

TUE. SEP. 28 1920

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No.

2869.

Port of

Kobe

Date of First Survey

May 26

Date of Last Survey

June 7th

No. of Visits

Five

No. in
Reg. Book

on the Iron or Steel

Single Screw Steamer

Malacca Maru

By whom

Nippon Yusen Kaisha

When built

1920

Owners

Nippon Yusen Kaisha

Owners' Address

Nippon Yusen Kaisha Co.

When fitted

1920

Yard No.

Electric Light Installation fitted by

Nippon Yusen Kaisha Co.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

open type Compound wound dynamo

Capacity of Dynamo

120

Amperes at

100

Volts, whether continuous or alternating current

Continuous

Where is Dynamo fixed

Starboard Engine Room

Whether single or double wire system is used

Double

Position of Main Switch Board

Engine Room Starboard

Number of switches to groups

8

of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each

Mess Room 2

Saloon 2

Chart Room 1

Forecastle alleyway 1

Poop alleyway 1

Wireless Office 1

Engine Room 1

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

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 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

5

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

Yes

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

231

arranged in the following groups:—

A	43	lights each of	24	candle power requiring a total current of	10.75	Amperes	
B	37	lights each of	24	candle power requiring a total current of	9.25	Amperes	
C	22	lights each of	24	candle power requiring a total current of	5.50	Amperes	
D	25	lights each of	24	candle power requiring a total current of	6.25	Amperes	
E	52	lights each of	24	candle power requiring a total current of	18.50	Amperes	
2	Mast head light with	2	lamps each of	32	candle power requiring a total current of	2.30	Amperes
2	Side light with	2	lamps each of	32	candle power requiring a total current of	2.30	Amperes
18	Cargo lights of	32	candle power, whether incandescent or arc lights				Incandescent

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

Where are the switches controlling the masthead and side lights placed

Chart Room.

DESCRIPTION OF CABLES.

Main cable carrying	120	Amperes, comprised of	37	wires, each	14	S.W.G. diameter,	.1824	square inches total sectional area
Branch cables carrying	12	Amperes, comprised of	7	wires, each	18	S.W.G. diameter,	.01246	square inches total sectional area
Branch cables carrying	33	Amperes, comprised of	19	wires, each	18	S.W.G. diameter,	.03375	square inches total sectional area
Leads to lamps carrying	1	Amperes, comprised of	1	wires, each	18	S.W.G. diameter,	.0018	square inches total sectional area
Cargo light cables carrying	33	Amperes, comprised of	19	wires, each	18	S.W.G. diameter,	.03375	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Conductors are double insulated with India rubber & vulcanized rubber. Armoured wires are used.

Joints in cables, how made, insulated, and protected

Insulated joint boxes protected with tin covers.

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

Secured to wood attached to deck beams.

Protection.

Armoured wires & also wires through tin tubes.

Lloyd's Register
W 427-0049

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 *Led through galv'd*

Arm piping & water tight joint boxes.

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

What special protection has been provided for the cables near boiler casings *do*

What special protection has been provided for the cables in engine room *G.I. piping for protection of armoured lines*

How are cables carried through beams *wood frames in holes through bulkheads, &c. water tight gland.*

How are cables carried through decks *water tight G.I. deck tubes are used*

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 lines are used or lines led through G.I. tubes*

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 *Non water tight terminal boxes.*

Where are the main switches and fuses for these lights fitted *in Engine Room*

If in the spaces, how are they specially protected *Non Guards*

Are any switches or fuses fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *portable* How fixed *no*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *no*

How are the returns from the lamps connected to the hull *no*

Are all the joints with the hull in accessible positions *Yes*

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 *250* 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.

KOBE WORKS, MITSUBISHI ZOSEN KAISHA, LTD.

H. Minagawa

Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass *94 feet from dynamo*

Distance between dynamo or electric motors and steering compass *112*

The nearest cables to the compasses are as follows:—

A cable carrying	Ampères	feet from standard compass	feet from steering compass
A cable carrying	Ampères	feet from standard compass	feet from steering compass
A cable carrying	Ampères	feet from standard compass	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 *21* degrees on *21* course in the case of the standard compass and *21* degrees on *21* course in the case of the steering compass.

Mototeru Horamushi Builder's Signature. Date

GENERAL REMARKS.

The installation has been made and fitted in accordance with the requirements of the Rules and worked satisfactorily on trial

It is submitted that this vessel is eligible for

RECORD. Elee Lt

Roll

1/10/20

R. D. Aitchison

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. OCT. 15 1920



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