

Rpt. 13.

No. 4501

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

24 APR 1930

Date of writing Report 4th April 1930 When handed in at Local Office 4-4-30 Port of YOKOHAMANo. in Survey held at Yokohama. Date, First Survey 15th Jan. Last Survey 28th March 1930
Reg. Book. (Number of Visits 10)4343 on the Steel Screw Motor Vessel "MELBOURNE MARU" Tons { Gross 5437
(Supp) Net 3237

Built at Yokohama By whom built Yokohama Dock Co. Ltd. Yard No. 174 When built 1930.

Owners Osaka Shosen Kaisha Ltd. Port belonging to Osaka.

Electric Light Installation fitted by Yokohama Dock Co. Ltd. Contract No. 174 When fitted 1930.

Is the Vessel fitted for carrying Petroleum in bulk No.

System of Distribution Two Wire System

Pressure of supply for Lighting 100 volts, Heating ✓ volts, Power 220 volts.

Direct or Alternating Current, Lighting Direct. Power Direct.

If alternating current system, state frequency of periods per second ✓

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes.

Generators, do they comply with the requirements regarding rating Yes., are they compound wound Yes.

are they over compounded 5 per cent. Yes., if not compound wound state distance between each generator ✓

Where more than one generator is fitted are they arranged to run in parallel Yes., is an adjustable regulating resistance fitted in

series with each shunt field Yes.

Are all terminals accessible, clearly marked, and furnished with sockets Yes., are they so spaced or shielded that they cannot be accidentally earthed,

short circuited, or touched Yes. Are the lubricating arrangements of the generators as per Rule Yes.

Position of Generators Bottom Platform Engine Room. One on port side and two on starboard side

is the ventilation in way of the generators satisfactory Yes., are they clear of all inflammable material Yes.

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators

✓ and ✓, are the generators protected from mechanical injury and damage from water, steam or oil Yes.

are their axes of rotation fore and aft Yes.

Earthing, are the bedplates and frames of the generating plant efficiently earthed Yes. are the prime movers and

their respective generators in metallic contact Yes.

Main Switch Boards, where placed Bottom platform of Engine Room Port side

If the generators and main switchboard are not placed in the same compartment, is each generator provided with

a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard ✓

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes Yes.

are they protected from mechanical injury and damage from water, steam or oil Yes., if situated near unprotected

woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards ✓ and ✓

are they constructed wholly of durable, non-ignitable non-absorbent materials Yes., is all insulation of high dielectric strength and of

permanently high insulation resistance Yes., if semi-insulating material is used, are all conducting parts insulated from the slab

with mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework Yes.

and is the frame effectively earthed Yes. Are the fittings as per Rule regarding:— spacing or shielding of live parts

Yes., accessibility of all parts Yes., absence of fuses on back of board Yes., proportion of omnibus

bars Yes., individual fuses to voltmeter, pilot or earth lamp Yes., connections of switches Yes.

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches Triple Pole Circuit

breaker with overload and reverse current trips and a single pole equalizer switch

Outgoing circuit: Double pole single throw switches with fuses

Instruments on main switchboard Seven ammeters Five voltmeters ✓ synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Earth lamps

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules Yes.

Joint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule Yes.



© 2021

Lloyd's Register
Foundation

008186-008200-002612

Cables: ^{Power: Single} Single, twin, concentric, or multicore ^{Lighting: Twin} are the cables insulated and protected as per Tables IV or V of the Rules Yes.

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 5 Volts.

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets yes.

Paper Insulated Cables. If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound yes.

Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage Yes.

Support and Protection of Cables, state how the cables are supported and protected Metal hangers and steel clips.

If cables are run in wood casings, are the casings and caps secured by screws ✓, are the cap screws of brass ✓, are the cables run in separate grooves ✓. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII Yes.

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements Yes.

Joints in Cables, state if any, and how made, insulated, and protected ✓.

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands yes.

Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed yes. state the material of which the bushes are made Lead.

Earthing Connections, state what earthing connections are fitted and their respective sectional areas ✓.

are their connections made as per Rule ✓.

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule Yes.

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven ✓.

Navigation Lamps, are these separately wired yes, controlled by separate switch and separate fuses Yes, are the fuses double pole yes, are the switches and fuses grouped in a position accessible only to the officers on watch yes, has each navigation lamp an automatic indicator as per Rule yes.

Secondary Batteries, are they constructed and fitted as per Rule yes.

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight Yes, are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected with guards, are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected gas proof fittings, how are the cables led through steel tubes, where are the controlling switches situated outside the spaces.

Searchlight Lamps, No. of ✓, whether fixed or portable ✓, are their fittings as per Rule ✓.

Arc Lamps, other than searchlight lamps, No. of ✓, are their live parts insulated from the frame or case ✓, are their fittings as per Rule ✓.

Motors, are their working parts readily accessible yes, are the coils self-contained and readily removable for replacement yes, are the brushes, brush holders, terminals and lubricating arrangements as per Rule yes, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material yes, are they protected from mechanical injury and damage from water, steam or oil yes, are their axes of rotation fore and aft yes, if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type ✓, if not of this type, state distance of the combustible material horizontally or vertically above the motors ✓ and ✓.

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule yes.

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule yes.


Ships carrying Oil having a Flash Point less than 150° F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings ✓.

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office ✓.

PARTICULARS OF GENERATING PLANT.									
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
		Kilowatts.	Volts.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN ...	3	100	225	444	390	Diesel Engine	Sarakan Oil	88°C.	
AUXILIARY									
EMERGENCY									
ROTARY TRANSFORMER	2	10	100	100	1400	D.C. Motor			

GENERATOR, LIGHTING AND HEATING CONDUCTORS.									
DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR ...	1	40640	61	.093	444	464	380	Paper	Lead Armoured.
EQUALISER CONNECTIONS	1	24650	34	.093		343	190	"	" "
AUXILIARY GENERATOR...									
EMERGENCY GENERATOR									
ROTARY TRANSFORMER	MOTOR	1	11680	34	.064	68	130	150	Rubber
	GENERATOR...	1	11680	34	.064	100	130	150	"
ENGINE ROOM...									
BOILER ROOM...									
AUXILIARY SWITCHBOARDS	1	40640	61	.093	750	288	390	"	" " Braided
	2	49300	37x2	.093	600	754	1000	"	" " Braided
ACCOMMODATION									
WIRELESS	1	01046	4	.044	14	31	1500	Rubber	Lead Covered Armoured
SEARCHLIGHT									
MASTHEAD LIGHT	1	00322	1	.064	4	12.9	600	"	" "
SIDE LIGHTS	1	00152	1	.044	4	6.1	40	"	" "
COMPASS LIGHTS	1	00152	1	.044	1	6.1	300	"	" "
POOP LIGHTS	1	00322	1	.064	4	12.9	600	"	" "
CARGO LIGHTS	1	00322	1	.064	2	12.9	20	"	" "
ARC LAMPS									
HEATERS									

MOTOR CONDUCTORS.										
DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP										
MAIN BILGE LINE PUMPS	1	1	02214	4	.064	35	46	250	Rubber	Lead Covered Armoured.
GENERAL SERVICE PUMP	1	1	10090	19	.083	100	118	240	"	" "
EMERGENCY BILGE PUMP										
SANITARY PUMP										
CIRC. SEA WATER PUMPS	2	1	19640	34	.083	145	184	250	"	" "
CIRC. FRESH WATER PUMPS...										
AIR COMPRESSOR	2	1	19640	34	.083	140	184	230	"	" "
FRESH WATER PUMP										
ENGINE TURNING GEAR...	1	1	01462	4	.052	30	37	430	"	" "
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS	2	1	00194	3	.029	5	7.8	300	"	" "
OIL FUEL TRANSFER PUMP...	2	1	02214	4	.064	35	46	320	"	" "
WINDLASS	1	1	40640	61	.093	120	357	1000	"	" " Braided
WINCHES, FORWARD	6	2	24650	34	.093	360	464	1000	"	" " "
WINCHES, AFT	6	2	24650	34	.093	360	464	1100	"	" " "
STEERING GEAR—										
(a) MOTOR GENERATOR...										
(b) MAIN MOTOR	1	1	0600	19	.064	50	83	1300	"	" "
WORKSHOP MOTOR										
VENTILATING FANS	2	1	01046	4	.044	28	31	800	"	" "

© 2021

All Conductors are of annealed copper conforming to British Standard Specification No. 7.

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

R. Miyake

Electrical Engineers.

Date 29th March 1930

COMPASSES.

Distance between electric generators or motors and standard compass 300 feet.

Distance between electric generators or motors and steering compass 400 feet.

The nearest cables to the compasses are as follows:—

A cable carrying 0.4 Ampères 30 feet from standard compass 20 feet from steering compass.

A cable carrying 10 Ampères 30 feet from standard compass 30 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 yes with.

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted no.

The maximum deviation due to electric currents 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.

J. Tsuchiya

Builder's Signature.

Date 29th March 1930.

Is this installation a duplicate of a previous case yes If so, state name of vessel SYDNEY MARU.

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Electric Installation of this vessel has been constructed in accordance with the Rules and on completion of fitting onboard was tested under full working conditions with satisfactory results. Workmanship and materials good.

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

8/5/30

Total Capacity of Generators 300 Kilowatts.

The amount of Fee Yen. 390.00 : 7-4-1930

Travelling Expenses (if any) £ :

When received, 24-4-30

J. Michalos
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec Lt



© 2021

Lloyd's Register
Foundation