

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2982

Port of Kobe Date of First Survey 14<sup>th</sup> Sept. Date of Last Survey 28<sup>th</sup> Sept. No. of Visits 5  
 No. in Reg. Book on the Iron or Steel 5/S. "KASHIN MARU" Port belonging to Kosaki  
 Built at Taira, Okayama prefecture By whom Mitsui Bussan Shipbuilding Dept When built 1920  
 Owners Hokkai Tanko Kaisha, Tokyo Owners' Address Tokyo Japan  
 Yard No. 57 Electric Light Installation fitted by Mitsui Bussan Kaisha, Tama Yd. Uno When fitted 1920

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One compound-wound 12 kW Dynamo, coupled direct to the single cylinder automatic cut-off vertical enclosed non-condensing engine with forced lubrication cylr 7" stroke 5' 550 R.P.M. W.P. 120 lb

Capacity of Dynamo 120 Amperes at 100 Volts, whether continuous or alternating current D.C.

Where is Dynamo fixed Starboard side E.R.

Position of Main Switch Board starboard side E.R. having switches to groups A.B.C.D.E.F. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 1 in the E.R. 1 on upper deck  
3 on the bridge deck 1 on the lower bridge 1 main switch on each board.

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 vessel 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

Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of 20 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 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, Porcelain + marble are used

Total number of lights provided for 103 arranged in the following groups:—

A	29	lights each of	16	candle power requiring a total current of	11	Amperes
B	10	lights each of	16	candle power requiring a total current of	4.5	Amperes
C	13	lights each of	32+16	candle power requiring a total current of	8.5	Amperes
D	46	lights each of	16	candle power requiring a total current of	11.5	Amperes
E	5	lights each of	1000 + 112	candle power requiring a total current of	27.5	Amperes
F	2	Mast head lights with fans each of	1 lamps each of 32	WATTS	1.8	"
	2	Side light with	1 lamps each of	"	2.24	Amperes
	1	STERN "	" " "	"	1.12	"
	4	Cargo lights of	112	candle power, whether incandescent or are lights	Incandescent	
	2	" " "	1000	" " "		

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

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

## DESCRIPTION OF CABLES.

Main cable carrying	120.0	Amperes, comprised of	2x19	wires, each	18	L.S.G. diameter,	0.1222	square inches total sectional area
BRANCH "	11.0	" " " "	7	" " "	18	"	0.0142	
Branch cables carrying	4.5	Amperes, comprised of	7	wires, each	19	L.S.G. diameter,	0.0088	square inches total sectional area
" " "	8.5	" " " "	7	" " "	18	"	0.0142	
Branch cables carrying	11.5	Amperes, comprised of	19	wires, each	19	L.S.G. diameter,	0.0238	square inches total sectional area
" " "	27.5	" " " "	7	" " "	18	"	0.0142	
Leads to lamps carrying	0.5	Amperes, comprised of	1	wires, each	18	L.S.G. diameter,	0.0020	square inches total sectional area
Cargo light cables carrying	6	Amperes, comprised of	108	wires, each	36	L.S.G. diameter,	0.00489	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Conductors are doubly insulated with india rubber + vulcanized rubber + tape, cables are protected against mechanical injury + chemical action by steel armoring or lead-covering according to the rule requirements

Joints in cables, how made, insulated, and protected Mechanical joints, protected with water-tight cast iron boxes + insulated by porcelain or slate bases

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 Cables are led unconcealed + without any other additional protection than their own armoring or lead covering.

**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 protected by their armoured covering

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

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

What special protection has been provided for the cables in engine room led through iron pipes where necessary

How are cables carried through beams Pierced, with sheet lead. through bulkheads, &c. WATER TIGHT GLANDS

How are cables carried through decks Led through G. I. pipe

Are any cables run through coal bunkers, or cargo spaces, or spaces which may be used for carrying cargo, stores, or baggage

If so, how are they protected By their armoured covering

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 cut outs for these lights fitted ✓

If in the spaces, how are they specially protected ✓

Are any switches or cut outs fitted in bunkers ✓

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 ✓

**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 ✓

Are any switches, cut outs, 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 installation is yes supplied with a voltmeter and yes an amperemeter, fixed Maxi switch board

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

Insulation of cables is guaranteed to have a resistance of not less than 600 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.

M. Sackin

Electrical Engineers

Date Sept. 30<sup>th</sup> 1920

**COMPASSES.**

Distance between dynamo or electric motors and standard compass Dynamo to Standard Compass 72 ft.

Distance between dynamo or electric motors and steering compass " " Steering " 112 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>5.6</u> Amperes	<u>8</u> feet from standard compass	<u>24</u> feet from steering compass
A cable carrying	<u>5.0</u> Amperes	<u>11</u> feet from standard compass	<u>24</u> feet from steering compass
A cable carrying	<u>2.2</u> Amperes	<u>11</u> feet from standard compass	<u>24</u> 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

FOR MITSUBI BUSSAN KAISHA, LTD. \_\_\_\_\_ course in the case of the steering compass.

J. Okubo  
For Manager

Builder's Signature.

Date Sept. 30<sup>th</sup> 1920

**GENERAL REMARKS.**

This installation has been fitted in accordance with the Requirements of the Rules and worked satisfactorily on trial.

J. G. Luff

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

FRI. 17 DEC. 1920

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 14.

