

11 JAN 1956

pt. 13.

No. 3177

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 19 When handed in at Local Office DEC. 3.0. 1955 Received at London Office  
 Port of KOBE  
 Date First Survey 15-2-1955 Last Survey 6-9-1955  
 (No. of Visits 18)  
 Tons { Gross 7613.59  
 Net 4285.30  
 When built 9-55  
 on the M.V. "MEIKI MARU"  
 built at Tamano By whom built Mitsui Shipbuilding & Engineering Co., Ltd. Yard No. 599  
 Owners Meiji Kaiun K.K., Ltd., Port belonging to Kobe  
 ion fitted by Mitsui Shipbuilding & Eng., Co., Ltd., Tamano Works When fitted Sept., 1955.  
 vessel equipped for carrying Petroleum in bulk No Is vessel equipped with D.F. Yes E. S. D. Yes Gy. C. Yes Sub. Sig. No Radar Yes  
 Plans, have they been submitted and approved Yes System of Distribution Three & Two Cond. Voltage of Lighting 110  
 Inst. 110 Power 440 D. C. or A. C., Lighting A.C. Power A.C. If A. C. state frequency 60  
 Movers, has the governing been found as per Rule when full load is thrown on and off Yes Are turbine emergency governors fitted  
 Generators, are they compound wound and level compounded under working conditions  
 Are the generators arranged to run parallel Yes, are shunt field regulators provided A.V.R. Is the compound winding connected to the negative or positive pole  
 Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing Yes Have certificates of  
 100 kw. been supplied Yes and the results found as per Rule Yes  
 Engine room Port Side Built Seat on Feed Water Tank Top  
 at factory Yes are they clear of inflammable material and protected from mechanical injury, and  
 Switchboards, where are main switchboards placed Forward Port in Engine Room.  
 positions, free from inflammable gases and acid fumes and protected from mechanical injury  
 what insulation is used for the panels Synthetic Resin Bonded Board if of synthetic insulating  
 Approved Type Yes if of semi-insulating (slate or marble) are all conducting parts insulated therefrom as  
 Is the construction as per Rule, including locking of screws and nuts Yes Description of Main Switchgear  
 arrangement of equaliser switches Triple Pole Air-Break Circuit Breaker with Over Current and Reverse  
 and a Triple Pole Isolating Switch,  
 gear (or circuit breakers) for each outgoing circuit Triple Pole Air-Break Circuit Breaker with Over-  
 section.  
 nents containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 8  
 7 voltmeters 1 synchronising devices For compound machines in parallel are the ammeters and reversed current  
 devices connected on the pole opposite to the equaliser connection Earth Testing, state means provided Three Lamps  
 Parallel with 450V Busbar. Three Lamps in Parallel with 115V Line.  
 ches, Circuit Breakers and Fuses, are they as per Rule Yes are the fuses an Approved Type Yes  
 of fuses Fuji "SCREW IN TYPE" Cat. 3 are all fuses labelled Yes If circuit breakers are provided for the generators, at what  
 power 325 Amperes 20 Sec. and at what current do the reversed current protective devices operate 20 K.W.  
 Point Boxes, Section Boards and Distribution Boards, is the construction as per Rule Yes  
 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 9.35 Volts are the ends of all cables having a sectional  
 area of 0.01 square inch and above provided with soldering sockets Yes 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 Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit Yes  
 of the "HR" type State how the cables are supported or protected  
 Clipped to Solid or Perforated Steel Tray,  
 Structural Steel Work or Wood Work.  
 Are all lead sheaths, armoring 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

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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

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 and fitted as per Rule Yes, are they adequately ventilated Yes state battery capacity in ampere hours 4 x 6V 200AH: 2 x 4V 120AH: 12 x 4V 24AH: 3 x 52V 2 AH.

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof Yes Are any fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present No

if so, how are they protected - Are all fittings suitably ventilated - and where are the controlling switches fitted -

Searchlight Lamps, 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 Yes 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 -

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

Control Gear and Resistances, and they constructed and fitted as per Rule Yes Lightning Conductors, where required are they fitted

Rule Yes Ships carrying Oil having a Flash Point less than 150° F. Have all the special requirements of the Rules for such ship complied with -, are all fuses of an Approved Cartridge Type -, make of fuse -

rooms, tween deck spaces, etc., in accordance with the special requirements for such ships. Are the cables lead covered as

E. S. D., if fitted state maker Nippon Electric Co. FR146 to 147 location of transmitter Starboard and receiver FR1

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

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

## PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	MAKER.	KVA per Generator	RATED AT Volts.	Amperes.	Revs. per Min.	TYPE.	PRIME M.
MAIN	2	Mitsui Shipbuilding & Engineering Co., Ltd.	170	445	219	450	Oil Engine	Mitsui Shipbuilding & Engineering Co., Ltd.
EMERGENCY ROTARY TRANSFORMER								

## GENERATOR CABLES.

DESCRIPTION.	KVA	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (feet plus return feet).	INSULATION.	PROTECTIVE
		No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. mm. or Sq. in.	In the Circuit. Rule.		
MAIN GENERATOR	170	3 C	0.25	219	231	* V.C. L.S.A.
" " EQUALISER	* # 1	18	Metres			
	# 2	16	"			
EMERGENCY GENERATOR						
ROTARY TRANSFORMER: MOTOR						
" " GENERATOR						

## MAIN DISTRIBUTION CABLES (to Section Boards, Distribution Fuse Boards, etc.).

DESCRIPTION.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (feet plus return feet).	INSULATION.	PROTECTIVE
	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. mm. or Sq. in.	In the Circuit. Rule.		
Power Panel No.1	3 C	0.01	15.4	29	31.9 V.C. L.C.A.
" No.2	3 C	0.0045	10	11	25.9 V.R. "
" No.3	3 C	0.0045	8	11	23.8 V.R. "
" No.4	3 C	0.01	31	32	41.9 V.C. "
" No.5	3 C	0.01	21.2	32	61.4 V.C. "
" No.6	3 C	0.007	16.9	19	38.4 V.C. "
" No.7	3 C	0.01	25.2	29	34.8 V.C. "
" No.8	3 C	0.01	21.7	29	14.6 V.C. "
" No.9	3 C	0.0045	9.3	11	25.8 V.R. "
" No.10	3 C	0.0145	31.5	38	9.6 V.C. "
" No.11	3 C	0.007	15	19	10 V.C. "
" No.12	3 C	0.0045	10.7	11	11.4 V.R. "
" No.13	3 C	0.007	12.3	19	25.8 V.C. "
115V Feeder Transformer	2	0.03 x 4	35.1	38	9 x 4 V.R. "
" (To Feeder Panel)	2	0.2 x 4	130.3	133	9 x 4 V.R. "

## LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

DESCRIPTION.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (feet plus return feet).	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. mm. or Sq. in.	In the Circuit. Rule.		
Argo Light Panel No.1	3 C	0.0145	16.2	42	35.9 V.C. L.C.A.
" No.2	3 C	0.03	33.4	64	45.6 " "
" No.3	3 C	0.0225	26	58	63.6 " "
Light Panel No.1	3 C	0.007	9.6	19	32.5 " "
" No.2	3 C	0.0145	26.8	42	13.8 " "
" No.3	3 C	0.03	60	64	12.1 " "
" No.4	3 C	0.2	142.3	200	21.2 " "
" No.5	3 C	0.003	4.4	10	49.8 V.R. "
" No.6	3 C	0.007	8.1	21	78 V.C. "
" No.7	3 C	0.0225	43.6	51	7.1 " "
Board	3 C	0.0045	10	11	25.9 V.R. "
Indicator	2 C	0.007	1.64	17	32.7 " "
Section Box (From M.S.I. To Trans)	2 C	0.007	1.64	17	9 " "
" (From Trans To Box)	3 C	0.0145	38.5	42	55.2 V.C. "
Canal Light	3 C	0.1	78.8	141	5 " "
	2 C	0.0225	36.4	46	95.5 V.R. "

## MOTOR CABLES.

	B.H.P.		sq. in.						
	1	1	3 C	0.003	1.8	7	16.9	V.R.	L.C.A.
	1	1	3 C	0.003	1.8	7	51.9	"	"
	1	4	3 C	0.003	6	7	11.8	"	"
r Pump M <sup>r</sup>	1	1.5	3 C	0.003	2.7	7	5	"	"
Pump M <sup>r</sup>	1	2	3	0.003	3.2	7	10	"	"
	1	5	3	0.0045	7.5	11	9	"	"
F No.1	1	5	3	0.0045	7.5	11	44.4	"	"
n M <sup>r</sup> No.2	1	5	3	0.0045	7.5	11	32.5	"	"
ifier M <sup>r</sup> No.1	1	3	3	0.0045	9	11	12	"	"
" No.2	1	6	3	0.0045	9	11	9.2	"	"
Clarifier M <sup>r</sup>	1	6	3	0.0045	9	11	7.8	"	"
l Purifier M <sup>r</sup>	1	3	3	0.003	4.5	7	13.6	"	"
ersal Machine Tool M <sup>r</sup>	1	5	3	0.0045	7.5	11	13.1	"	"
der M <sup>r</sup>	1	1	3	0.003	1.8	7	6.2	"	"
L.O. Pump M <sup>r</sup>	1	7.5	3	0.0045	10.8	11	25.1	"	"
.O. Shift Pump M <sup>r</sup>	1	2	3	0.003	3.2	7	12.6	"	"
.O. Shift Pump M <sup>r</sup>	1	2	3	0.003	3.2	7	10.4	"	"
ea W. Sanitary Pump M <sup>r</sup>	1	3	3	0.003	4.5	7	13.2	"	"
Forced Draft Fan M <sup>r</sup>	1	15/7.5	3	0.007	19.8	29	5	"	"
Burning Oil M <sup>r</sup> No.1	1	1.5	3	0.003	10.8	17	4.5	"	"
No.2	1	1.5	3	0.003	2.7	7	6.5	"	"
Steering Gear M <sup>r</sup>	1	20	3	0.0145	26.4	42	76.1	V.C.	"
Acc. Vent. Fan M <sup>r</sup> No.1	1	2.5	3	0.003	4	10	96.8	V.R.	"
" No.2	1	2.5	3	0.003	4	10	18.9	"	"
Cargo Hold Vent. Fan M <sup>r</sup> No.1	-	-	3	0.003	7.5	10	14.1	"	"
" No.2	1	12	3	0.007	16	21	45.8	"	"
" No.3	1	5	3	0.003	7.5	10	8.2	V.C.	"
" No.4	1	10	3	0.0045	13.7	15	8.8	V.R.	"
" No.5	-	-	3	0.003	7.5	10	7.2	"	"
Prov. Ref. Compressor M <sup>r</sup>	1	9.6/8	3	0.007	13.7	21	6.6	"	"
Prov. Ref. Cool. W. Pump M <sup>r</sup>	1	2	3	0.003	3.2	7	17.2	V.C.	"
Main Engine Turning M <sup>r</sup>	1	13	3	0.007	16.7	19	26.2	V.R.	"
Emergency Blower	1	75	3	0.1	98	128	32.8	V.C.	"
Oil Firing M <sup>r</sup>	1	1	3	0.003	8	10	31.4	"	"
Lifting Crane M <sup>r</sup>	1	7.5	3	0.0045	10.8	11	45.5	V.R.	"
Electric Welder	-	-	2	0.03	39	56	21.2	"	"
							25	"	"



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. SHIPYARD WORKS.

*T. Asano* for S. Tanaka  
Senior Managing Director.

Electrical Contractors.

Date

#### COMPASSES.

Have the compasses been adjusted under working conditions

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

*T. Asano* for S. Tanaka  
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 No If so, state name of vessel

Plans. Are approved plans forwarded herewith No If not, state date of approval 5th May, 1955.

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

General Remarks. (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

The electrical installation of this vessel has been constructed under special survey in accordance with the Rules, approved plans and Secretary's letters.

The material and workmanship are sound and good.

The electrical installation has <sup>been</sup> examined under dock and comprehensive sea trials

PRIME M

Mitsui Sh  
Engine

Total Capacity of Generators 340

K.V.A.  
Kilowatts.

The amount of Fee ...

Y 52,000

When applied for,  
DEC 30, 1955

Travelling Expenses (if any)

See Rpt. 1

When received,  
19

Committee's Minute

FRIDAY 10 FEB 1956

Assigned

See Rpt. 4 & 5

*S. E. Johnson & J. Honohura*  
Surveyors to Lloyd's Register of Shipping.

(MADE AND PRINTED AT KOBE.)  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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