

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

3 JUN 1952

Date of writing Report 12-3-1952 When handed in at Local Office 12-3-1952 Port of YOKOHAMA

No. in Survey held at YOKOHAMA, JAPAN Date, First Survey 1-12-51 Last Survey 15-2-1952
Reg. Book. (No. of Visits 15)

on the SINGLE SCREW VESSEL M.V. "TOKYO MARU" Tons { Gross 6573.83
Net 3765.80

Built at YOKOHAMA, JAPAN By whom built YOKOHAMA SHIPYARD & ENGINE WORKS
EAST JAPAN HEAVY INDUSTRIES LTD. Yard No. 5781 When built 2-1952

Owners TOKYO SENPAKU K.K. TOKYO Port belonging to TOKYO

Installation fitted by YOKOHAMA SHIPYARD & ENGINE WORKS, EAST JAPAN HEAVY INDUSTRIES LTD. When fitted 2-1952

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 TWO WIRE SYSTEM (POWER)
THREE WIRE SYSTEM (LIGHT) Voltage of Lighting 110V

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 Is the compound winding connected to the negative or positive pole NEGATIVE & POSITIVE 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 FLOOR FORWARD, NO. 1 - STARBOARD, NO. 2, 3 - PORT SIDE

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 ENGINE ROOM MIDDLE PLATFORM, FORWARD, PORT SIDE

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 (PHENOL 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 YES 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 ALL MAIN SWITCHGEARS FOR THE GENERATORS ARE OF 5-POLE AIR CIRCUIT BREAKERS AND EQUALISER SWITCHES ARE INCLUDED IN THESE A.C.B.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit UNDER 200A. --- SWITCH AND FUSE GEARS ;
OVER 200A. --- AIR CIRCUIT BREAKERS

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule YES Instruments on main switchboard 23 ammeters 6 voltmeters NO 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 THREE LAMPS SYSTEM

Switches, Circuit Breakers and Fuses, are they as per Rule YES, are the fuses an Approved Type YES make of fuses MITSUBI NOF 200 & 100, are all fuses labelled YES If circuit breakers are provided for the generators, at what overload do they operate INST. TRIP 150% OF RATED CURRENT and at what current do the reversed current protective devices operate 14% OF RATED CURRENT

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 6.2V (2.7%), are the ends of all cables having a sectional area of 0.01 square inch and above provided with soldering sockets SOLDERLESS TERMINALS 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 or of the "HR" type - State how the cables are supported or protected CABLES IN THE ENGINE ROOM LAID ON THE BACKING PLATES ; IN THE CARGO HOLDS LAID ON THE BACKING PLATES AND PROTECTED WITH STEEL COVERS.
ALL CABLES ARE FIXED WITH BRASS STRAPS.

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 FROM BATTERIES PLACED FORE, PORT BOAT DECK SUPPLYING ENGINE ROOM, WIRELESS ROOM, PASSAGE AND PUBLIC ROOM & ETC.

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 24 V. 200 A.H. X 2 SETS.

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 Yes and where are the controlling switches fitted -

Searchlight Lamps, No. of 1 SET, whether fixed or portable FIXED, are they of the carbon arc or of the filament type 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, are 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 INDUSTRY CO. LTD. location of transmitter NO. 2 HOLD DOUBLE BOTTOM STAB'W. FORWARD and receiver NO. 2 HOLD DOUBLE BOTTOM PORT. 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				Revs. per Min.	TYPE.	MAKER.
			Kilowatts per Generator.	Volts.	Amps.				
MAIN	3	MITSUBISHI ELECTRIC MFG. CO. LTD.	150	230/115	652	500	65 V 55/33 YOKOHAMA MAN DIESEL ENGINE	YOKOHAMA SHIPYARD & ENGINE WORKS. EAST JAPAN H. I. LTD.	
AUXILIARY	1	"	40	230/115	174	600	3MD DIESEL ENGINE	KOGA ENGINEERING WORKS EAST JAPAN H. I. LTD.	
EMERGENCY ROTARY TRANSFORMER	1	NIPPON ELECT. IND. CO. LTD.	5 KVA	115	25	1800	HORIZONTAL, TOTALLY ENCLOSED, SELF-VENTILATED, D.C. COMPOUND.	NIPPON ELECTRIC INDUSTRY CO. LTD.	

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	150 X 3	3	61/0.103	652	720	177	VULCANIZED RUBBER	LEAD ALLOY SHEATHED & ARMORED
" EQUALISER								
AUXILIARY GENERATOR	40	1	61/0.093	174	208	355	"	"
EMERGENCY GENERATOR	9.5 HP	2	19/0.064	58	83	20	"	"
ROTARY TRANSFORMER: MOTOR	5 KVA	2	30-19/0.052	30	45	20	"	"
" 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.
To P.5 SECTION BOARD	1	37/0.103	292	372	390	VAN. CAMBRIC	LEAD ALLOY SHEATHED & ARMORED
" P.6	1	37/0.093	208	331	220	"	"
" P.7	1	37/0.103	304	372	330	VUL. RUBBER	"
" P.2	1	19/0.052	22	46	240	"	"
" P.8	1	19/0.052	33.7	46	65	"	"
" P.9	1	19/0.064	45	60	220	"	"
" P.10	1	37/0.083	120	133	160	"	"
" P.11	1	19/0.083	77.4	85	90	"	"
" P.12	1	37/0.093	131	155	170	"	"
" P.13	1	37/0.092	95	110	200	"	"
" P.14	1	37/0.092	100	110	160	"	"

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.			
To L.1	1	37/0.092	97	110	130	VUL. RUBBER	LEAD ALLOY SHEATHED & ARMORED
" L.2	1	19/0.052	32.5	46	110	"	"
" L.3	1	19/0.052	25	46	105	"	"
" L.4	1	19/0.083	75	85	30	"	"
" L-A DFB	1	19/0.052	17.2	46	370	"	"
" L-B "	1	19/0.052	14.5	46	320	"	"
FROM L.1 S.B. TO L.1-A DFB	1	7/0.044	16.5	22	16	"	"
" L.1-B "	1	7/0.044	18.5	22	80	"	"
" L.1-C "	1	7/0.044	15.6	22	80	"	"
" L.1-D "	1	7/0.064	25	33	16	"	"
" L-N "	1	7/0.029	6.4	11	70	"	"
FROM L.2 S.B. TO L.2-A DFB	1	7/0.044	15.7	22	60	"	"
" L.2-B "	1	7/0.044	16.8	22	60	"	"
FROM L.3 S.B. TO L.3-A DFB	1	7/0.044	14.5	22	320	"	"
" L.3-B "	1	7/0.044	10.5	22	235	"	"
FROM L.4 S.B. TO L.4-A DFB	1	7/0.064	26.1	33	110	"	"
" L.4-B "	1	7/0.064	26.3	33	55	"	"
IN ALL LIGHTING FINAL SUB-CIRCUIT, IN ACCOMMODATION SPACES, WERE USED 3/0.036 VULCANIZED RUBBER INSULATED LEAD ALLOY SHEATHED CABLES. IN MOTOR ROOM, WEATHER DECK, OUT PASSAGES AND ANY OTHER PLACES IN WHERE CABLES ARE LIABLE TO BE DAMAGED 2 CORE 3/0.036 VULCANIZED RUBBER INSULATED LEAD ALLOY SHEATHED AND ARMORED CABLES WERE USED.							
FROM MAIN S.B. TO NAVIGATION LIGHT IND.	1	19/0.082	2.0	46	200	"	"
" NAV. L. IND. TO NAVIGATION LIGHT	1	20-3/0.036	0.4	7	800	"	"
" MAIN S.B. TO WIRELESS TELEGRAPH S.B.	1	37/0.093	150	155	220	"	"
HEATER (1 KW)	1	3/0.036	4.5	7	30	"	"
DISINFECTION BOX	1	3/0.036	4.5	7	50	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	No.	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.		
L.O. PUMP	2	65	1	61/0.103	240	240	100	VUL. RUBBER	LEAD ALLOY SHEATHED & ARMORED
COOLING S.W. & F.W. PUMP	2	65	1	61/0.103	240	240	125	"	"
MAIN AIR COMPRESSOR	1	65	1	61/0.103	240	240	170	"	"
G. S. PUMP	1	60	1	61/0.103	226	240	180	"	"
BILGE BALLAST PUMP	1	25	1	37/0.092	96	110	180	"	"
BILGE PUMP	1	20	1	37/0.092	80	110	200	"	"
MOTOR ROOM VENT. FAN	2	5	1	19/0.044	21	38	500	"	"
F.O. TRANSFER PUMP	2	10	1	19/0.052	40	46	65	"	"
VACUUM PUMP	1	7.5	1	7/0.064	30	33	40	"	"
BILGE SANITARY PUMP	1	5	1	7/0.064	21	33	60	"	"
OIL BURNING BLOWER	1	4	1	7/0.044	17.2	22	30	"	"
F.O. SERVICE PUMP	1	3	1	7/0.036	13.2	17	110	"	"
L.O. TRANSFER PUMP	1	3	1	7/0.036	13.2	17	20	"	"
WINDLASS	1	60	1	37/0.093	229	331	430	VAN. CAMBRIC	"
STEERING	1	15	2	19/0.083	57	85	520	VUL. RUBBER	"
HOORING WINCH	1	33	1	37/0.092	130	191	240	"	"
REF. MACHINE COMPRESSOR	2	10	1	19/0.064	43	60	30	"	"
" COOLING S.W. PUMP	2	2	1	7/0.029	9	11	220	"	"

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.

H. Kageby

Electrical Contractors.

Date

COMPASSES.

Have the compasses been adjusted under working conditions... YES

H. Kageby

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... 11-2-52

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 ELECTRIC EQUIPMENT OF THIS VESSEL HAS BEEN CONSTRUCTED AND INSTALLED UNDER THE SUPERVISION OF THE SOCIETY'S SURVEYORS IN ACCORDANCE WITH THE APPROVED PLANS AND THE RULES.

THE WORKMANSHIP AND MATERIALS HAVE BEEN FOUND SATISFACTORY.

THE EQUIPMENT HAS BEEN EXAMINED UNDER WORKING CONDITIONS AND INSULATION TESTED ACCORDING TO RULES.

IT IS SUBMITTED THAT THE ELECTRIC EQUIPMENT OF THIS VESSEL IS ELIGIBLE TO BE CLASSED WITH SOCIETY AND TO HAVE THE NOTATION + LMC 2,52

Noted 27-6-52

Total Capacity of Generators... 490 Kilowatts.

The amount of Fee ... £ 255,700.- When applied for,

19

When received,

19

Travelling Expenses (if any) £

John P. ...
Surveyor to Lloyd's Register of Shipping.

FRI. 27 JUN 1952

Committee's Minute

Assigned

See F.E. ... rpt.

2m.3.40.—Transfer. (MADE AND PRINTED IN ENGLAND.)
(The Surveyors are requested not to write on or below the space for Committee's Minute.)

2.3
4.6.52



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