

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 18th July 1958. When handed in at Local Office 19 Port of KOBE

No. in Survey held at Tamano, Japan Date, First Survey 14th March Last Survey 15th July, 1958  
Reg. Book. (No. of Visits 16)

on the M.S. "MEGUROSAN MARU" Tons Gross 9,565.69  
Net 5,900.38

Built at Tamano, Japan By whom built Mitsui S.B. & Eng., Co., Ltd., Yard No. 630 When built 1958-July

Owners Mitsui Steamship Co., Ltd. Port belonging to Tokyo, Japan

Installation fitted by Mitsui Shipbuilding & Eng., Co., Ltd. When fitted 1958-July

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 Two conductor, insulated Voltage of Lighting 220

Heating 220 Power 220 D.C. or A.C., Lighting D.C. Power D.C. If A.C. state frequency -

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 Negative

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 Engine Room

Port side, built seat on tank top

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 Engine Room port side  
forward, built seat on lower deck

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 Synthetic resin bonded board, 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 Air-break circuit breaker with over-current, reverse-  
current & low voltage protection

and the switch and fuse gear (or circuit breakers) for each outgoing circuit Air-break circuit breaker with over-current  
protection, for use circuits rated above 300A, double-pole switch & fuse for use circuits  
rated below 300A (except steering gear 200A circuit breaker, 2 sets)

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

ammeters 5 voltmeters - synchronising devices. For compound machines in parallel are the ammeters and reverse current

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

in series with mid point earthed reference tripping, state if provided YES, and tested -

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

make of fuses Mitsui Shipbuilding & Eng., Co., Ltd. MITSUI "MLK" Cat-3 are all fuses labelled Yes If circuit breakers are provided for the generators, at what

overload do they operate 1533A ..... 20 second, and at what current do the reverse current protective-

devices operate 102.2A 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 10.12 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 Lead Sheathed galleys Lead Sheathed

and laundries Lead Alloy Armoured State how the cables are supported or protected

Clipped to solid or perforated steel tray structure, steel work or wood work

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 Yes and test certificates supplied Yes

Are the motors accessible for maintenance at all times Yes



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Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule Yes Emergency Supply, state position None

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 ampere hours 24V 120AH 2 sets Where required to do so does it comply with 1948 International Convention Yes

Lighting, is fluorescent lighting fitted Yes If so, state nominal lamp voltage 110 and compartments where lamps are fitted W/telegraph room, afterward upper of writing desk

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 -, whether fixed or portable -, are they of the carbon arc or of the 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 - 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 Yes

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 Electric location of transmitter and receiver Fr.127-128 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	3	Mitsui S.B. & E. Co., Ltd.	230	225	1022	425	DE525M TBH 40 Oil Engine	Mitsui S.B. & Eng., Co. Ltd.
EMERGENCY ROTARY TRANSFORMER	2	Azuma Electric Co., Ltd.	15kVA	115V	1800		Motor	Azuma Electric Co., Ltd.

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	3	230	2	0.6	1022	✓ 1210	*	V.C.	L.S.A.
EQUALISER			1	0.6		✓ 605			
EMERGENCY GENERATOR	2	25	1	0.04	99	✓ 101	# 1 13	V.C.	L.S.A.
ROTARY TRANSFORMER: MOTOR							# 2 12		
GENERATOR	2	15kVA	1	0.2	130.5	✓ 133	# 1 13	V.I.R.	"
							# 2 12		

MAIN DISTRIBUTION CABLES (to Auxiliary Switchboards, etc.)

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.	
Power Panel No.1	1		1	0.007	28.8	✓ 30	58 VC L.S.A.
" No.2	1		1	0.007	15.7	✓ 30	50 "
" No.3	1		1	0.0145	42	✓ 60	54 "
" No.4	1		1	0.3	302	✓ 408	150 "
" No.5	1		1	0.01	26	✓ 45	60 "
" No.6	1		1	0.1	133	✓ 202	85 "
" No.7	1		1	0.4	320	✓ 492	90 "
" No.8	1		1	0.4	317	✓ 492	110 "
" No.9	1		1	0.1	109	✓ 202	110 "
" No.10	1		1	0.04	97	✓ 110	70 "
" No.11	1		1	0.2	222	✓ 314	160 "
" No.12	1		1	0.04	77.6	✓ 101	80 "
" No.13	1		1	0.0225	68	✓ 72	34 "
" No.14	2		2	0.25	585	✓ 662	32 "

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

DESCRIPTION.	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
			In the Circuit.	Rule.			
Power Panel No.15	1	0.0145	51	✓ 55	34	V.C.	L.S.A.
" No.16	1	0.01	39.1	✓ 41	32	"	"
" No.17	1	0.01	39	✓ 41	48	"	"
" No.18	1	0.06	121	✓ 130	46	"	"
" No.19	1	0.007	18	✓ 27	48	"	"
Light Panel No.1	1	0.01	36	✓ 45	26	"	L.S.A.
" No.2	1	0.0225	75	✓ 80	24	"	"
" No.3	1	0.1	151	✓ 185	40	"	L.S.A.
" No.4	1	2c0.0045	6	✓ 15	136	V.I.R.	"
" No.5	1	0.007	9	✓ 30	126	V.C.	"
" No.6	1	0.01	24	✓ 41	56	"	"
" No.7	1	0.0145	50	✓ 55	18	"	"
Cargo light Panel No.1	1	0.01	17	✓ 45	60	"	"
" No.2	1	0.0145	36	✓ 60	90	"	"
" No.3	1	0.0145	32	✓ 60	105	"	"
" No.4	1	0.0145	15	✓ 60	63	"	"
A.C. Power Panel	1	2c0.03	36.5	✓ 53	70	V.I.R.	"
A.C. Switchboard	1	0.04	99	✓ 101	23	V.C.	"
Shore connection box	1	0.3	400	✓ 408	116	"	"
W/T main switch box	1	2c 0.1	40	✓ 118	80	V.I.R.	"
Navigation lamp indicator	1	0.007	1	✓ 30	65	V.C.	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	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 Cool. Water pump	3	40/33	1	0.1	152	✓ 185	70, 80, V.C. L.S.A.
Aux. cool. water pump	2	7.5	1	0.01	30	✓ 41	40, 49 "
Ballast pump	1	40/36	1	0.1	152	✓ 185	60 "
General service pump	1	"	1	0.1	152	✓ 185	65 "
F.O. transfer pump	1	20	1	0.03	77	✓ 84	85 "
L.O. Shift pump	1	2	1	2c 0.0045	9	✓ 11	44 V.I.R. "
L.O. pump for turbo charger	2	2	1	2c 0.0045	9	✓ 11	10, 12 "
F.O. Daily supply pump	1	6	1	0.007	25	✓ 27	82 V.C. "
F.O. circulat. pump	1	2	1	2c 0.0045	9	✓ 11	47 V.I.R. "
F.V. cool. pump	1	2	1	2c 0.0045	9	✓ 11	47 "
F.W. & S.W. Sanitary pump	3	4	1	0.007	17	✓ 27	14, 13, V.C. "
Bilge pump	1	5	1	0.007	21	✓ 27	53 "
Burning oil pump	2	1	1	2c0.0045	2.8	✓ 11	28, 30 V.I.R. "
Boil. W. Circulat. pump	2	3	1	0.007	13	✓ 27	15, 12 V.C. "
F.O. self jector	2	6	1	0.007	25	✓ 27	25, 25 "
F.O. Clarifier	2	6	1	0.007	25	✓ 27	25, 25 "
L.O. Purifier	1	5	1	0.007	21	✓ 27	21 "
Forced draft fan	1	1.5	1	2c 0.0045	7.5	✓ 11	12 V.I.R. "
Steering gear	2	25	1	0.06	95	✓ 143	196, 200 V.C. "
Unit cooler fan	2	4/2.7	1	0.007	17	✓ 27	80, 66 "
" " "	4	3/2	1	2c 0.0045	13	✓ 15	60, 66, V.I.R. "
Cargo Ref. compressor	4	25/20	1	0.04	95	✓ 101	26, 23, 20, 35 V.C. "
" " "	2	8/6.5	1	0.01	32	✓ 41	35, 32 V.C. "
Cargo Ref. cool. W. pump	2	6	1	0.007	25	✓ 27	45, 43 "
Engine Rm. Vent Fan	2	3	1	0.007	13	✓ 27	71, 71 "
" " "	2	5	1	0.007	21	✓ 27	56, 60 "
Cargo Hold vent fan	2	3	1	2c 0.0045	13	✓ 15	20, 15 V.I.R. "
" " "	4	7	1	0.01	28.5	✓ 45	22, 14, 20, 15 V.C. "
" " "	2	6	1	0.007	25	✓ 30	16, 8 V.C. "
" " "	2	3.5	1	0.007	25	✓ 30	20, 15 "
" " "	2	2.5	1	2c0.0045	11	✓ 15	20, 15 V.I.R. "
Windlass	1	95	1	0.25	360	✓ 400	160 V.C. "
Warping winch	1	65	1	0.15	230	✓ 260	192 V.C. "
Cargo desiccant. unit fan	1	7.5	1	0.01	30	✓ 31	20 V.I.R. "
Air compressor	2	100	1	0.3	370	✓ 372	67, 64 "
Lub. oil pump	2	120	1	0.4	436	✓ 448	73, 70 "
Cargo winch motor	10	36	1	0.06	140	✓ 160	11, 16, 5, 64, V.C. L.S.A.
" " "	6	53	1	0.1	205	✓ 238	20, 20, 24, 20, 14, 20, 20 V.C. L.S.A.

NOTE. Use Rpt. 13 Continuation Sheet if the above space is insufficient.

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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.

MITSUI SHIPBUILDING & ENGINEERING CO., LTD., TAMANO WORKS.

T. Ohmura  
Senior Managing Director. Electrical Contractors. Date

COMPASSES.

Have the compasses been adjusted under working conditions? Yes

MITSUI SHIPBUILDING & ENGINEERING CO., LTD., TAMANO WORKS.

T. Ohmura  
Senior Managing Director. Builder's Signature. Date

Have the foregoing descriptions and schedules been verified and found correct? Yes

Is this installation a duplicate of a previous case? Yes If so, state name of vessel M.S. "MUSASHISAN MARU"

Plans. Are approved plans forwarded herewith? No If not, state date of approval 26th May, 1958

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

General Remarks. (State quality of workmanship and materials, opinions as to class, etc.) The Electrical Installation of this vessel has been built and installed under Special Survey in accordance with the Rules,

Approved plans and Secretary's letters.

The workmanship is sound and good.

The installation has been tested under full working condition and found satisfactory.

5m. 6.56 - Transfer. (MADE AND PRINTED IN ENGLAND) (The Surveyors are requested not to write on or below the space for Committee Minutes.)

Total Capacity of Generators 690 Kilowatts.

3 x 230KW Generator: ¥40,950.- to Nishishiba Denki 20/2/58.

The amount of Fee ... ¥232,050.- When applied for, 19

Travelling Expenses (if any) £ See: Rpt. 1 When received, 19

R. J. Southwell  
Surveyor to Lloyd's Register of Shipping.

TUESDAY 21 OCT 1958

Committee's Minute

Assigned

See Rpt 46



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