

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2017

Port of Kobe Date of First Survey 18 Jan'y Date of Last Survey 31<sup>st</sup> May No. of Visits 10  
 No. in Reg. Book on the Iron & Steel S.S. "Taiwan Maru" Port belonging to Tokio  
 Built at Kobe By whom The Kawasaki Dry Dock Co. Ltd. When built 1917  
 Owners The Nippon Yusen K. Kaisha Owners' Address Tokio  
 Yard No. 383 Electric Light Installation fitted by The Kawasaki Dry Dock Co. Ltd. When fitted 1917

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

The generating set consists of an automatic cut off vertical single cylinder enclosed engine, capable of working with 7 K.W. open 4 pole compound wound dynamo.  
 Capacity of Dynamo 7 K.W. 70 Amperes at 100 Volts, whether continuous or alternating current. Remark: This set will be replaced by larger one.

Where is Dynamo fixed Engine room. Whether single or double wire system is used \_\_\_\_\_

Position of Main Switch Board Engine room having switches to groups 4 switches. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Distribution boxes, a switch on each:— 2 on bridge deck; 4 on shelter deck; 2 in engine & boiler room.

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 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 161 arranged in the following groups:—

A 47 lights each of 16 candle power requiring a total current of 24.4 Amperes

B 48 lights each of 5, 16 & 32 candle power requiring a total current of 22. Amperes

C 66 lights each of 5, 16 & 32 candle power requiring a total current of 19.2 Amperes

D \_\_\_\_\_ lights each of \_\_\_\_\_ candle power requiring a total current of \_\_\_\_\_ Amperes

E \_\_\_\_\_ lights each of \_\_\_\_\_ candle power requiring a total current of \_\_\_\_\_ Amperes

2 Mast head light with 2 lamps each of 32 candle power requiring a total current of 2.2 Amperes

2 Side light with 2 lamps each of 32 candle power requiring a total current of 2.2 Amperes

10 Cargo lights of 8:—128 candle power, whether incandescent or arc lights 2:—500 arc.

If arc lights, what protection is provided against fire, sparks, &c. Water proof enclosed type.

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

## DESCRIPTION OF CABLES.

Main cable carrying 70 Amperes, comprised of 110 wires, each # 20 S.W.G. diameter, 0.1220 square inches total sectional area

Branch cables carrying 24.4 Amperes, comprised of 19 wires, each # 20 S.W.G. diameter, 0.0193 square inches total sectional area

Branch cables carrying 7 Amperes, comprised of 1 wires, each # 16 S.W.G. diameter, 0.0032 square inches total sectional area

Leads to lamps carrying 0.52 Amperes, comprised of 1 wires, each # 18 S.W.G. diameter, 0.0018 square inches total sectional area

Cargo light cables carrying 7 Amperes, comprised of 114 wires, each # 38 S.W.G. diameter, 0.0032 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

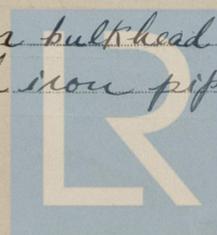
Armoured rubber insulated lead covered wire, lead covered rubber insulated wire, and cotton braided rubber insulated wire are used.

Joints in cables, how made, insulated, and protected Joints in cables are made on small marble plates in water proof junction 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 They are led along deck or bulkhead and fixed with brass bands, if necessary, on iron plates or through 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 galvanized steel armoured lead covered wires are used.

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

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

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

How are cables carried through beams Through lead tubes through bulkheads, &c. Through lead glands.

How are cables carried through decks Through water tight iron pipes.

Are any cables run through coal bunkers Yes or cargo spaces No or spaces which may be used for carrying cargo, stores, or baggage Yes.

If so, how are they protected Armoured wires are used, and in bunkers are led through iron pipes.

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

If so, how are the lamp fittings and cable terminals specially protected With iron cover or brass guard and micaite & porcelain insulators are used.

Where are the main switches and fuses for these lights fitted In distribution boxes outside of these spaces.

If in the spaces, how are they specially protected None.

Are any switches or fuses fitted in bunkers None.

Cargo light cables, whether portable or permanently fixed None. How fixed By sockets in cargo light boxes.

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel None.

How are the returns from the lamps connected to the hull None.

Are all the joints with the hull in accessible positions None.

Is the installation supplied with a voltmeter Yes. and with an amperemeter Yes. fixed On 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 None.

Are any switches, fuses, or joints of cables fitted in the pump room or companion None.

How are the lamps specially protected in places liable to the accumulation of vapour or gas None.

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 1000 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.

Mura Electrical Engineers Date 2nd Jun 1917

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 78 feet.

Distance between dynamo or electric motors and steering compass 129 feet.

The nearest cables to the compasses are as follows:—

A cable carrying	24.4	Amperes	64	feet from standard compass	120	feet from steering compass
A cable carrying	5.5	Amperes	8	feet from standard compass	120	feet from steering compass
A cable carrying	3	Amperes	64	feet from standard compass	7	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.

**Kawasaki Dockyard Co., Ltd.**

T. Nakajima Builder's Signature. Date 2nd June 1917

**GENERAL REMARKS.**

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

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

JWD 13/7/17

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

L.R. 116.—Transfer.

Committee's Minute



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