

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2867.

Port of Kobe Date of First Survey 1 April Date of Last Survey 14 April No. of Visits 6  
 No. in Reg. Book 55 on the Iron Steel 550 ton JAIHO MARU No. 1 Port belonging to Nakatsu: Wakayama  
 Built at Toba, Mie prefecture By whom Toba Shipyard When built 1919  
 Owners Hayashi Kisen Kabushiki Kaisha Owners' Address Osaka, Japan  
 Yard No. 55 Electric Light Installation fitted by 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 75 KW. 68 Amperes at 110 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed In the Engine Room

Position of Main Switch Board By the side of dynamo having switches to groups Five sets of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each no auxiliary switchboard.

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 yes

Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of 50 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

Total number of lights provided for 147 arranged in the following groups:—

A Tungsten lamp	75 lights each of	16	candle power requiring a total current of	15	Amperes
B Carbon lamp	2 lights each of	32	candle power requiring a total current of	1.6	Amperes
C Carbon lamp	21 lights each of	16	candle power requiring a total current of	8.5	Amperes
D Carbon lamp	7 lights each of	5	candle power requiring a total current of	1.1	Amperes
E	lights each of		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	12.2	Amperes
2 Side light with	2 lamps each of	32	candle power requiring a total current of	3.2	Amperes
8 Cargo lights of Carbon lamp	4 x 16		candle power, whether incandescent or arc lights	Incandescent	
	2 Swanhoes 500 WATTS.		No arc lamp		

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

No arc lamp

Where are the switches controlling the masthead and side lights placed

In the chart room

## DESCRIPTION OF CABLES.

			S.W.G.		
Main cable carrying	74 Amperes, comprised of	60 wires, each	20	L.S.G. diameter,	.06 square inches total sectional area
Branch cables carrying	23 Amperes, comprised of	7 wires, each	20	L.S.G. diameter,	.019 square inches total sectional area
Branch cables carrying	8.5 Amperes, comprised of	11 wires, each	20	L.S.G. diameter,	.007 square inches total sectional area
Leads to lamps carrying	13 Amperes, comprised of	1 wires, each	18	L.S.G. diameter,	.011 square inches total sectional area
Cargo light cables carrying	2 Amperes, comprised of	1 wires, each	16	L.S.G. diameter,	.0018 square inches total sectional area
	3.5 Amperes, comprised of	1 wires, each	16	L.S.G. diameter,	.003 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

All the cables are lead covered and perfectly protected inserted in 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, 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 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*  
*Wire 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 iron 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 cut outs for these lights fitted

If in the spaces, how are they specially protected

Are any switches or cut outs 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

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 supplied with a voltmeter and an amperemeter, fixed

The copper used is guaranteed to have a conductivity of *99.5* 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.

*K. Inoue.* Electrical Engineers

Date *June 1919*

COMPASSES.

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

Distance between dynamo or electric motors and steering compass *Over 80 feet.*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>8.5</i>	<i>3</i>	<i>over 100</i>	

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 degrees on course in the case of the standard compass and degrees on course in the case of the steering compass.

Builder's Signature. Date

GENERAL REMARKS.

*The installation has been fitted in accordance with the Rules requirements & worked satisfactorily on trial.*

*H. Rawson.*

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

Committee's Minute *FRI. SEP. 3 1920*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.

MACHINERY DEPT.  
WRITTEN.



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