carried through decks *through Galv'd KI pipes with flanges fitted to decks*

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 *Bypass of Armoured wire or wires through Calvanized KI 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 *no*

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 *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.

*E. Toyashima* Electrical Engineers Date \_\_\_\_\_

**COMPASSES.**

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

Distance between dynamo or electric motors and steering compass

The nearest cables to the compasses are as follows:—

| A cable carrying | Amperes | feet from standard compass | feet from steering compass |
|------------------|---------|----------------------------|----------------------------|
| 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 \_\_\_\_\_ 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 according to the Rule Requirements and worked satisfactorily on trial*

It is submitted that this vessel is eligible for THE RECORD. Elec. light. *JWD 17/3/19*

*R. P. Batcher*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 1—APR. 1919

6c. 7. 17. — Transfer.

THE SUBVIZORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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