

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 655

Port of Nagasaki Date of First Survey 23-2-09 Date of Last Survey 24.4.09 No. of Visits 9
 No. in Reg. Book on the Iron or Steel Ship L.S. Nitano Maru Port belonging to Yokoyama
 Built at Nagasaki By whom M. B. D & Eugene Womersley When built 1909
 Owners Kippou Yusen Kaisha Ltd. Agents Owners' Address Yokoyama
 Yard No. 198 Electric Light Installation fitted by M. B. D & Eugene Womersley When fitted 1909

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two duplicate sets of a compound wound six pole continuous current dynamo mounted on the same bed plate and coupled direct to a vertical open compound two crank engine.

Capacity of Dynamo 350 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed in thrust block recess.

Position of Main Switch Board after bulk head on top platform in engine room switches to groups one to 130 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each port & starboard passages of midship, port & starboard entrances of 1st living saloon, port & starboard passages of aft bridge deck, port passage of fore bridge deck, each entrance of drawing room and social hall and 1st smoking room, chart room on boat deck, port passage on fore-castle deck, crew space on fore main deck, port bulk head on upper deck, port & starboard passages on after upper deck, entrance of boys' space on after main deck, entrance of sick room on upper deck, fore mast on upper deck, after bulk head in engine room & boiler room, only one switch to 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 no

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 exclusive of lamp circuits.

Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of 50% not more than 100 per cent over the normal current

Are all cut outs fitted in easily accessible positions yes are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit yes on the cover of the board

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

Total number of lights provided for 9 submain circuits arranged in the following groups:—

A Bridge deck after:	2 lights each of 8 cp. 65-16 cp	candle power requiring a total current of	36.96	Amperes
A' " fore:	14 " " 8 cp. 67-4-32 cp. 2-50 cp	" " " "	49.42	"
B Amidship	77 lights each of 16 cp. 1-50 cp.	candle power requiring a total current of	44.87	Amperes
B' Fore	38 " " 16 cp. 7-50 cp.	" " " "	37.03	"
C After	58 lights each of 16 cp. 6-32 cp. 9-50	candle power requiring a total current of	54.86	Amperes
C' Cargo	2 " " 16 cp. 11-32 cp. 26-50 cp 1 arc lamp.	" " " "	73.94	"
D Search light	1 lights each of Search light	candle power requiring a total current of	60.00	Amperes
D' Engine Room	130 " " 16 cp.	" " " "	72.90	"
E Fore	lights each of 42-12" fan, 32-36", 14-18" fan	candle power requiring a total current of	63.80	Amperes

Two Mast head light with 1 lamps each of double filament of 32 candle power requiring a total current of 2.24 Amperes

Two Side light with 1 lamps each of " " 32 candle power requiring a total current of 2.24 Amperes

Ten Cargo lights of each comprising of 50 candle power, whether incandescent or arc lights incandescent

If arc lights, what protection is provided against fire, sparks, &c. no arc lamp for cargo purposes, but one Compton's arc lamp provided with hexagonal glass globe and one search light for Suez Canal.

Where are the switches controlling the masthead and side lights placed in wheel house on boat deck.

DESCRIPTION OF CABLES.

Main cable carrying	350.00 Amperes, comprised of	61 wires, each	13 L.S.G. diameter,	.402 square inches total sectional area
Branch cables carrying	40.87 " " "	19 " " "	17 " " "	.046 " " "
Branch cables carrying	60.00 Amperes, comprised of	19 wires, each	16 L.S.G. diameter,	.060 square inches total sectional area
Branch cables carrying	27.30 Amperes, comprised of	19 wires, each	18 L.S.G. diameter,	.033 square inches total sectional area
Leads to lamps carrying	2.24 Amperes, comprised of	1 wires, each	16 L.S.G. diameter,	.003 square inches total sectional area
Cargo light cables carrying	7.00 Amperes, comprised of	283 wires, each	38 L.S.G. diameter,	.008 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

All the cables and wires used throughout the installation are covered with pure and vulcanized india rubber and india rubber coated tape, ^{and the} whole vulcanized together, braided cotton and then covered with preservative compound.

Joints in cables, how made, insulated, and protected All joints are made in brass terminal pieces fitted on marble base in submain & distributing boards, and on china bases in extension 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 none in bunkers but a few in cargo spaces &c.

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 by double wired multiple switch board system and they are protected by galv. iron pipes or galvanized iron wires or lead.

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *yes, excepting those in galvanized iron pipe carried through coal bunkers.*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *protected by galvanized iron pipes.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *armoured by galvanized iron wires.*

What special protection has been provided for the cables near boiler casings *protected by galv. iron pipes or armoured by galv. iron wires.*

What special protection has been provided for the cables in engine room *protected by galv. iron pipes or armoured by galv. iron wires.*

How are cables carried through beams *Through oak ferrules* through bulkheads, &c. *through brass water-tight stuffing boxes.*

How are cables carried through decks *Through galv. iron deck tubes lined with wood.*

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 *with galv. iron pipes or galv. iron wires.*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *none in bunkers, but some in cargo spaces.*

If so, how are the lamp fittings and cable terminals specially protected *all lamps are protected with strong cast iron covers and extension boxes also with cast iron covers.*

Where are the main switches and cut outs for these lights fitted *on port bulk head on upper deck and on entrance of silk room.*

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 *all portable* How fixed *with fibre fast & fibre connectors.*

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 *100* 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.

L. Okazumi Electrical Engineers

Date *May 6-1909.*

COMPASSES.

Distance between dynamo or electric motors and standard compass *132 feet.*

Distance between dynamo or electric motors and steering compass *125 feet.*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>4.48</i>	<i>7</i>	<i>5</i>	<i>5</i>
<i>.28</i>	<i>1</i>	<i>5</i>	<i>5</i>

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

MITSU BISHI DOCKYARD & ENGINE WORKS,

Builder's Signature.

Date *6th May 1909.*

GENERAL REMARKS.

This installation has been fitted in accordance with the Rules, tested and found satisfactory.

D. V. Robertson, acting.

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

Committee's Minute

It is submitted that the Record Elec. Light be noted in the Reg. Book.

1.6.09

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.