

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 4484

Port of Kobe Date of First Survey Oct 1st 1924 Date of Last Survey Feb 27th 1925 No. of Visits 12
 No. in Reg. Book on the ~~Iron~~ Steel M.V. "FLORIDA MARU" Port belonging to Kobe
 Built at Kobe By whom Kawasaki Dockyard Co Ltd When built 1925-2
 Owners Kawasaki Dockyard Co Ltd Owners' Address Kobe
 Yard No. 484 Electric Light Installation fitted by Kawasaki Dockyard Co Ltd When fitted 1925

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Three sets of 100 K.W. generator, direct connected to 3 cylinder enclosed vertical engines of 150 H.P. Burmeister & Wain type Diesel Engines made by N.H. Allen, Sm & Co Ltd Bedford England. London Report No 87995. also one 5 K.W. auxy. set generator direct connected to a Gardner's pump engine
 Capacity of Dynamos 445 8 22.8 Amperes at 225 V Volts, whether continuous or alternating current Continuous
 Where ^{are} Dynamos fixed In engine room Whether single or double wire system is used double
 Position of Main Switch Board Near main generator 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 Three in engine room, three on upper deck. two on bridge deck one on navigating bridge. each of above having one switch.

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

5-24. 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. (Porcelain & marble used)

Total number of lights provided for 228 arranged in the following groups:—

A	15	lights each of	5	candle power requiring a total current of	1.5	Amperes
B	150	lights each of	16	candle power requiring a total current of	16.4	Amperes
C	56	lights each of	32	candle power requiring a total current of	13.54	Amperes
D	5	lights each of	100	candle power requiring a total current of	3.4	Amperes
E	2	lights each of	1500	candle power requiring a total current of	4.55	Amperes
2	Mast head light with	2 lamps each of	32	candle power requiring a total current of	1.02	Amperes
2	Side light with	2 lamps each of	32	candle power requiring a total current of	1.02	Amperes
12	Cargo lights of	128 & 1500		candle power, whether incandescent or arc lights	Incandescent	

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

Where are the switches controlling the masthead and side lights placed

DESCRIPTION OF CABLES.

Main cable carrying	445	Amperes, comprised of	750	wires, each	20	S.W.G. diameter,	.750	square inches total sectional area
	22.8		15		20		.615	
Branch cables carrying	6.64	Amperes, comprised of	7	wires, each	20	S.W.G. diameter,	.007	square inches total sectional area
	9.00		7		20		.007	
Branch cables carrying	8.80	Amperes, comprised of	11	wires, each	20	S.W.G. diameter,	.011	square inches total sectional area
	10.00		7		20		.007	
Leads to lamps carrying	.5	Amperes, comprised of	1	wires, each	18	S.W.G. diameter,	.0018	square inches total sectional area
Cargo light cables carrying	3	Amperes, comprised of	234	wires, each	38	S.W.G. diameter,	.0066	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

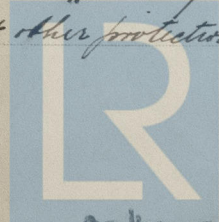
Conductors are doubly insulated with vulcanized rubber and tape, and protected against mechanical injury & chemical action, by lead covering and steel armouring as required.

Joints in cables, how made, insulated, and protected Porcelain junction boxes or W.T. cast iron boxes where exposed to weather.

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 Cables are secured to metal base plate throughout holds & machinery spaces, & wood base in accommodation, without other protection than that provided on the cables themselves.



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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 *Steel tubing, or lead covered cable used.*

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

What special protection has been provided for the cables near boiler casings *Lead covered & armoured cable*

What special protection has been provided for the cables in engine room *Steel tubing where found necessary*

How are cables carried through beams *Holes in beams (bushed) through bulkheads, &c. with W.T. Stuff boxes*

How are cables carried through decks *W.T. steel tubing jointed at deck*

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 *Lead covered with steel armouring*

Are any lamps fitted in ~~coal bunkers~~ or spaces which may at times be used for cargo, coals, or baggage *No, none*

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, none*

Cargo light cables, whether portable or permanently fixed *Portable* How fixed *Plugged in, in C.I. W.T. 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 (4)*, and with an amperemeter *Yes (4)*, fixed *on 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.

COMPASSES.

Distance between dynamo or electric motors and standard compass *Dynamo 80 feet Motor 30 feet*

Distance between dynamo or electric motors and steering compass *" 70 feet " 40 feet*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>2</i>	<i>7 feet</i>	<i>18'-0"</i>	
<i>✓</i>	<i>✓</i>	<i>✓</i>	
<i>✓</i>	<i>✓</i>	<i>✓</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.

Kawasaki Dockyard Co., Ltd.,

Per. *Mura*

Builder's Signature. Date *13 March 1925*

GENERAL REMARKS.

Director.

The fitting of the cables are as stated in this report, and the machinery was tried under full working load with satisfactory results, & eligible in my opinion to have record "Electric Light, London Report N° 87995 (Oil Engine Machinery)" for generators returned herewith.

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

H. B. Buchanan

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

WED. 15 APR 1925

Elec Lt.



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