

Rpt. 13.

No. 1760

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

504

5.6-48

4-CK 34

4-CK 28

Date of writing Report 19 When handed in at Local Office FEB. 25. 1954 19 Port of Kobe

No. in Survey held at Tamano Japan Date, First Survey 25th July 53 Last Survey 28th Nov. 1953  
Reg. Book. (No. of Visits )

on the M.T. "OMUROSAN MARU" Tons Gross 13,102.72 Net 7,773.17

Built at Tamano Japan By whom built Mitsui S.B. &amp; E. Co., Ltd. Yard No. 573 When built Nov. 53

Owners Mitsui Senpaku K.K. Port belonging to Tokyo

Installation fitted by Mitsui Shipbuilding &amp; Engineering Co., Ltd. Tamano Works When fitted Nov. 53

Is vessel equipped for carrying Petroleum in bulk Yes 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 Two Cond. Insulated Voltage of Lighting 110

Heating 110 Power 110 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 Port side in Engine 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 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 Triple pole Air break Breakers with over current &amp; reverse current protection and a triple poles isolating switch

and the switch and fuse gear (or circuit breakers) for each outgoing circuit Double pole Air break Breakers with over current protection, for circuits rated above 300 amperes, Double poles switch &amp; fuses for circuits rated below 300 amperes

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 6

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

Preference Tripping, state if provided No, and tested -

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

make of fuses Fuji Cartridge Cat. 3, are all fuses labelled Yes If circuit breakers are provided for the generators, at what overload do they operate 1500 Amps - 10 sec., and at what current do the reverse current protective

devices operate 100 Amps 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 6.56 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 No, if so, are they adequately protected - State

type of cables (if in conduit this should also be stated) in machinery spaces Lead Sheathed armoured, galleys Lead Sheathed armoured and laundries Lead Sheathed armoured State how the cables are supported or protected

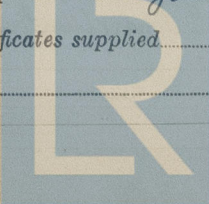
Clipped to solid or perforated steel tray, structured steel work or woodwork

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 (ships stores only)

Have refrigeration fan motors been constructed under survey No and test certificates supplied No

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 Upper deck, aft in steering engine room

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 2x24V, 120AH; 1x32V, 200AH  
2x8V, 120AH; 2x150V, 2AH  
2x108V, 2.4AH Where required to do so does it comply with 1948 International Convention Yes

Lighting, is fluorescent lighting fitted No 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 -, 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

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 Yes, are all fuses of an Approved Cartridge Type Yes, make of fuse Fuji Cartridge Cat. 3 Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships Yes Are all cables lead covered as per Rule Yes

E.S.D., if fitted state maker Nippon Elect. Co. Ltd. Location of transmitter and receiver Fr. 195-196 port & starboard

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	2	Mitsui S.B. & E. Co., Ltd.	110	110	1000	460	OIL ENG.	Mitsui S.B. & E. Co. LTD
EMERGENCY ROTARY TRANSFORMER	1	Kurosaki Mfg. Co. Ltd.	10	110	91	1000	OIL ENG.	Daihaten Kogyo K.K.

#### 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	110	2	0.5	1000	1044	#1-24	V.C.	L.S.A.
" EQUALISER	1		1	0.5		522	#2-24	"	"
EMERGENCY GENERATOR	1	10	1	0.06	91	130	16	V.C.	L.S.A.
ROTARY TRANSFORMER: MOTOR									
" GENERATOR									

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

DESCRIPTION.	No.	A	A	M		
From M.S.B. <sup>2</sup> to Secondary Switchboard (Prop. Deck)	1	0.6	517.7	605	55	V.C. L.S.A.
" " Shore connection Box (Prop. Deck)	1	0.4	400	448	115	"
" " Power panel #2 Cargo dehydrator	1	0.15	167	238	120	"
" " " #4 Rigs store	1	0.1	79	185	120	"
" " " #5 ER Vent. fan	1	0.06	84	130	24	"
" " " #6 Mach. tools	1	0.06	78	130	60	"
" " " #7 ER F.O. L.O. filter	1	0.1	138	185	80	"
" " " #8 ER Valve cool. L.O. ship	1	0.0145	48	85	16	"
" " " #9 ER aux. cool.	1	0.0225	52	72	50	"
" " " #10 ER F.W. Sanitary pp	1	0.04	68	101	60	"
From Secondary S.B. <sup>2</sup> to section board	1	0.5	219.8	622	200	V.C. L.S.A.

#### 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.			
From Main Switchboard							
Navigation light	1	0.007	11.8	27	230	V.C.	L.S.A.
Light panel #8	1	0.0145	30.9	55	74	"	"
" #9	1	0.06	97.8	130	15	"	"
Suez Canal search light (Box)	1	0.1	40	185	320	"	"
From Secondary Switchboard							
Light panel #4	1	0.0145	42.6	55	40	V.C.	L.S.
" #5	1	0.0145	40.7	55	8	"	"
" #6	1	0.01	34.7	41	50	"	"
" #7	1	0.01	25	41	25	"	"
Wireless switchboard	1	0.6	87	605	180	"	L.S.A.
Emergency switchboard	1	0.15	81	238	60	"	"
Power panel #3 (Galley machine)	1	0.007	19.7	27	25	"	"
From Section board							
Light panel #1	1	0.0225	55.3	72	8	V.C.	L.S.
" #2	1	0.0225	43.5	72	20	"	"
" #3	1	0.0225	19.4	72	110	"	L.S.A.
Power panel #1	1	0.007	18.1	27	12	"	L.S.
Battery switchboard	1	0.007	13	27	20	"	"

#### MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
Engine Room Vent. fan	2	5	1	0.0225	42	72	#1-50	V.C.	L.S.A.
Aux. fresh water cool. pump	1	3	1	0.01	26	41	#2-24	"	"
Aux. sea water cool. pump	1	3	1	0.01	26	41	16	"	"
Fuel valve cool. pump	1	1.5	1	0.007	15	27	24	"	"
Fuel oil circulate. pump	1	1.5	1	0.007	15	27	24	"	"
High pressure feed water pump	2	1.5	1	0.007	15	27	#1-6	"	"
Main Engine turning	1	12	1	0.04	97	113	60	"	"
L.O. Shift pump	1	2	1	0.007	18	27	20	"	"
Fresh water cool. pump	1	5	1	0.045	42	55	24	"	"
Sea water sanitary pump	1	3	1	0.01	26	41	16	"	"
Fuel oil purifier	1	6	1	0.0225	50	72	24	"	"
F.O. mechanical filter & cleaner	1	5	1	0.0145	42	55	24	"	"
"	1	1	1	0.007	10	27	20	"	"
L.O. mechanical filter & cleaner	1	3	1	0.007	26	27	20	"	"
"	1	1	1	0.007	10	27	20	"	"
Compressor for Refrigerator	2	7.5	1	0.0225	61	72	#1-16	"	"
Cool. W. pump for Ref. Comp.	1	2	1	0.0145	18	55	80	"	"
Cool. W. pump for Emerg. Gen.	1	1	1	0.007	10	27	120	"	"
Accommodation Vent. fan #1	1	2.5	1	0.007	22	27	24	"	"
" #2	1	3	1	0.01	26	41	35	"	"
" #3	1	3	1	0.01	26	41	50	"	"
" #4	1	1	1	0.007	10	27	40	"	"
Galley Vent. fan	1	0.4	1	0.0045	4	11	24	V.I.R.	"
Galley fresh water pump	1	0.5	1	0.0045	5.7	11	66	"	"
Oil firing fan for Range	1	1	1	0.007	10	27	16	V.C.	"
Cargo dehydrator adsorption blower	1	17	1	0.1	132	185	16	"	"
Reactivation fan	1	4	1	0.0145	35	55	12	"	"
Combined universal machine	1	5	1	0.0145	42	55	34	"	"
Drilling machine	1	3	1	0.01	26	41	24	"	"
Grinder	1	1	1	0.007	10	27	12	"	"
Lighting Crane Hoister & Traveller	1	7.5	1	0.0225	63.2	84	60	"	"
Motor generator (Navigation inst.)	2	7.5	1	0.03	63	84	24	"	"

NOTE.—Use Rpt. 13 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.

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

Electrical Contractors.

Date 5th Dec. 1953

*S. Tanaka*  
Senior Managing Director

#### COMPASSES.

Have the compasses been adjusted under working conditions... *yes*

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

Builder's Signature.

Date 5th Dec. 1953

*S. Tanaka*  
Senior Managing Director.

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... *16th July, 53*

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 ship has been constructed under Special Survey in accordance with the Rules, approved plans and Secretary's letters.*

*Materials and the workmanship are sound and good.*

*The generators, motors etc. have been examined under full load working conditions to the Rules requirements and found satisfactory.*

*Noted JS*  
*30/3/54*

Total Capacity of Generators... *230* ✓ Kilowatts.

The amount of Fee ... *£152,000* When applied for, *FEB. 25 1954*

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

*S. B. Johnson*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute... *FRIDAY - 2 APR 1954*

Assigned *See Rpt 4 b.*

3m.1251-Transfer. (MADE AND PRINTED IN ENGLAND.)  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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