

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1303.

Port of *Nagasaki* Date of First Survey *14-8-20* Date of Last Survey *6-9-20* No. of Visits *8*
 No. in *on the Iron or Steel Twin. S.S. Alabama* Port belonging to *Osaka.*
 Book Built at *Nagasaki* By whom *Mitsubishi Kisen Kaisha* When built *1920*
 Owners *Osaka Shosen Kaisha* Owners' Address *Osaka.*
 Ord. No. *281* Electric Light Installation fitted by *Mitsubishi Kosen Kaisha* When fitted *1920*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two sets of compound continuous current dynamos on the same bed plate with a vertical engine.

Capacity of Dynamo *150* Amperes at *100* Volts, whether continuous or alternating current *continuous*

Where is Dynamo fixed *In thrust recess in engine room* Whether single or double wire system is used *double.*

Position of Main Switch Board *On Bulkhead aft-dynamo* having switches to groups *5 to 156.* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *Two in fore part on the shellie dk, eight in middle part on the shellie dk, three in middle part on the upper dk, three in after part on the shellie dk, five in engine room.*

Are fuses 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 *no.*

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

Are the fuses of non-oxidizable metal *yes.* and constructed to fuse at an excess of *50* 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

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases *yes*

Total number of lights provided for *6 circuits* arranged in the following groups:—

Group	Lights	Candle Power	Current (Amperes)
A Shellie deck	lights each of <i>7 25 103 12 2 6 0</i>	SEPT 100 160 250 320 400 500	34.05
B Upper deck	lights each of <i>2 0 110 0 0 2 0</i>		24.58
C Engine room	lights each of <i>0 0 167 0 0 0 0</i>		35.07
Fore Cargo Ci	lights each of <i>0 0 0 0 0 24 2</i>		19.6
Aft Cargo Ci	lights each of <i>0 0 0 0 0 24 2</i>		19.6
Navigation Ci	" " " " " <i>0 0 0 0 5 0 0</i>		5.6
Mast head light with double lamps	each of <i>32</i>		1.12
Side light with 2 lamps	each of <i>32</i>		1.12
Mast signal lamp with 3 lamps	each of <i>2</i>		0.63
Cargo lights	<i>50.0 24 (200 W)</i>		
" " "	<i>800 W.</i>		
" " "	<i>400 " " "</i>		

If arc lights, what protection is provided against fire, sparks, &c. *none.*

Where are the switches controlling the masthead and side lights placed *In wheel house on flying bridge*

DESCRIPTION OF CABLES.

Category	Amperes	Wires	Diameter (S.W.G.)	Total Sectional Area (square inches)
Main cable carrying	<i>150</i>	<i>37</i>	<i>15</i>	<i>0.1544</i>
Branch cables carrying	<i>34.74</i>	<i>19</i>	<i>18</i>	<i>0.0360</i>
Branch cables carrying	<i>5.6</i>	<i>7</i>	<i>20</i>	<i>0.0190</i>
Leads to lamps carrying	<i>0.21</i>	<i>1</i>	<i>18</i>	<i>0.0018</i>
Cargo light cables carrying	<i>2.6</i>	<i>168</i>	<i>38</i>	<i>0.005</i>

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Wires and cables are compound of twisted copper insulated with pure india rubber, vulcanized rubber coated tape and the whole vulcanized together, lead covered and armored galvanized iron wire.

Joints in cables, how made, insulated, and protected *In brass pieces fitted on porcelain bases in submain board, and distributing board in that case or extension box of porcelain, some joints in cast iron boxes, insulated with rubber coated tape.*

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. except extension box with cast iron cover in cargo space.*

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 *Double wire system, protected by lead cover or armored, or through galvanized iron pipes.*



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, *Armoured wire, or through galvanized iron pipes.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Armoured wire, galvanized*

What special protection has been provided for the cables near boiler casings *Armoured wire, galvanized.*

What special protection has been provided for the cables in engine room *Armoured wire or through galvanized iron pipes*

How are cables carried through beams *through lead bushes.* through bulkheads, &c. *through water tight glands.*

How are cables carried through decks *through galvanized tubes*

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 wire galvanized, or galvanized iron pipes.*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *Yes.*

If so, how are the lamp fittings and cable terminals specially protected *Strong guards, cable terminals are in Cast iron boxes*

Where are the main switches and fuses for these lights fitted *In the entrance on Shelter deck.*

If in the spaces, how are they specially protected *None.*

Are any switches or fuses fitted in bunkers *No.*

Cargo light cables, whether portable or permanently fixed *portable* How fixed *by fibre fork connects.*

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 *Yes.* and with an amperemeter *Yes.* fixed *main switch board.*

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 *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.

NAGASAKI WORKS, MITSUBISHI ZOSEN KAISHA, LTD.

W. Shida

Electrical Engineers

Date

COMPASSES.

GENERAL MANAGER.

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	<i>5.6</i>	Amperes	<i>9</i>	feet from standard compass	<i>7</i>	feet from steering compass
A cable carrying	<i>/</i>	Amperes	<i>/</i>	feet from standard compass	<i>/</i>	feet from steering compass
A cable carrying	<i>/</i>	Amperes	<i>/</i>	feet from standard compass	<i>/</i>	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 *nil* degrees on *any* course in the case of the standard compass and *nil* degrees on *any* course in the case of the steering compass.

NAGASAKI WORKS, MITSUBISHI ZOSEN KAISHA, LTD.

W. Shida

Builder's Signature.

Date

GENERAL REMARKS.

This electric light installation has been fitted in accordance with the Rules, tested under full load and found satisfactory.

W. Boylan.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. NOV. 26 1920



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2m.11.1p.—Transfer.