

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 13 JAN 1932

Date of writing Report 21st Dec 31 When handed in at Local Office 21st Dec 31 Port of NAGASAKI.

No. in Survey held at NAGASAKI. Date, First Survey 8th Sept. 31 Last Survey 1st December 31.  
Reg. Book. (Number of Visits 10.)40963 on the Steel Screw Motor Ship "KORYU MARU".  
in Sup.Tons { Gross 6680.10  
Net 4767.67

Built at Nagasaki. By whom built Mitsubishi Zosen Kaisha Yard No. 486 When built 1931

Owners Hiroumi Shoji Kabushiki Kaisha. Port belonging to Kobe.

Electric Light Installation fitted by Nagasaki Works Mitsubishi Zosen Kaisha, Ltd. Contract No. - When fitted 1931

System of Distribution Two wire system. ✓

Pressure of supply for Lighting 225 volts, Heating 12 volts, Power 225 volts.

Direct or Alternating Current, Lighting Direct current. Power Direct current.

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

Position of Generators In Engine Room.

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 At forward end of Engine room.

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

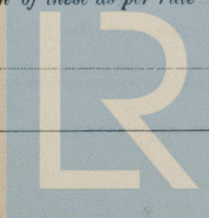
Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches A double pole circuit breaker with overload trip time lag device and reverse current trip and single pole equalizer switch interlocked with the circuit breaker as per rule and a double pole knife switch for each generator; A double pole circuit breaker with overload trip time lag device or a double pole switch and fuse for each of out going circuits.

Instruments on main switchboard 5 ammeters 2 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 Lamp.

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



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Lloyd's Register  
Foundation

010369-010377-0217½



Cables: Single and Multiple are the cables insulated and protected as per Tables IV or V of the Rules. Yes  
5.63 volts for Power.  
7.93 volts for Lighting.  
Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load  
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 /  
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 Clamped to metal bracket or perforated galvanized steel plate by metal clip and protected by metal cover or pipe where necessary.  
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 In junction box as per Rule.  
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 Earthing connection for wireless only, - sectional area 0.00715 square in.  
are their connections made as per Rule Yes  
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 /  
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 Lamps in stores are protected by strong metal 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 /  
how are the cables led  
where are the controlling switches situated /  
Searchlight Lamps, No. of / , whether fixed or portable / , are their fittings as per Rule /  
Are 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 Totally enclosed - 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 /  
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.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN	3	125	225	555	340	Diesel Engine.	Diesel Oil	Above 150° F.	
AUXILIARY									
EMERGENCY									
ROTARY TRANSFORMER									
LIGHTING AND HEATING CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
1	No.1 Dynamo.	2	1.08	127	.104	555	90	Rubber	Lead covered
2	Junction box.	2	.0127	7	.048	39.9	150	"	"
3	F.O.Purifier.	2	.00701	"	.036	8.7	40	"	"
4	L.O. " " " " " "	2	"	"	"	13.1	60	"	"
5	F.O.Service Pump.	2	"	"	"	4.7	30	"	"
6	Bilge Pump.	2	.0127	"	.048	28.3	210	"	"
7	Main Eng. Turning Motor.	2	.02214	"	.064	42	190	"	"
8	Work shop motor.	2	.00701	"	.036	22	200	"	"
9	Bilge & G.S.pump	2	.06	19	.064	66	160	"	"
10	No.1 Lub.oil pump	2	"	"	"	70	100	"	"
11	F.O.Transfer pump	2	.02214	7	"	41	120	"	"
12	Bilge & Ballast P.	2	.1168	37	"	94	160	"	"
13	No.2 Jacket and Piston Cooling P.	2	.1964	37	.084	108	110	"	"
14	Aux.Air Compressor	4	.605	91	.092	740	400	"	"
15	Turbo blower	4	"	"	"	630	240	"	"
16	Aux.air compressor	2	.1168	37	.064	105	110	"	"
17	No.1 Fuse board	2	.405	61	.092	700	350	"	"
18	Windlass	2	"	"	"	190	200	"	"
19	No.2 Cargo winch.	2	.1168	37	.064	120	50	"	"
20	No.4 " " " " " "	2	"	"	"	135	70	"	"
21	No.2 Fuse board	2	.6055	91	.092	720	170	"	"
22	No.3 " " " " " "	2	.405	61	"	630	430	"	"
23	Mooring winch	2	.1168	37	.064	120	220	"	"
24	Wireless Telegraph switchboard.	2	.0127	7	.048	15	280	"	"
25	Motor-Generator	3	.00701	7	.036	18	140	"	"
MOTOR CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
26	Galley Cookfan M.	2	.00701	7	.036	4.5	190	"	"
27	Ref. Machine.	2	"	"	"	4.24	90	"	"
28	Steering motor.	2	.1168	37	.064	77	580	"	"
29	No.1 Submain Bd.	2	.00701	7	.036	18.55	160	"	"
30	No.1 Dist.board	2	.00322	1	.064	9.95	6	"	"
31	No.2 Sea Water Pumps	2	"	1	"	8.4	80	"	"
32	No.3 " " " " " "	2	.00701	7	.036	11.18	60	"	"
33	Bus-bar lamp.	2	.00181	1	.048	.81	60	"	"
34	Charg.device for battery portable lamp.	2	"	1	"	.96	170	"	"
35	Nav.light circuit	2	.00701	7	.036	1.51	360	"	"
36	Fore mast lamp.	2	.00181	1	.048	.3	70	"	Lead covered and armoured
37	Stern lamp.	2	"	1	"	.3	750	"	Lead covered
38	No.2 Submain Bd.	2	.00701	7	.036	23.06	140	"	"
39	Cargo light	2	.00181	1	.048	4.63	360	"	"
40	Portable lamp flexible cord.	2	.0017	40	.0076	1.16	45	"	Flex.cord.
41	Cargo light Flex.C	2	.003	70	"	"	80	"	"
42	Cargo cluster.	2	.00181	1	.048	2.36	120	"	Lead covered
43	Cargo cluster flexible cord.	2	.003	70	.0076	.78	80	"	Flex.cord.
44	Cargo light.	2	.00181	1	.048	4.72	340	"	Lead covered.
45	Fuse box for Cabin Fan.	2	.00701	7	.036	3.06	170	"	"



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.

*S. Grotora*  
GENERAL MANAGER

Electrical Engineers.

Date 23/12/31

#### COMPASSES.

Distance between electric generators or motors and standard compass 20 feet from Bracket fan motor.

Distance between electric generators or motors and steering compass 12 " " " "

The nearest cables to the compasses are as follows:—

A cable carrying 0.1 Amperes 1 feet from standard compass 1 feet from steering compass.

A cable carrying 1.51 Amperes 20 feet from standard compass 16 feet from steering compass.

A cable carrying / Amperes / 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

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted Yes

The maximum deviation due to electric currents was found to be / degrees on Any and every course in the case of the standard

compass, and / degrees on Any and every course in the case of the steering compass.

*S. Grotora*  
GENERAL MANAGER

Builder's Signature.

Date 23/12/31

Is this installation a duplicate of a previous case No If so, state name of vessel /

General Remarks (State quality of workmanship, opinions as to class, &c. The materials and workmanship are good,)

and the installation has been fitted in accordance with the Rules, tested under working condition and found satisfactory.

Plans sent under separate cover of:- Wiring diagram (2 sheets).

*Elec Light.*  
*12/1/32.*  
*P.*

Total Capacity of Generators 375. Kilowatts.

The amount of Fee ... £ 408:75 : When applied for, 2. 12. 31

Travelling Expenses (if any) £ : : When received, 29. 3. 32

*George Anderson*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 19 JAN 1932

Assigned Elec. Light

Im. 228.—Transfer.  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)