

REPORT ON ELECTRIC LIGHTING INSTALLATION. No.

Port of Kobe Date of First Survey 7 June Date of Last Survey 24 July No. of Visits 10
 No. in on the ~~Iron or Steel~~ Twin Scr. Stmr. "HAWAII MARU" Port belonging to Osaka.
 Reg. Book Built at Kobe By whom The Kawasaki Dockyard Co. Ltd. When built 1915
 Owners Messrs The Osaka Shosen K. Kaisha Owners' Address Osaka
 Yard No. 374 Electric Light Installation fitted by Messrs The Kawasaki Dockyard Co. Ltd. When fitted 1915

DESCRIPTION OF DYNAMO, ENGINE, ETC.

The generating sets consist of two automatic cut off vertical compound engine, each capable of working with 30 K.W. open multipolar type compound wound dynamo.

Capacity of Dynamo 30 K.W. 300 Amperes at 100 Volts, whether continuous or alternating current continuous current.

Where is Dynamo fixed engine room, starboard Whether single or double wire system is used double wire system.

Position of Main Switch Board dynamo room, having switches to groups 8 switches of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each distribution box with switches:- 3 on flying deck; 1 on boat deck; 9 on shelter deck; 7 on upper deck; 1 on second deck; 2 in engine room.

If cut outs 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 cessel is wired on the double wire system are cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits yes

Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of 100 per cent over the normal current

Are all cut outs fitted in easily accessible positions yes Are the fuses of standard dimensions yes If wire fuses are used

yes 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 cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 328 arranged in the following groups :-

A	39	lights each of	16	candle power requiring a total current of	21.5	Amperes
B	35	lights each of	16	candle power requiring a total current of	18.1	Amperes
C	47	lights each of	16 & 32	candle power requiring a total current of	27.3	Amperes
D	17	lights each of	5, 16 & 32	candle power requiring a total current of	9.2	Amperes
E	30	lights each of	16	candle power requiring a total current of	7.2	"
F	33	lights each of	16	candle power requiring a total current of	18.39	Amperes
G	127	lights each of	16	candle power requiring a total current of	57.6	"
	2	Mast head light with	1 lamps each of	32 C.P.	2.4	Amperes
	2	Side light with	1 lamps each of	32 C.P.	2.4	Amperes
	12	Cargo lights of	200	candle power, whether incandescent or arc lights	incandescent.	

If arc lights, what protection is provided against fire, sparks, &c. 4 - 7.5 amperes arc lights enclosed drip proof type.

Where are the switches controlling the masthead and side lights placed in chart room,

DESCRIPTION OF CABLES.

Main cable carrying 300 Amperes, comprised of 400 wires, each # 20 L.S.G. diameter, 0.4072 square inches total sectional area

Branch cables carrying 57.6 Amperes, comprised of 50 wires, each # 20 L.S.G. diameter, 0.0509 square inches total sectional area

Branch cables carrying 15 Amperes, comprised of 7 wires, each # 20 L.S.G. diameter, 0.007136 square inches total sectional area

Leads to lamps carrying 0.6 Amperes, comprised of 1 wires, each # 18 L.S.G. diameter, 0.0018 square inches total sectional area

Cargo light cables carrying 8 Amperes, comprised of 283 wires, each # 38 L.S.G. diameter, 0.0089 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

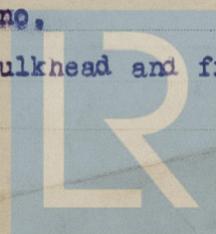
Armoured rubber insulated lead covered wire, lead covered rubber insulated wire, or cotton braided rubber insulated wire are used.

Joints in cables, how made, insulated, and protected Joints in cables are made on small marble plates in waterproof junction boxes.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux 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 led along deck or bulkhead and fixed with brass bands, if necessary on iron plates.



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 galvanized steel armoured lead covered wires are used.

What special protection has been provided for the cables near boiler casings galvanized steel armoured lead covered wires are used.

What special protection has been provided for the cables in engine room galvanized steel armoured lead covered wires are used.

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

How are cables carried through decks the rough watertight glands.

Are any cables run through coal bunkers no or cargo spaces no or spaces which may be used for carrying cargo, stores, or baggage yes

If so, how are they protected galvanized steel armoured lead covered wires are used.

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage with iron cover or brass guard.

If so, how are the lamp fittings and cable terminals specially protected micanite or porcelain insulation are used.

Where are the main switches and cut outs 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 cut outs fitted in bunkers none.

Cargo light cables, whether portable or permanently fixed portable. How fixed by socket 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.

The installation is supplied with a voltmeter and 3 an amperemeter, fixed on main switch - board.

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas no.

Are any switches, cut outs, or joints of cables fitted in the pump room or companion no.

How are the lamps specially protected in places liable to the accumulation of vapour or gas no.

The copper used is guaranteed to have a conductivity of 98 per cent. that of pure copper. 1000

Insulation of cables is guaranteed to have a resistance of not less than 1000 megohms per statute mile after 24 hours' immersion in seawater.

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. Tada Electrical Engineers Date Aug 1915

COMPASSES.

Distance between dynamo or electric motors and standard compass 128 feet from main dynamo and 65 feet from wireless motor generator.

Distance between dynamo or electric motors and steering compass 180 feet from main dynamo and 190 feet from motor for ice machine.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>9.2</u> Amperes	<u>35</u> feet from standard compass	<u>190</u> feet from steering compass
A cable carrying	<u>48</u> Amperes	<u>25</u> feet from standard compass	<u>152</u> feet from steering compass
A cable carrying	<u>16</u> Amperes	<u>24</u> feet from standard compass	<u>190</u> feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power no.

The maximum deviation due to electric currents, etc., was found to be no. degrees on no. course in the case of the standard compass and no. degrees on no. course in the case of the steering compass. no.

KAWASAKI SHIPYARD COMPANY, LTD.

J. Nakajima Secretary Builder's Signature. Date Aug 1915

GENERAL REMARKS.

The installation is well fitted throughout & worked satisfactorily on trial

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

J.W.D. 25/9/15

A. L. Jones Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

