

Rpt. 13.

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 19... When handed in at Local Office 19... Port of KOBE

No. in Survey held at Maizuru Date, First Survey 30-11-53 Last Survey 31-1-54

Reg. Book. (No. of Visits 8)

on the M.V. "NAGASHIMA MARU" Tons { Gross 3902.72
Net 2105.92

Built at Maizuru By whom built Maizuru Dockyard Iino Shipbuilding & Eng. Co., Ltd. Yard No. 5 When built 1954 2mo.

Owners Iino Kaiun K.K. Port belonging to Tokyo.

Installation fitted by Maizuru Dockyard, Maizuru When fitted 1954 2mo.

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 2 cond. insulated Voltage of Lighting 110 VAC

Heating 220 V DC Power 220 V D.C. DC, Lighting 110 V AC Power DC If A.C. state frequency 60 Cycle

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 Starboard in Engine Room

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 Starboard Fore 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 Phenol Resin, 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 A triple pole linked air circuit breaker (two pole for main, one pole for equalizer) with overload and reverse current trip arranged with equalizer circuit being closed before main circuits and opened after main circuits.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit Generally double pole linked switch with a fuse on each pole is used for each out-going circuits, and double pole air circuit breaker for 30 KVA AC Generator

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 5
ammeters 4 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 -

Earth lamps fitted on each switchboard 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 MitsuiNOF Category 2, are all fuses labelled Yes If circuit breakers are provided for the generators, at what overload do they operate 125%, and at what current do the reverse current protective devices operate 150 A. (15%) 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 6.4V 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 660V *VC under floor, galleys 250V *VR
and laundries 250V *VR State how the cables are supported or protected Generally supported by iron hangers and fixed to them by metal clips, protected by lead-alloy sheath and steel wire armour.
Where exposed to risk of mechanical damage protected by sheet iron plating, under E.R. floor plates in conduits.

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 effectually bushed Yes Refrigerated chambers, are the cables and fittings as per Rule Ship's stores only.

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

Are the motors accessible for maintenance at all times -

*VC = Varnished Cambric Insulated Lead Alloy Sheathed & Steel Wire Braided Cables.

*VR = Vulcanized Rubber Insulated Lead Alloy Sheathed & Steel Wire Braided Cables.

Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule... Yes Emergency Supply, state position Yes

Battery Room on Boat Deck

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 200 AH x 2 Where required to do so does it comply with 1948 International Convention... ---

Lighting, is fluorescent lighting fitted... Yes. If so, state nominal lamp voltage... 110V and compartments where lamps are fitted... Ship na
Boards (P.S.) on compass bridge deck, wireless room, captain room, saloon, state room,
officers and crews mess room, engine room

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... ---

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... ---

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... ---
(Transmitter) (Receiver)

E.S.D., if fitted state maker Kaijyo Denki location of transmitter and receiver Fr. 76-77 Starb'd, Fr. 76-77 Port

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				TYPE.	PRIME MOVER.	MAKER.
			Kw. per Generator.	Volts.	Ampères.	Revs. per Min.			
MAIN G.	2	Mitsubishi Elect. Co.	300	230	1304.5	380	DIESEL	Ito Iron Works, Shimizu	
Port use G.	1	"	50	230	217	570	DIESEL	Hanshin Diesel Wks., Kobe	
EMERGENCY ROTARY TRANSFORMER	2	Shibaura Elect. Co.	40	220V	1800	Motor-Generator	Shibaura Elect. Co.		

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 mm. sq.	In the Circuit.	Rule.			
MAIN GENERATOR	2	300	3	0.5	1100	1815	95	VC	Lead Alloy Sheathed and armoured
" EQUALISER	2		2	0.5	1144	1210	95	"	"
Port use EMERGENCY GENERATOR	1	50	2	0.3	210	2x372	155	"	"
ROTARY TRANSFORMER: MOTOR	2	40 HP	1	0.2	152	286	30	"	"
" GENERATOR	2	30 KVA	1	0.25	261	331	25	"	"

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 mm. sq.	In the Circuit.	Rule.		
Main Switch B'd to Section B'd P1	1		0.0145	26	55	120	VC	Lead Alloy Sheathed and Brading Armoured
" " P2	1		"	28	55	160	"	"
" " P3	1		0.0225	40	72	150	"	"
" " P4	1		"	42	72	90	"	"
" " P5	1		"	40	72	170	"	"
" " P6	1		0.0145	38	55	95	"	"
" " P7	1		0.007	5	20	210	"	"
" " P8	1		0.0225	44	72	175	"	"
" " P9	1		0.0225	51	72	220	"	"
" " P10	1		0.0145	31	55	190	"	"
A.C. Switch B'd to " P11	1		0.0145	5	55	180	VR	"
" " P12	1		0.0145	30	55	80	"	"
Main Switch B'd " P13	1		0.01	18	41	110	VC	"
A.C. Switch B'd " S1	1		0.06	52	130	70	"	"
" " S2	1		0.06	62	130	25	"	"
" " S3	1		0.06	47	130	30	"	"

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 mm. sq.	In the Circuit.	Rule.			
Section Board (P12) to Disinfecter		0.0045	4.5	15	65	VR	Lead Alloy Sheathed and armoured
" (P13) " Heater (Pantry)		0.0045	9	15	35	"	"
" (P13) " " (Off's Mess)		0.0045	9	15	55	"	"
" (P13) " " (Crew's ")		0.0045	9	15	60	"	"
" (P13) " " (")		0.0045	9	15	50	"	"
Main Switch B'd to Wireless switch B'd		0.0025	23	80	120	VC	"
A.C. " " to Navigation Indicator		0.01	4.6	45	110	VR	"
" " " " Distribution F.B. L1		0.0145	21	60	115	VC	"
Section B'd S1 to " " L2		0.01	15	45	25	VR	"
" " " " L3		0.03	36	92	10	"	"
Distribution F.B. L3 to " " L4		0.0225	20	80	65	"	"
Section B'd S2 to " " L5		0.03	36	92	20	"	"
Distribution F.B. L5 to " " L6		0.0145	16	60	60	"	"
Section B'd S2 to " " L7		0.007	11	30	15	"	"
" " " " L8		0.0145	6	60	180	"	"
" " " " L9		0.0225	8	80	210	"	"
" " S3 to " " L10		0.03	27	92	140	"	"
" " " " L11		0.03	20	92	145	"	"
A.C. Switch B'd to " " L12		0.03	43	92	20	"	"
Distribution F.B. L13 to " " L13		0.01	20	45	40	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	Ins.		Ft.	INSULATION.	PROTECTIVE COVERING.	
			Ins.	Ft.				
L.O. & Piston cooling Pump	2	75	0.3	284	372	200	VC	Lead Alloy Sheathed and armoured
Main Starting Air compressor	1	70	0.25	262	331	190	"	"
Main Cooling Water Pump	2	45	0.15	172	238	170	"	"
Bilge & Ballast Pump	1	45	0.15	170	238	190	"	"
Fire & Bilge Pump	1	30	0.1	117	185	280	"	"
General Service Pump	1	30	0.1	117	185	230	"	"
Aux. Cooling Water Pump	2	10	0.0145	41	55	165	"	"
Oil Fuel Transfer Pump	1	7.5	0.0145	31	55	95	"	"
Lifting Crane	1	5	0.0145	21	55	145	"	"
Sanitary & Bilge Pump	1	7.5	0.0145	31	55	35	"	"
Main Engine Turning	1	8	0.0145	33.3	55	190	"	"
E.R. Ventilator	2	5	0.01	21	41	115	"	"
Fresh Water Pump	1	3	0.007	13	27	35	"	"
O.F. Valve Cool. Fresh W.P.	2	3	0.007	13	27	55	"	"
L.O. Purifire	1	3	0.007	13	27	45	"	"
O.F. " "	1	2	0.007	13	27	35	"	"
O.F. Clarifire	1	3	0.007	13	27	25	"	"
Work Shop Machine	1	3	0.007	9.3	27	140	"	"
O.F. Service & Supply Pump	3	2	0.007	9.3	27	160	"	"
O.F. Service Pump	1	2	0.007	9.3	27	80	"	"
L.O. Transfer Pump	1	2	0.007	5	27	200	"	"
O.F. Burning Pump	1	1	0.007	5	27	35	"	"
Refrigerating Machine	2	5	0.01	21	41	95	"	"
Cooling Water Pump	1	2	0.007	5	27	25	"	"
Grinder	1	1	0.0225	31	72	450	"	"
Steering Engine	1	7.5	0.25	226	363	210	"	"
Windlass	1	60	0.2	225	314	240	"	"
Cargo Winch (5T)	4	53.5	0.1	140	202	225	"	"
Mooring Winch	1	33	0.1	130	202	640	"	"
Cargo Winch (3T)	6	31	0.1	130	202	640	"	"

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.

Chief of Electric Section

K. Matusita

Electrical Contractors.

Date

COMPASSES.

Have the compasses been adjusted under working conditions

Yes

Guichus Inokita

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

13-8-53

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 Electric Installation of this vessel has been constructed under Special Survey in accordance with the Rule, Approved Plans and Secretary's letters.

Material and workmanship are good.

The generators and motors, etc. have been examined under full loading condition to Rules requirements and found satisfactory.

Noted 98
24/6/54.

Total Capacity of Generators

650 V

Kilowatts.

The amount of Fee ...

£269,000

When applied for,

19

Travelling Expenses (if any)

See Rpt. 1

When received,

19

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

Committee's Minute

TUESDAY 29 JUN 1954

Assigned

See Rpt. 4c

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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