

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1341

Port of NAGASAKI. Date of First Survey 13-8-'21 Date of Last Survey 18-10-'21 No. of Visits 16
No. in on the ~~hulk~~ Steel T.S.S. "HAKONE MARU" Port belonging to Tokio, Japan.
Reg. Book Built at NAGASAKI. By whom Mitsubishi Zosen Kaisha, Ltd. When built 1921
Owners Nippon Yusen Kabushiki Kaisha, . Owners' Address Tokio, Japan.
Yard No. 3 4 6, Electric Light Installation fitted by Mitsubishi Zosen Kaisha, Ltd., When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two sets of Single reduction geared turbine generators 100 Kilowatts each.

Capacity of Dynamo 1000 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed in the dynamo Rm on the 2nd Dk, Whether single or double wire system is used double

Position of Main Switch Board on the fore B.H. in dynamo room, having switches to groups 5 to 276 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 5 on boat Dk, 1 on emergency switch board room,
13 on prom Dk, 8 on Bridge Dk, 18 on middle part of up.Dk, 2 on fore part of up.Dk, 2 on
fore part of 2nd Dk, 2 on poop Dk, 7 on aft. part of up.Dk, 1 on aft. part of 2nd Deck,
3 dynamo room, 1 in engine room.

If fuses 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 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 yes

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 yes

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

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

A Midship Crews	lights each of	57 75 25 57 50 140 150	candle power requiring a total current of	55.72	Amperes
B Boat, prom Dk & Ent.		6 43 8 7 3 30		86.42	
C Bdg. Dk & 1st Saloon	lights each of	55 15 11 16 4	candle power requiring a total current of	80.85	Amperes
D Fore & Aft Crews		3 88 3 4 4		23.535	
E 2nd 3rd Passengers	lights each of	66 5 5 49	candle power requiring a total current of	37.11	Amperes
F Daylight & emergency		163 2 46 46		78.46	
G Machinery space	lights each of	129 1 4 2	candle power requiring a total current of	41.09	Amperes
H Fore & Aft Cargo		8 50 8 4		62.18	
I Navigation	lights each of		candle power requiring a total current of	5.6	Amperes
one double filament					
Two Mast head light with	lamps each of	32	candle power requiring a total current of	2.24	Amperes
One Stern "	"	32		1.12	
Two Side light with	"	32	candle power requiring a total current of	2.24	Amperes
One Morse code sign, lamp with 3 lamps each of 16	"	"		0.63	"
12 Cargo lights of 50 C.P. x 4 (200 c.p)			candle power, whether incandescent or arc lights	incandescent.	
4 " " " 500 watts,				"	

If arc lights, what protection is provided against fire, sparks, &c. No

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

DESCRIPTION OF CABLES.

Main cable carrying 1000 Amperes, comprised of 127x2 wires, each 12 x 2 S.W.G. diameter, 1.080x2 square inches total sectional area
Branch cables carrying 86.42 Amperes, comprised of 37 wires, each 16 S.W.G. diameter, 0.119 square inches total sectional area
Branch cables carrying 5.6 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, 0.00715 square inches total sectional area
Leads to lamps carrying 0.21 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, 0.00181 square inches total sectional area
Cargo light cables carrying 2.6 Amperes, comprised of 168 wires, each 38 S.W.G. diameter, 0.0047 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Wires & cables used in the installation of the ship are composed of tinned copper insulated with pure india rubber, vulcanized india rubber coated tape & the whole vulcanized together then lead covered or lead covered and armoured with galvanized iron wire.

Joints in cables, how made, insulated, and protected Joints in cable are made in brass pieces fitted on porcelain bases, in submain board & distributing board in teak case or extension box of porcelain base & some joints in cast iron boxes & insulated with pure rubber or 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

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 with the double wire distribution system, and cables
are protected by lead cover or galvanized iron wire armouring or galvanized iron ~~wire~~ 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 protected by galvanized iron pipes or galvanized iron wire armouring.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat protected by galvanized iron wire armouring.

What special protection has been provided for the cables near boiler casings protected by galvanized iron wire armouring.

What special protection has been provided for the cables in engine room protected by galvanized iron wire armouring or galvanized iron pipes.

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

How are cables carried through decks through galvanized iron deck 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 /

If so, how are they protected by galvanized iron wire armouring 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 lamps are protected by strong cast iron cover & cable terminals are in cast iron extension box.

Where are the main switches and fuses for these lights fitted in the firemen's entrance on the bridge deck.

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 portable How fixed by water tight combined socket and switch.

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 on main switch Bd

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.

Electrical Engineers

Date 2-dec-1921

COMPASSES.

Distance between dynamo or electric motors and standard compass 109 ft. from dynamo & 100 ft. from motor generator,

Distance between dynamo or electric motors and steering compass 111 ft. " " 105 ft. " " "

The nearest cables to the compasses are as follows:—

Cable	Amperes	Feet from standard compass	Feet from steering compass
A cable carrying <u>5.6</u>	<u>14</u>	<u>6</u>	<u>6</u>
A cable carrying <u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
A cable carrying <u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>

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.

Builder's Signature.

Date 2-dec-1921

GENERAL REMARKS.

This Electric Light Installation has been fitted in accordance with the Rules, tested under full load and found satisfactory.

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

Elec. Light.

Fee Yen 547:50

Paid 23-11-21

2.7. 17/1/22.

Ans.

U. Boylan.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

11 JAN 27 1922

THU 13 APR 1922

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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