

Rpt. 13.

No. 3020

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

22 NOV 1955

Date of writing Report 19... When handed in at Local Office NOV. 9 1955 19... Port of KOBE

No. in Survey held at Tamano, Japan Date, First Survey 25-12-54 Last Survey 22-7-1955
Reg. Book. (No. of Visits 20)

on the M.V. "HODAKASAN MARU" Mitsui Shipbuilding & Engineering Co., Ltd. Tons {Gross 7218.16

Built at Tamano, Japan By whom built Mitsui Shipbuilding & Engineering Co., Ltd. Yard No. 593 When built Jul. 55

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

Installation fitted by Mitsui Shipbuilding & Engineering Co., Ltd., Tamano Works When fitted Jul. 55

Is vessel equipped for carrying Petroleum in bulk - 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. insul. Voltage of Lighting 220V

Heating 220V Power 220V 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

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 and over Is the compound winding connected to the negative or positive pole Negative

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 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 Forward port 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 poles air-break c/breaker with over-current & revers current protection and a triple poles isolating switch

and the switch and fuse gear (or circuit breakers) for each outgoing circuit Double poles air-break c/breaker with over-current protection for circuits rated above 300A double poles switch & fuse for circuits rated below 300A

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 reversed 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

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

make of fuses 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 sec. and at what current do the reversed current protective devices operate 102A

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 9.65V, 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 armoured or run in conduit -

or of the "HR" type State how the cables are supported or protected clipped

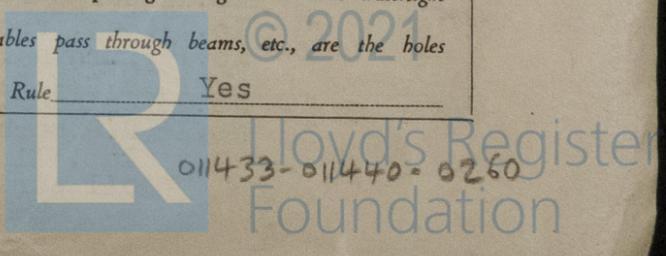
to solid or perforated steel tray structural steel works or wood work

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



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 -
state battery capacity in ampere hours 1x24V, 200AH; 2x24V, 120AH; 2x8V, 120AH; 1x216V, 12AH; 1x150V, 2AH

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 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 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 Electric Co., Ltd. location of transmitter Fr. 127 Starb'd and receiver Fr. 127 Starb'd

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	3	Tokyo Shibaura Electric Co., Ltd.	230	225	1022	425	Oil engine	Mitsui Shipbuilding & Engineering Co., 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 GENERATOR	230	2	0.6	1022	1210	*	V.C.	L.S.A.
" " EQUALISER	-	1	0.6	-	605			
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.
A.C. switchboard	1	0.01	30A	30A	23M	V.C.	L.S.A.
Power panel No.1 (Bridge instrument)	1	0.007	28.8	30	58	"	"
" No.2 (Gyre comp. gyrepilot)	1	0.007	15.5	30	50	"	"
" No.3 (Acc. vent fan)	1	0.01	30	45	54	"	"
" No.4 (Cargo winch)	1	0.3	690	408	150	"	"
" No.5 (")	1	0.4	970	492	96	"	"
" No.6 (Cargohold vent fan)	1	0.06	117	143	85	"	"
" No.7 (Cargo winch)	1	0.3	690	408	110	"	"
" No.8 (Cargohold vent fan)	1	0.06	82	143	105	"	"
" No.9 (Cargo winch)	1	0.2	560	314	160	"	"
" No.10 (Cargohold vent fan)	1	0.03	61	92	70	"	"
" No.11 (Cargo desiccator, prov. ref.)	1	0.04	77.6	101	80	"	"
" No.12 (Cargo ref. machine)	1	0.4	391	448	32	"	"
" No.13 (Eng. room vent fan)	1	0.0145	42	55	20	"	"
" No.14 (Burning O.P., Boil. W. cir. p.)	1	0.0225	56.1	72	29	"	"
" No.15 (Grinder, comb. univ. m.t.)	1	0.01	39	41	48	"	"
" No.16 (F.O. mechanical F., lub. oil pur. diesel oil purifier)	1	0.0225	59	72	46	"	"

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.			
Cargo light panel No.1	1	0.01	17	45	16	V.C.	L.S.A.
" No.2	1	0.0145	50	55	18	"	"
" No.3	1	"	32	60	110	"	"
" No.4	1	"	15	60	70	"	"
Light panel No.1	1	0.01	35	45	26	"	"
" No.2	1	0.0145	55	60	24	"	"
" No.3	1	0.06	130	143	40	"	"
" No.4	1	2c0.0045	5	15x	136	V.I.R.	"
" No.5	1	0.007	8	30	126	V.C.	"
" No.6	1	0.01	21	45	56	"	"
" No.7	1	0.0145	50	55	18	"	"
Wireless switchboard	1	0.03	75	92	80	"	"
Battery switchboard	1	0.01	20	45	10	"	"
Navigation lamp indicator	1	2c0.003	1	10	65	V.I.R.	"
" " "	1	"	1	5	42	"	"
Shore connection box	1	0.3	400	408	116	V.C.	"

MOTOR CABLES.

IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Windlass motor	1	95	1	0.25	360A	400	162M	V.C. L.S.A.
Steering gear motor	2	25	1	0.06	95	143	1-186 2-190	" "
Engine room vent. fan mr.	2	5	1	0.007	13	27	1-60 2-64	" "
Cargo ref. comp. motor	4	15	1	0.0225	59	72	*	" *1-12, 3-21 2-14, 4-19
"	2	8	1	0.01	30	41	1-24 2-24	" "
Condenser cool. w. pump mr.	2	4	1	0.007	17	27	1-41 2-43	" "
Unit cooler fan motor	1	4	1	0.007	17	30	61	" "
"	2	3	1	0.007	13	27	14	" "
"	2	2	1	2c0.0045	9	15x	1-65 2-48	V.I.R. "
Main lub. oil pump motor	2	120	1	0.4	436	448	1-73 2-70	V.C. "
Lub. oil shift pump mr.	1	2	1	2c0.0045	9	11x	44	V.I.R. "
Main air comp. motor	2	100	1	0.3	370	372	1-67 2-64	V.C. "
Main fresh w. sea w. cool. p. mr.	3	40	1	0.1	152	185	Max 80	" "
General service p. mr.	1	40	1	0.1	152	185	60	" "
Ballast pump motor	1	40	1	0.1	152	185	65	" "
Fuel valve cool. oil p. mr.	1	2	1	2c0.0045	9	185	46.5	V.I.R. "
Fuel oil circulate p. mr.	1	2	1	2c0.0045	9	185	47	" "
Fuel oil transfer p. mr.	1	20	1	0.03	77	84	85	V.C. "
Fuel oil daily supply p. mr.	1	6	1	0.007	25	27	82	" "
Boiler w. circulate p. mr.	2	3	1	0.007	13	27	1-15 2-12	" "
Burning oil p. mr. for boiler	2	0.5	1	2c0.0045	2.8	27	1-28 2-30	V.I.R. "
Forced draft fan motor	1	0.5	1	2c0.0045	7.5	11	12	" "
Bilge pump motor	1	5	1	0.007	21	27	53	V.C. "
Warping winch motor	1	60	1	0.15	230	276	192	" "
Main engine turning motor	1	14	1	0.0145	55	63	70	" "
Fresh water pump motor	1	5	1	0.007	21	27	78	" "
Sea water sanitary p. mr.	1	3	1	0.007	13	27	52	" "
Fuel oil purifier	1	6	1	0.007	25	27	2.5	" "
Fuel oil mechanical filter	1	5	1	0.007	13	27	30	" "
Aux. fresh w. & sea w. c. p. mr.	2	7.5	1	0.01	30	41	FW 49 SW 46	" "

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.

S. Tanaka Electrical Contractors. Date _____
Senior Managing Director.

COMPASSES.

Have the compasses been adjusted under working conditions Yes

S. Tanaka Builder's Signature. Date _____
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 25th Aug., 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 fitted in this ship has been installed under the supervision of the Surveyors in accordance with the Society's Rules, the approved plans and the Secretary's letters, tested on board under working conditions and found satisfactory.

The materials and workmanship are good.

Total Capacity of Generators 690 Kilowatts.

The amount of Fee ... A) ¥ 225.675 : When applied for, SEP. 12 1955
* B) 47.325 APR 20, 1955 - MAR. 1. 1955

Travelling Expenses (if any) A) See Rpt. 1 : When received, _____ 19_____
B) ¥ 10.160

S. G. Johnson J. Kondamura
Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRIDAY 25 NOV 1955

Assigned S. Rpt. 4 p.



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