

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2701

Port of Kobe Date of First Survey Nov. 8 Date of Last Survey Nov. 30 1919 No. of Visits 7
 No. in on the Iron or Steel S. S. Saga Maru Port belonging to
 Reg. Book Built at Toba By whom The Toba Shipyard When built 1919
 Owners Taiyo Steamship Co. Owners' Address No. 1, Ichome, Yuraku cho, Tokyo
 Yard No. 58 Electric Light Installation fitted by The Toba Shipyard When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Direct current open type compound generator which is directly coupled with high speed engine.

Capacity of Dynamo 7 K.W. 64 Amperes at 110 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed In the Engine Room Whether single or double wire system is used Double wire
 Position of Main Switch Board By the side of dynamo having switches to groups Five circuits of lights, etc., as below
 Positions of auxiliary switch boards and numbers of switches on each We have no auxiliary switch board.

If fuses are fitted on main switch board to the cables of main circuit One set and on each auxiliary switch board to the cables of auxiliary circuits Five sets and at each position where a cable is branched or reduced in size No and to each lamp circuit Fuse Wire

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-oxidisable metal yes and constructed to fuse at an excess of 150 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 Electric lighting arranged in the following groups:—

A Tungsten lamp 70 lights each of 16 candle power requiring a total current of 14 Amperes
B Tungsten lamp 13 lights each of 10 candle power requiring a total current of 3 Amperes
C Carbon lamp 23 lights each of 16 candle power requiring a total current of 9 Amperes
D Carbon lamp 3 lights each of 5 candle power requiring a total current of 5 Amperes
E lights each of candle power requiring a total current of Amperes
2 Mast head light with 2 lamps each of <u>Carbon 32</u> <u>Ivanhoe 500W</u> candle power requiring a total current of <u>1.22</u> Amperes
2 Side light with 1 lamps each of <u>Carbon 32</u> candle power requiring a total current of <u>1.6</u> Amperes
1.6 Cargo lights of <u>Carbon 16</u> candle power, whether incandescent or arc lights <u>Incandescent</u>

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

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

DESCRIPTION OF CABLES.

Main cable carrying 66 Amperes, comprised of 60 wires, each 36 mil S.W.G. diameter, .06 square inches total sectional area
 Branch cables carrying 21 Amperes, comprised of 19 wires, each 36 mil S.W.G. diameter, .009 square inches total sectional area
 Branch cables carrying 12 Amperes, comprised of 11 wires, each 36 mil S.W.G. diameter, .011 square inches total sectional area
 Leads to lamps carrying 2 Amperes, comprised of No. 18 wires, each 48 mil S.W.G. diameter, .0018 square inches total sectional area
 Cargo light cables carrying 3.5 Amperes, comprised of No. 16 wires, each 65 mil S.W.G. diameter, .003 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

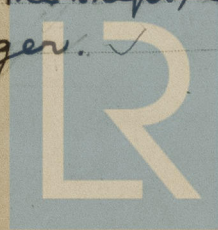
To perfect the insulation of all the cables, they are lead covered and perfectly protected, inserting to the steel tubes.

Joints in cables, how made, insulated, and protected Joints in branches are made in properly constructed water tight junction 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 joint.

How are the cables led through the ship, and how protected The cable, led through the ship, are enclosed in steel tubes protected from any danger.



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 or cables which are protected by tubes are used in such places

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat By lead covered fitting

What special protection has been provided for the cables near boiler casings By lead covered fitting

What special protection has been provided for the cables in engine room By lead covered fitting

How are cables carried through beams By lead tube through bulkheads, &c. By pipe

How are cables carried through decks By water tight pipe

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 By lead covered fitting

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 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 amperemeter, 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, yes 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. Inoue Electrical Engineers Date 24th Jan 1920

COMPASSES.

Distance between dynamo or electric motors and standard compass Over 60 feet

Distance between dynamo or electric motors and steering compass Over 50 feet

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>7</u>	<u>over 3</u>	<u>over 100</u>	
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 yes

The maximum deviation due to electric currents, etc., was found to be no 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.

This installation has been fitted in accordance with the requirements of the Rules & worked satisfactorily on trial

It is submitted that this vessel is eligible for THE RECORD ELEC. LIGHT.

N. L. Jones

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE APR 27 1920



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