

TUE. MAY 25 1920

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2766

Port of Osaka Date of First Survey Jan. 13<sup>th</sup> Date of Last Survey Febr. 13<sup>th</sup> 1920 / No. of Visits 8  
 on the Iron or Steel S/S. "HAGUE MARU" Port belonging to Osaka  
 Built at Osaka Iron Works Ltd. By whom Osaka Iron Works, Imoshima When built 1920  
Osaka Shosen Kabushiki Kaisha Owners' Address Osaka  
 No. 935 Electric Light Installation fitted by The Osaka Iron Works, Ltd. When fitted 1920.

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Direct Current Multipolar direct driven by Single Cylinder Engines  
 Capacity of Dynamo 15 K.W. 150 Amperes at 100 Volts, whether continuous or alternating current Direct Current  
 Where is Dynamo fixed at stboard side on the platform of E.R. Whether single or double wire system is used Double Wire System  
 Position of Main Switch Board at ditto spare on the bulkhead of Engine store having switches to groups For Main Circuit breaker of lights, &c., as below a main switch + 8 branch wire.  
 Positions of auxiliary switch boards and numbers of switches on each One for Engine Room, One for after cargo, One for Fore Cargo, One for officers Room, One for navigation, One for Wireless telegraphy, One for rice-pounder's feeder and One for Ceiling + bracket fan motor feeder.  
 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 Branched & reduced and to each lamp circuit branched  
 Are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits fitted  
 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 202 arranged in the following groups :-

| Location                    | Number of Lights     | Wattage / Candle Power                              | Total Current                             | Amperes |
|-----------------------------|----------------------|---|---|---------|
| Engine Room                 | 55 lights each of 52 | 3-200 with nitrogen lamp - Jungsten 16              | requiring a total current of              | 24      |
| Officers Room               | 91 lights each of    | Jungsten 16   | candle power requiring a total current of | 19      |
| Wireless Telegraphy         | lights each of       |   | candle power requiring a total current of | 35      |
| Ceiling + Bracket fan motor | lights each of       |   | candle power requiring a total current of | 5       |
| Rice-pounder                | lights each of       |   | candle power requiring a total current of | 8.7     |
| Mast head light             | 2 lamps each of      | Carbon 32   | candle power requiring a total current of | 2.2     |
| Side light                  | 2 lamps each of      | Carbon 32   | candle power requiring a total current of | 2.2     |
| Cargo lights                | 4-13 clustered       | 50 candle power, whether incandescent or arc lights | Nitrogen lamp                             |         |

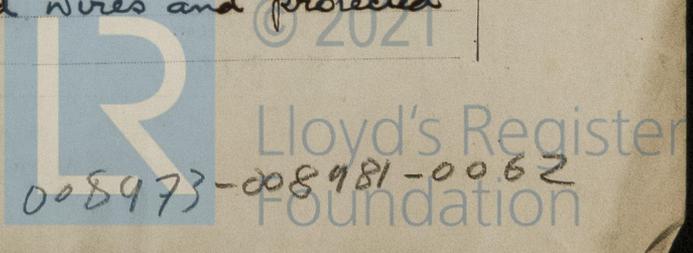
Are arc lights, what protection is provided against fire, sparks, &c. 4 Nitrogen lamps and protection is made complete the requiring total current of 8 + 30 amperes.  
 Where are the switches controlling the masthead and side lights placed at Bridge Deck.

## DESCRIPTION OF CABLES.

Main cable carrying 150 Amperes, comprised of lead wires, each 50# 20x2 S.W.G. diameter, 0.10179 square inches total sectional area  
 Branch cables carrying 24 Amperes, comprised of armoured wires, each 1/4# 14x5 S.W.G. diameter, 0.02513 square inches total sectional area  
 Branch cables carrying 8.5 + 10.5 Amperes, comprised of armoured wires, each 3/8# 20 S.W.G. diameter, 0.032576 square inches total sectional area  
 Leads to lamps carrying 0.53 Amperes, comprised of lead wires, each 1/4# 18 S.W.G. diameter, 0.001809 square inches total sectional area  
 Cargo light cables carrying 38 Amperes, comprised of armoured wires, each 13/16# 20x2 S.W.G. diameter, 0.026468 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Seamen passage, Chart Room, Mess Room + Pantry. armoured wire or lead covered wire through wooden covers.  
 Engines + Boiler Room + Cargo Hatches. Armoured wire or through galvanized W.I. pipes  
 Joints in cables, how made, insulated, and protected Porcelain box or Cast Iron box are used.  
 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 No  
 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 By the use of armoured wires and protected through galvanized W.I. 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 By galvanized W. I. pipes

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

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

What special protection has been provided for the cables in engine room By the use of armoured wire or galvanized W. I. pipes

How are cables carried through beams lead sheet is covered through bulkheads, &c. By grand nuts Indian Rubber as covers.

How are cables carried through decks Through galvanized W. I. pipes with flanges which fixed to decks. packing complete.

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 By the use of armoured wire or through galvanized W. I. pipes

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage Nothing

If so, how are the lamp fittings and cable terminals specially protected No

Where are the main switches and fuses for these lights fitted No

If in the spaces, how are they specially protected No

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 No

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 S. 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.

N. Mitsunori, Electrical Engineers Date \_\_\_\_\_

COMPASSES.

Distance between dynamo or electric motors and standard compass 110'-0"

Distance between dynamo or electric motors and steering compass 160'-0"

The nearest cables to the compasses are as follows:—

| A cable carrying | Amperes   | feet from standard compass | feet from steering compass |
|------------------|-----------|----------------------------|----------------------------|
| <u>35</u>        | <u>16</u> |                            |                            |
| <u>53</u>        | <u>7</u>  |                            |                            |
| <u>53</u>        | <u>7</u>  |                            |                            |

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.

T. Kamei 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 W. I. 2/6/20

John Sims Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. JUN. 4 1920

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

Im. 4.16—Transfer

