

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2680.

Port of Kobe Date of First Survey Nov 4 Date of Last Survey Nov 24th No. of Visits five
 in on the Iron or Steel Single Screw Steam Tug Shunko Maru belonging to Awaasaki
 Book Built at Harima By whom Harima Dock Comp. When built 1919
 No. 30 Electric Light Installation fitted by Harima Dock Comp. When fitted 1919
 Owners' Address Goko Shokai

DESCRIPTION OF DYNAMO, ENGINE, ETC.

The direct current open type compound wound directly coupled with
 single engine.
 Capacity of Dynamo 15 KW 136 Amperes at 110 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Engine room Whether single or double wire system is used Double
 Location of Main Switch Board alongside dynamo having switches to groups A & B of lights, &c., as below
 Locations of auxiliary switch boards and numbers of switches on each No auxiliary switch boards, but
same panel have six switches - Engine & Boiler rooms, Cargo
rooms, Engineers & Crew, Saloon, Signal, Radio telegraph.
 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
 Where 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
 Are the fuses of non-oxidisable 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 188 arranged in the following groups:-

<u>151</u> lights each of <u>16</u> candle power requiring a total current of <u>27.4</u> Amperes
<u>32</u> lights each of <u>32</u> candle power requiring a total current of <u>11.6</u> Amperes
lights each of candle power requiring a total current of Amperes
lights each of candle power requiring a total current of Amperes
lights each of candle power requiring a total current of Amperes
Mast head light with <u>2</u> lamps each of <u>32</u> candle power requiring a total current of <u>2.04</u> Amperes
<u>Slow</u> Side light with <u>3</u> lamps each of <u>32</u> candle power requiring a total current of <u>3.06</u> Amperes
Cargo lights of candle power, whether incandescent or arc lights

If arc lights, what protection is provided against fire, sparks, &c.

Where are the switches controlling the masthead and side lights placed Chart Room

DESCRIPTION OF CABLES.

Main cable carrying <u>82.10</u> Amperes, comprised of <u>37</u> wires, each <u>16</u> S.W.G. diameter, <u>.1170</u> square inches total sectional area
Branch cables carrying <u>7.6</u> Amperes, comprised of <u>11</u> wires, each <u>18</u> S.W.G. diameter, <u>.0188</u> square inches total sectional area
Branch cables carrying <u>10.7</u> Amperes, comprised of <u>11</u> wires, each <u>18</u> S.W.G. diameter, <u>.0188</u> square inches total sectional area
Leads to lamps carrying <u>9.1</u> Amperes, comprised of <u>11</u> wires, each <u>18</u> S.W.G. diameter, <u>.0188</u> square inches total sectional area
<u>Signal lamp</u> <u>5.1</u> Amperes, comprised of <u>7</u> wires, each <u>20</u> S.W.G. diameter, <u>.0070</u> square inches total sectional area
<u>11</u> <u>relays</u> <u>32.0</u> Amperes, comprised of <u>11</u> wires, each <u>18</u> S.W.G. diameter, <u>.0188</u> square inches total sectional area
<u>11</u> <u>relays</u> <u>32.0</u> Amperes, comprised of <u>11</u> wires, each <u>16</u> S.W.G. diameter, <u>.0354</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Bunkers holds: Armoured wire in wood casings fastened to rails
 beam. Engine & boiler room Armoured wires enclosed in
steel tubes.

Joints in cables, how made, insulated, and protected Joints soldered & wound with insulating
tape: steel joint 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 Cables clipped to wood secured to beams

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

Wires are used

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

What special protection has been provided for the cables near boiler casings Armoured wires enclosed in steel tubes

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

How are cables carried through beams Lead frames in holes through bulkheads, &c. Lead packing

How are cables carried through decks Lead packing fitted

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 armoured wires in steel tubes or wood casings

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 ✓

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 _____, and with an amperometer _____, fixed _____

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.

S. Kasuga Electrical Engineers Date _____

COMPASSES.

Distance between dynamo or electric motors and standard compass _____

Distance between dynamo or electric motors and steering compass _____

The nearest cables to the compasses are as follows:—

A cable carrying	5.1 Amperes	about 10 feet from standard compass	about 200 feet from steering compass
A cable carrying	4.5 Amperes	30 feet from standard compass	180 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.

THE TEIKOKU STEAMSHIP CO., LTD. Builder's Signature. Date _____

GENERAL REMARKS.

The installation has been fitted in accordance with the requirements of the Rules and worked satisfactorily on trial

It is submitted that this vessel is eligible for **THE RECORD ELEC. LIGHT** etc 25/2/20

R. D. Alcheta Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 27 FEB. 1920

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

