

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 4985

Port of Nobe Date of First Survey Aug 1st Date of Last Survey 26th Aug 1925 No. of Visits 6
 No. in Reg. Book on the ~~Steel~~ SS "TSUKUSHI MARU" Port belonging to SHIMONOSEKI
 Built at Osaka By whom Osaka Iron Works Ltd When built 1925
 Owners Kaizima Shogyo Kabushiki Kaisha Owners' Address 2 Karadosho Shimonozei
 Yard No. 1074 Electric Light Installation fitted by Osaka Iron Works Ltd When fitted 1925

DESCRIPTION OF DYNAMO, ENGINE, ETC.

7 K.W. Open type high speed single vertical engine, direct connected to compound dynamo
 Capacity of Dynamo 70 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed Starboard lower engine room Whether single or double wire system is used double
 Position of Main Switch Board near dynamo having switches to groups A. B. C. D. E of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Eng Room 5 sw. Mess Room, 3 sw. Pastry 1 sw. Crew Space 1 sw.

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 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 100 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 102 arranged in the following groups:—

A	FORW ^P	28 lights each of	16 x 32	candle power requiring a total current of	6.4	Amperes
B	AFT:	18 lights each of	16	candle power requiring a total current of	3.6	Amperes
C	CREW SPACE	13 lights each of	16	candle power requiring a total current of	2.6	Amperes
D	ENG. AIR ROOM	27 lights each of	16 x 32	candle power requiring a total current of	6.6	Amperes
E	NAVIGATION	6 lights each of	10 x 16	candle power requiring a total current of	1.7	Amperes
	2 Mast head light with	1 lamp each of	32	candle power requiring a total current of	2	Amperes
	2 Side light with	1 lamp each of	32	candle power requiring a total current of	2	Amperes
	6 Cargo lights of	4 lamps, each	16	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 Upper Bridge, passage way.

DESCRIPTION OF CABLES.

Main cable carrying	70 Amperes, comprised of	60 wires, each	19 S.W.G. diameter,	.0754 square inches total sectional area
Branch cables carrying	6.6 Amperes, comprised of	7 wires, each	21 S.W.G. diameter,	.0056 square inches total sectional area
Branch cables carrying	1.0 Amperes, comprised of	1 wires, each	16 S.W.G. diameter,	.0032 square inches total sectional area
Leads to lamps carrying	1.0 Amperes, comprised of	1 wires, each	16 S.W.G. diameter,	.0032 square inches total sectional area
Cargo light cables carrying	2.6 Amperes, comprised of	7 wires, each	21 S.W.G. diameter,	.0056 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Rubber insulation lead covered in wood casing, in all accommodation spaces
 Rubber insulated lead covered and ^{lined} armoured in engine & boiler rooms & cargo spaces
 Joints in cables, how made, insulated, and protected Porcelain & Cast Iron junction boxes with water tight 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 clipped to underside of deck, & led through W.T. stuffing boxes in bulkheads



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 & armoured & part in galvanized wrought iron pipe

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

What special protection has been provided for the cables near boiler casings armoured wire kept well clear of boiler casings

What special protection has been provided for the cables in engine room armoured wire on wood base

How are cables carried through beams holes in beams lead lined through bulkheads, &c. glanded with rubber packing

How are cables carried through decks Iron pipe with flange bolted to deck & made water tight

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 armoured wire clipped to under side of deck & to beams & rigid flange

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 fuses for these lights fitted ✓

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 Plugged in Cast Iron Boxes.

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 in 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.

Osaka Iron Works Ltd

Electrical Engineers

Date 26th Aug: 1925

COMPASSES.

Distance between dynamo or electric motors and standard compass 16'-0" from wireless motor

Distance between dynamo or electric motors and steering compass 14'-0" " " "

The nearest cables to the compasses are as follows:—

A cable carrying	2	Amperes	4	feet from standard compass	4	feet from steering compass
A cable carrying	1.0	Amperes	8	feet from standard compass	6	feet from steering compass
A cable carrying	5.7	Amperes	12	feet from standard compass	10	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 all courses in the case of the standard compass and nil degrees on all courses in the case of the steering compass.



Signature. Date 8th Sept 1925

GENERAL REMARKS.

The wiring of this vessel is as stated in this report, and in accordance with the Rules, the installation has been tested under full working conditions & found satisfactory. This case is eligible in my opinion for the Record "Electric Light" in Register Book.

It is submitted that this vessel is eligible for THE RECORD. Elec. Light. Surveyor to Lloyd's Register of Shipping.

Exp. No. 125
 Report
 Date 1/10/25
 Committee's Minute

FRI. 30 OCT 1925



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