

FRI. JUL 23 1920

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2662.

Port of Yokohama Date of First Survey 7-4-20 Date of Last Survey 25-5-20 No. of Visits 9  
 on the ~~Iron~~ Steel S. S. " Kinno Maru " Port belonging to YOKOHAMA  
 Book Built at Yokohama By whom Yokohama Dock Co., Ltd When built 1920.  
 Furukawa & Co Owners' Address  
 No. 68 Electric Light Installation fitted by Yokohama Dock Co., Ltd When fitted 1920.

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

1-10 K.W. Generator direct connected to reciprocating engine.

Capacity of Dynamo 91 Amperes at 110 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Engine room platform Whether single or double wire system is used Double  
 Position of Main Switch Board Near Dynamo 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 Forecastle 10 Switches, Amidship 1-of 29,  
of 26 Switches, Engine & Boiler room 15 switches, Poop 3 Switches.

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  
 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 20 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

Number of lights provided for 137 arranged in the following groups:—

14	lights each of	16	candle power requiring a total current of	2.8	Amperes
18	lights each of	30 W	candle power requiring a total current of	25	Amperes
62	lights each of	16	candle power requiring a total current of	6.4	Amperes
5	lights each of	16	candle power requiring a total current of	1.0	Amperes
32	lights each of	16	candle power requiring a total current of		Amperes
5	lights each of	16	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	1.25 Amperes
2	Side light with	2 lamps each of	32	candle power requiring a total current of	1.25 Amperes
6	Cargo lights of	4 x 16	candle power, whether incandescent or arc lights	Incandescent	

For lights, what protection is provided against fire, sparks, &c. Chart room

Are the switches controlling the masthead and side lights placed

## DESCRIPTION OF CABLES.

1 cable carrying	91	Amperes, comprised of	19	wires, each	13	S.W.G. diameter,	.125	square inches total sectional area
each cables carrying	25	Amperes, comprised of	19	wires, each	18	S.W.G. diameter,	.034	square inches total sectional area
each cables carrying	6.4	Amperes, comprised of	7	wires, each	18	S.W.G. diameter,	.0125	square inches total sectional area
to lamps carrying	.8	Amperes, comprised of	1	wires, each	16	S.W.G. diameter,	.0032	square inches total sectional area
light cables carrying	1.2	Amperes, comprised of	168	wires, each	38	S.W.G. diameter,	.047	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Rubber covered insulated tape & painted

In cables, how made, insulated, and protected Joint block in boxes, lead & armoured covered.

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

Are the cables led through the ship, and how protected Armoured cable & pipes.



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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 Armoured cable & pipes

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

What special protection has been provided for the cables near boiler casings Armoured cable & pipes

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

How are cables carried through beams Pipes through bulkheads, &c. Pipes ✓

How are cables carried through decks 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 cable & 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 xx

Where are the main switches and fuses for these lights fitted xx

If in the spaces, how are they specially protected xx

Are any switches or fuses fitted in bunkers No

Cargo light cables, whether portable or permanently fixed Portable How fixed xx

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel xx

How are the returns from the lamps connected to the hull xx

Are all the joints with the hull in accessible positions xx

Is the installation supplied with a voltmeter Yes, and with an amperemeter Yes, fixed 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 x

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.

*K. Esaki*

Electrical Engineers

Date JUN 18 1920

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 80'-0"

Distance between dynamo or electric motors and steering compass 70'-0"

The nearest cables to the compasses are as follows:—

Cable	Amperes	Distance from standard compass	Distance from steering compass
A cable carrying <u>.4</u>	<u>6'-0"</u>	<u>18'-0"</u>	
A cable carrying <u>.2</u>	<u>9'-0"</u>	<u>18'-0"</u>	
A cable carrying <u>.2</u>	<u>11'-0"</u>	<u>10'-0"</u>	

Have the compasses been adjusted with and without the electric installation at work at full power Yes

The maximum deviation due to electric currents, etc., was found to be Nil degrees on Every course in the case of the standard compass and Nil degrees on Every course in the case of the steering compass.

*Tamataro, Topi*

Builder's Signature.

Date JUN 18 1920

**GENERAL REMARKS.**

This installation has been fitted in accordance with the Rules requirements tested under working conditions and found in order and the vessel is eligible in my opinion to have record of Electric Light in the Register Book.

It is submitted that this vessel is eligible for

THE RECORD Elec. light. *27/7/20*

*F. E. Arnold*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. JUL. 30 1920

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.