

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 21 JAN 1957

Date of writing Report 28th Dec. 1956 When handed in at Local Office 19 Port of YOKOHAMA

No. in Survey held at Yokohama, Japan Date, First Survey 6th Sept. 1956 Last Survey 7th Dec. 1956

Reg. Book. (No. of Visits 9)

on the M.V. "GEORGIA MARU" Tons { Gross 7,662.04 Net 4,407.12

Built at Yokohama, Japan By whom built Yokohama Shipyard & Engine Works, Mitsubishi Nippon Heavy Industries Ltd. Yard No. 815 When built 1956 - 12

Owners Mitsubishi Kaiun Kabushiki Kaisha Port belonging to Tokyo

Installation fitted by Yokohama Shipyard & Engine Works, Mitsubishi Nippon Heavy Industries Ltd. When fitted 1956 - 12

Is vessel equipped for carrying Petroleum in bulk No Is vessel equipped with D.F. Yes E.S.D. Yes Gy.C. Yes Sub.Sig. - Radar Yes

Plans, have they been submitted and approved Yes System of Distribution Three-wire for power & main lighting Two-wire for lighting Voltage of Lighting 110V

Heating 110V Power 440V D.C. or A.C., Lighting A.C. Power A.C. If A.C. state frequency 60 C.S.

Prime Movers, has the governing been found as per Rule when full load is thrown on and off Yes Are turbine emergency governors fitted

with a trip switch - Generators, are they compound wound Yes, and level compounded under working conditions Yes

Are the generators arranged to run in parallel Yes Is the compound winding connected to the negative or positive pole -

Have machines 100 kw. and over been inspected by the Surveyors during manufacture and testing Yes Have certificates of test for machines

under 100 kw. been supplied and the results found as per Rule Yes Position of Generators Port inboard and outboard

is the ventilation in way of generators satisfactory Yes are they clear of inflammable material and protected from mechanical injury and

damage from water, steam and oil Yes Switchboards, where are main switchboards placed Forward machinery room

are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water,

steam and oil Yes, what insulation is used for the panels "BEKELITE" if of synthetic insulating

material is it an Approved Type Yes, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom as

per Rule - Is the construction as per Rule, including locking of screws and nuts Yes Description of Main Switchgear

for each generator and arrangement of equaliser switches Triple pole linked air circuit breaker with over current trips

and disconnecting switch without equaliser switch

and the switch and fuse gear (or circuit breakers) for each outgoing circuit For each outgoing circuits under 200 A. Loads,

Thermal magnetic type, 3-poles air circuit breakers, used. For the circuits over 200A Load,

3-poles air circuit breakers, used.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 9

ammeters 5(A.C.) voltmeters 2(A.C.) synchronising devices. For compound machines in parallel are the ammeters and reverse current

protection devices connected on the pole opposite to the equaliser connection - Earth Testing, state means provided

Three (3) lamp system Preference Tripping, state if provided - and tested -

Switches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an Approved Type Yes

make of fuses For 440V. Fuji Denki Seizo K.K. For 110V. Ubeunomiya K.K. are all fuses labelled Yes If circuit breakers are provided for the generators, at what

overload do they operate Instant-11% of the rated current (20 Sec.) and at what current do the reverse current protective

devices operate At 13% of the rated current. Cables, are they insulated and protected as per Rule Yes

if otherwise than as per Rule are they of an Approved Type - state maximum fall of pressure between bus bars and any point

under maximum load 5.8(1.3%) volts. Are all paper insulated and varnished cambric insulated cables sealed at the ends Yes

Are all the cable runs in accessible positions not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical

damage Yes, are any cables laid under machines or floorplates Yes, if so, are they adequately protected Yes State

type of cables (if in conduit this should also be stated) in machinery spaces Steel Wire Braided, galleys Rubber, and Lead Alloy Sheathed, Rubber, and Lead Alloy Sheathed,

and laundries - State how the cables are supported or protected where exposed to risk of mechanical

damage, cables are protected in accordance with the requirement of M-914, cables entering cold storage chambers

are laid in accordance with the requirement of M-916.

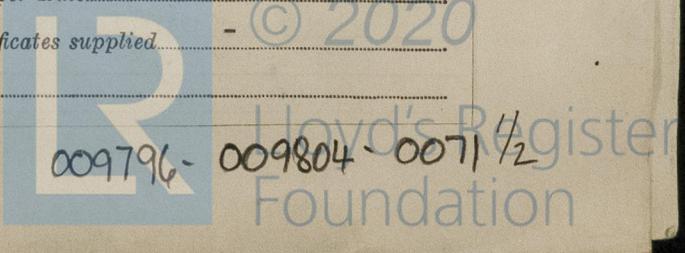
Are all lead sheaths, armouring and conduits effectually bonded and earthed Yes Are all cables passing through decks and watertight

bulkheads provided with deck tubes or watertight glands Yes, where unarmoured cables pass through beams, etc., are the holes

effectively bushed Yes Refrigerated chambers, are the cables and fittings as per Rule Yes

Have refrigeration fan motors been constructed under survey - and test certificates supplied -

Are the motors accessible for maintenance at all times Yes



Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule... Yes Emergency Supply, state position
 Bridge deck port side (24V. 200AH. 2sets)

Navigation Lamps, are they separately wired... Yes controlled by separate double pole switches and fuses... Yes Are the switches and fuses in
 a position accessible only to the officers on watch... Yes is an automatic indicator fitted... Yes Is an alternative supply provided... Yes

Secondary Batteries, are they constructed, fitted and adequately ventilated as per Rule... Yes state battery capacity in
 200AH. 2sets for general alarm, Interior communication and emergency
 200AH. 2sets for wireless. Where required to do so does it comply with 1938 International Convention

Lighting, is fluorescent lighting fitted... - If so, state nominal lamp voltage... - and compartments where lamps are fitted... -

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof... Yes

Searchlights, No. of 1 set, whether fixed or portable... fixed type, are they of the carbon arc or of the filament type... filament type

Heating and Cooking, is the general construction as per Rule... Yes, are the frames effectually earthed... Yes, are heaters in the
 accommodation of the convection type... not provided Motors, are all motors constructed and installed as per Rule and placed in well-ventilated
 compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil... Yes

Are motors coupled to oil fuel transfer and pressure pumps capable of being stopped from a position accessible in the event of fire in the pump
 compartment... Yes Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing... not fitted

Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found as per Rule... Yes

Lightning Conductors, where required are they fitted as per Rule... Yes

Ships carrying Oil having a Flash Point of less than 150° F. Have all the special requirements of the Rules for such ships been complied
 with... - are all fuses of an Approved Cartridge Type... - make of fuse... - Are the fittings for pump
 rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships... - Are all cables lead covered as per Rule... -

E.S.D., if fitted state maker Nippon Denki Co. location of transmitter and receiver No. 2 galv hold double bottom
 P 109-110 starboard side

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and suitably stored in dry situations... Yes

Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory... Yes

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	MAKER.	RATED AT			PRIME MOVER.		
			Kw. per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN GENERATOR	2	Mitsubishi Electric Mfg. Co. Kobe	136	445	221	514	4 SCVA M.A.M. Diesel	Yokohama Shipyard & Engine Works, Mitsubishi Nippon Heavy Industries
EMERGENCY ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	No. of	Kw.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
			No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	2	136KW (170KVA)	1	37/0.093	221	231	15	Varnished Cambric	
" "		6.5	1	Connecting in main generator terminal box.					
" "				3/0.036	2-3	7	15	- do -	- do -
EMERGENCY GENERATOR									
ROTARY TRANSFORMER: MOTOR									
" " GENERATOR									

MAIN DISTRIBUTION CABLES (to Auxiliary Switchboards, etc.).

DESCRIPTION.	No.	Kw.	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
Main switch board to									
P.1 section board	1			7/0.036	11.4	19	25	Varnished cambric	Lead-Alloy-Sheathed & Steel Wire Braided
P.2 - do -	1			7/0.064	9	51	28	do	- do -
P.3 - do -	1			7/0.036	15	19	40	do	- do -
P.4 - do -	1			7/0.052	31.7	38	30	do	- do -
L.1 - do -	1			19/0.052	68.2	70	25	do	- do -
L.2 - do -	1			7/0.064	44.8	51	20	do	- do -
L.3 - do -	1			7/0.064	43.2	51	25	do	- do -
L.A. Dist Fuse Board	1			7/0.052	31.5	38	15	do	- do -
L.B. - do -	1			7/0.044	26.3	29	8	do	- do -
L.C. - do -	1			7/0.036	10	19	35	do	- do -
Navigation light indicator panel	1			3/0.036	1.8	7	35	Rubber	- do -
Selenium rectifier for magnet clutch (Main air comp.)	1			3/0.036	1.5	7	50	do	- do -
W/T switch board	1			7/0.064	40	51	25	Varnished Cambric	- do -

DISTRIBUTION CABLES (to Section-Boards and Distribution-Fuse-Boards, etc.).

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
P.1 Section Board to Gyro Compass	1	3/0.036	2.6	7	40	Rubber	Lead Alloy Sheathed & Steel Wire Braided
Radars	1	7/0.029	7	11	20	do	
Main Switch Board to Transformer for Suez Search Light	1	7/0.052	11.4	(38/19)	100	do	(OV V.C. 4/38)
P.2 Section Board to Electric Heater x 5	1	7/0.029	9.1	11	20	do	
Electric Ref. Cabinet	1	3/0.036	3.6	7	10	do	
P.2-A Section Board to Consent for x 2 Electric Iron	1	3/0.036	3.6	7	20	do	
Consent for x 2 Heater	1	7/0.029	9.1	11	15	do	

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
Cooling Sea Water Pump Motor	1	25	1	7/0.052	30.5	38	25	Varnished Cambric	Lead Alloy Sheathed & Steel Wire Braided
Cooling Fresh Water Pump Motor	1	35	1	7/0.064	42.8	51	27	do	- do -
Reserve Cooling Water Pump M.	1	35	1	7/0.064	42.8	51	27	do	- do -
Lubricating Oil Pump Motor	2	15	1	7/0.044	21	29	35	do	- do -
General Service & Fire Pump M.	1	50	1	19/0.052	60	70	20	do	- do -
Fuel Oil Transfer Pump Motor	1	15	1	7/0.044	20.5	29	20	do	- do -
Bilge & Sanitary Pump Motor	1	5	1	3/0.036	7	7	5	Rubber	- do -
Main Engine Turning Gear Motor	1	15	1	7/0.044	23/15	29	40	Varnished Cambric	- do -
Forced Draft Fan Motor	1	10	1	7/0.036	13.0	19	35	do	- do -
Motor Room Vent Fan Motor	3	7.5	1	7/0.036	9.7	19	50	do	- do -
Lubricating Oil Transfer Pump M.	1	3	1	3/0.036	3.93	7	30	Rubber	- do -
Fuel Oil Supply & Service Pump	1	3	1	3/0.036	3.93	7	30	do	- do -
Fuel Oil Burning Pump Motor	1	3	1	3/0.036	3.93	7	35	do	- do -
Fuel Oil Supply Pump Motor	1	2	1	3/0.036	3.1	7	20	do	- do -
Fuel Oil Purifier Motor	1	2	1	3/0.036	2.7	7	30	do	- do -
Fuel Oil Purifier Pump Motor	2	2	1	3/0.036	3.1	7	25	do	- do -
Steering Gear Motor	1	10	1	7/0.044	15.5	29	110	Varnished Cambric	- do -

NOTE.—Use Rpt. 43 Continuation Sheet if the above space is insufficient.

The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.
 All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.
 The foregoing is a correct description.

H. Kagahara Electrical Contractors. Date _____

COMPASSES.

Have the compasses been adjusted under working conditions _____

H. Kagahara Builder's Signature. Date _____

Have the foregoing descriptions and schedules been verified and found correct _____

Is this installation a duplicate of a previous case _____ If so, state name of vessel _____

Plans. Are approved plans forwarded herewith _____ If not, state date of approval _____

Certificates. Are certificates of test for motors engaged on essential sea services and generators forwarded herewith _____

General Remarks. (State quality of workmanship and materials, opinions as to class, etc.) _____

The Electrical Equipment of this vessel has been constructed and installed under the supervision of the Society's Surveyors in accordance with the Approved plans and the Rules.

The Workmanship and materials have been found satisfactory.

The Electrical Equipment has been examined under working condition and insulation tested according to the Rules.

It is submitted that the Electrical Equipment of this Vessel is eligible to be classed with this Society with notation of \oplus LMC 12,56.

3rd. 1221.—Transfer. (MADE AND PRINTED IN ENGLAND.)
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

Total Capacity of Generators 272 Kilowatts.

16th July 1956 at Kobe charged $\yen 27,900$.

The amount of Fee ... $\yen 137,900$:-

When applied for,	_____
19	_____
When received,	_____
19	_____

Travelling Expenses (if any) £ : :

D. Armstrong James Suzuki
 Surveyor to Lloyd's Register of Shipping.

TUESDAY 12 FEB 1957

Committee's Minute _____

Assigned _____



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