

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

3-AUG 1954

Received at London Office

Date of writing Report 30th June 1954 When handed in at Local Office JUL 10 1954 19 19 Port of YOKOHAMA

No. in Reg. Book. Survey held at Yokosuka, Japan Date, First Survey 5th May 1954 Last Survey 28th June 1954

(No. of Visits 14)

on the Steel Screw M.V. "TAMON MARU"

Tons { Gross 7713.61
Net 4425.92

Built at Yokosuka By whom built Uraga Shipbuilding Yard, The Uraga Dock Co., Ltd. Yard No. 655 When built 6-54

Owners Hachiuma Kisen K.K. Port belonging to Nishinomiya

Installation fitted by Uraga Shipbuilding Yard, The Uraga Dock Co., Ltd. When fitted 6-54

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 3 phase 3 wire Voltage of Lighting 110 V

Heating 110 V Power 220 V D.C. or A.C., Lighting AC Power AC 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 -, and level compounded under working conditions -, if not compound wound state distance between generators - and from switchboard -

Are the generators arranged to run in parallel Yes, are shunt field regulators provided Yes

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 test for machines under 100 kw. been supplied Yes and the results found as per Rule Yes

Position of Generators Diesel generator (240 kw) Port after 5th Stbd., Steam generator (40 kw) Port forward of manoeuvring platform.

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 Center forward of manoeuvring platform.

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 bonded board & ebony asbestos 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 A triple pole linked circuit breaker with over current trips in two phases and a reverse power relay, and a triple pole linked disconnecting knife switch.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit A triple pole linked circuit breaker with over current trips in two phases, or a triple linked "De-ion" type circuit breaker with over current trips in each phase.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard AC 10 DC 3

ammeters AC 5, DC 3 voltmeters 1 synchronising devices. For compound machines in parallel are the ammeters and reversed current protection devices connected on the pole opposite to the equaliser connection -

Earth Testing, state means provided An earth indicating system using three lamps of the metal filament type, 10 watt capacity.

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

make of fuses Mitsui "NOF" type, are all fuses labelled Yes If circuit breakers are provided for the generators, at what overload do they operate 15%

and at what current do the reversed current protective devices operate 10% of full load wattage.

Joint 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 5.7 V, 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 -

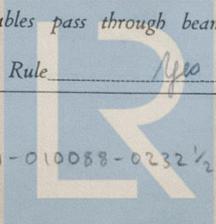
or of the "HR" type - State how the cables are supported or protected Cables laid along with wall or laid under decks or ceilings are supported by metal clips or straps on saddles, backing plate or metal hanger, and cables laid under machines or floor plates are supported and protected by sheet iron plating or steel conduit.

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



Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule Yes. Emergency Supply, state position 2 sets of 24V 200 AH secondary batteries fitted in 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 and fitted as per Rule Yes, are they adequately ventilated Yes state battery capacity in ampere hours 200 A.H.

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 - and where are the controlling switches fitted -. Are all fittings suitably ventilated Yes.

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 -. 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.

Control Gear and Resistances, and they constructed and fitted as per Rule Yes. Lightning Conductors, where required are they fitted as per Rule -. Ships carrying Oil having a Flash Point 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 the cables lead covered as per Rule -.

E. S. D., if fitted state maker Nippon Elec. Co., Ltd. location of transmitter NO. 2 hold Port forward and receiver NO. 2 hold Starboard forward.

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.	
			Kilowatts per Generator.	Volts.	Amperes.	Revs. per Min.	TYPE.	MAKER.
MAIN	2	Mitsubishi Elec. Co.	240	225	770	450	Uraga Sulzer 68H 29	Uraga Tamashima Diesel Kogyo K. K.
AUX.	1	Meidensha Elec. Mfg. Co.	40	225	128	600	Compound steam reciprocating engine.	Sakii Koshuusho Ltd.
EMERGENCY ROTARY TRANSFORMER								

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	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 GENERATORS	240	4	3 ^c -1.25	770	924	80	Varnished Cambric	Lead Alloy Sheathed + Steel Wire Braided
EXCITERS EQUALISER	8	1	1 ^c -0.06	72.8	130	80	"	"
AUX. GENERATOR	40	1	3 ^c -0.15	128	166	17	"	"
EXCITER	2	1	1 ^c -0.0225	18.2	72	17	"	"
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR GENERATOR								

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

DESCRIPTION.	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.
From main switch board to section box P-1	1	3 ^c -0.06	70	91	115	Varnished Cambric	Lead Alloy Sheathed + Steel Wire Braided
" " " P-2	1	3 ^c -0.06	70	91	120	"	"
" " " P-3	1	3 ^c -0.1	80	128	85	"	"
" " " P-4	1	3 ^c -0.06	70	91	120	"	"
" to shore connection box	2	3 ^c -0.15	300	332	165	"	"
" to 15KVA transformer P	1	2 ^c -0.04	75	101	27	"	"
" " S	1	2 ^c -0.1	130	185	27	"	"

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

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 switch board to distribution box L-A	1	3 ^c -0.0225	13	51	165	Varnished Cambric	Lead Alloy Sheathed + Steel Wire Braided
" " " L-B	1	"	37	51	150	"	"
" " " L-C	1	"	37	51	130	"	"
" " " L-D	1	"	26	51	115	"	"
" " " L-E	1	"	34	51	115	"	"
" " " L-F	1	"	26	51	115	"	"
" " " L-G	1	"	21	51	280	"	"
" " " L-H	1	"	21	51	280	"	"
" " " L-I	1	3 ^c -0.01	5	16	330	Rubber	"
" " " L-J	1	"	8	16	330	"	"
" " " L-K	1	3 ^c -0.0225	32	51	30	Varnished Cambric	"
" " " L-L	1	"	32	51	30	"	"
" " " C-2	1	"	20	51	165	"	"
to navigation light indicator	1	2 ^c -0.0045	2	11	165	Rubber	"
to wireless equipment	1	3 ^c -0.04	30	70	150	Varnished Cambric	"
to Suez Canal search light	1	2 ^c -0.0225	27	72	280	"	"
From section box P-4 to distribution box C-1	1	3 ^c -0.0225	35	51	120	"	"

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.
L.O. & Piston Cooling oil Pumps	2	120	3 ^c -0.15	280	332	100	Varnished Cambric Lead Alloy Sheathed + Steel Wire Braided
Cooling sea water pumps	2	45	3 ^c -0.1	110	128	85/90	"
General service pumps	1	45	3 ^c -0.1	110	128	53	"
Steering gear	1	20	3 ^c -0.06	52	91	300	"
Engine room ventilating fans	2	7.5	3 ^c -0.0225	21	51	130/150	"
Bilge pump	1	7.5	3 ^c -0.0225	21	51	80	"
Forced draft fan	1	7.5	3 ^c -0.0225	21	51	60	"
Fuel valve cooling pumps	2	5	3 ^c -0.01	14	16	28/35	Rubber
Fuel oil booster pumps	2	5	3 ^c -0.01	14	16	23	"

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.

T. Kojima

Electrical Contractors.

Date *12th July 1954*

COMPASSES.

Have the compasses been adjusted under working conditions *yes*

T. Toyozuki

Builder's Signature.

Date *12th July 1954*

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.V. "EISHIN MARU"*

Plans. Are approved plans forwarded herewith *-* If not, state date of approval *16-1-54*

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

The workmanship and materials have been found satisfactory.

The Electric Equipment has been examined under working conditions, and installation tested in accordance with the Rules.

It is submitted that the Electrical Equipment of this vessel is eligible to be classed with this Society with the notation of + LMC 6,54.

*Noted JS
7/9/54*

Total Capacity of Generators *520 v* Kilowatts.

The amount of Fee ... *£240.000* When applied for, *W.L. 16.1954*

Travelling Expenses (if any) *£ See : 4b* : 19

G. Richter
P. ...
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRIDAY 10 SEP 1954*

Assigned *See Rpt. 46.*

*AGC
11.8.54*

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



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