

Rpt. 13.

London

REPORT ON ELECTRICAL EQUIPMENT.

No. 1411

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 19... When handed in at Local Office 30 JUN 1953 Received at London Office 9 JUL 1953

No. in Survey held at NAGOYA, JAPAN Date, First Survey 4-2-53 Last Survey 4-4-1953

Reg. Book. on the STEEL TWIN SCREW M.S. "NEW YORK MARU" (No. of Visits 9)

Built at NAGOYA By whom built NAGOYA SHIP BUILDING CO LTD, Yard No. 104 Tons Gross 7738.79 Net 4429.84

Owners TOHO KAIUN CO. LTD. Port belonging to TOKYO When built Apr 1953

Installation fitted by NAGOYA SHIP BUILDING CO. LTD. When fitted Apr 1953

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. No Radar Yes

Plans, have they been submitted and approved Yes System of Distribution Three phase three wire insulated system Voltage of Lighting 110V

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

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 ~~hunt 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 NO.1 - Engine Room on S. side NO.2 - Engine Room on P. Side forward Aux - ER on P.S. aft, 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. Plat-form in Engine room, at forward of main engine, 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 insulating material, 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 trip-pole linked air circuit breaker with over current trips in two phases and a triple-pole linked switch fitted.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit. A triple pole linked circuit breaker for each outgoing motor circuit, and a triple-pole linked knife switch and a fuse in each phase for the others.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule. Yes Instruments on main switchboard. 13 ammeters 8 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.

3 metal filament type lamps for each of 220V or 110V circuit.

Switches, Circuit Breakers and Fuses, are they as per Rule. Yes, are the fuses an Approved Type. Yes "MLK" type make of fuses. Mitani S.B. & E.W., are all fuses labelled. Yes If circuit breakers are provided for the generators, at what overload do they operate. 50% and at what current do the reversed current protective devices operate. 15% of full load power

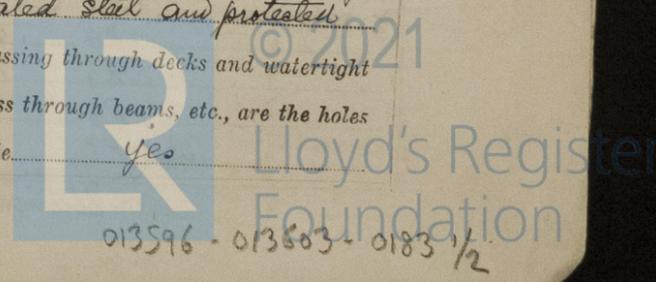
Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule. Yes

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. 2V, 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. Cable supported by metal clips protected by lead alloy sheathed with or without armoring & in engine room protected by armour and carried on galvanized perforated steel plating, where laid under floor plates enclosed in strong steel pipes. in hold protected by armour and carried on galvanized perforated steel and protected by steel plating where exposed to risk of mechanical damage.

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... *Yes*

state battery capacity in ampere hours... *1 set 116V 200 AH*

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... *convenient position near the motor* 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... *-*, are the frames effectually earthed... *-*, 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, are they constructed and fitted as per Rule... *Yes* Lightning Conductors, where required are they fitted as per Rule... *Yes* 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* location of transmitter... *Bottom (F 128-129)* and receiver... *Bottom (F 128-129)*

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.		TYPE.	MAKER.
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.			
MAIN GENERATOR	2	Fuji Electric Co Ltd	330 KVA	225V	846	450	Diesel engine	Sto Engineering Co Ltd	
EXCITER	2	"	8.3 KW	100V	722	"	"	"	
PORT USE GEN	1	"	100 KVA (80 KW)	225V	256	400	"	"	
EMERGENCY ... ROTARY EXCITOR TRANSFORMER	1	"	3 KW	100V	261	"	"	"	
	4	Mitsubishi Co Ltd	15 KVA	225V	261	36	36	36	

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	330 KVA	6	0.25 sq in	846	990	72	Varnished cambric	lead & armoured
"	8.3 KW	1	0.06	722	130	72	"	"
EMERGENCY GENERATOR	100 KVA	2	0.15	256	322	88	"	"
EXCITER	3 KW	2	0.045	261	54	88	Vulcanized rubber	"

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

DESCRIPTION.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
Main Switch board - Dh. Section Box (upper DS)	3C 0.0225 sq in	930	51/2	111	Varnished cambric lead & braid
" - GL2 " (Bridge DS)	"	831	"	49	"
" - JL3 " (Upper DS)	0.0145	161	19	59	Vulcanized rubber lead & armoured
" - H1A " (Engine room)	0.04	63	70	85	"
" - JL5 " (Upper DS)	"	59	"	65.5	"
" - P1 " (Engine room)	0.15	"	77	98	Vulcanized rubber lead & braid
" - P2 " (Engine room)	0.045	29	38	72	Varnished cambric lead & armoured
" - P3 " (Engine room)	0.04	63	70	111	"
" - P4 " (")	"	51	"	65	"
" - P5 " (Galley)	0.007	6	12	138	Vulcanized rubber
" - P6 " (Gyro room)	0.04	52	70	85	Vulcanized rubber lead & armoured
" - P7 " (Wheel house)	0.06	35	42	91	Vulcanized rubber
" - Shore connection box (upper DS)	0.52 sq in	250	162	151	Varnished cambric
" - Electric Welding (Eng. and DS)	1C 0.06 sq in	98	130	85	lead & braid

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.			
Main Switch board - AD Distribution Box Wheel house	3C	0.0225 sq in	115	234	915	Vulcanized rubber	lead & braid
" - BDA " (Boat Deck)	"	0.0145	28.3	38	78.5	Vulcanized rubber	"
Dh. Section box (upper DS) - FDA (upper DS)	"	0.0225	33	23	32.7	Vulcanized rubber	"
" - FDT " (")	"	0.0225	22.5	"	49	"	"
GL2 " (Bridge DS) - HD7 " (Bridge DS)	"	0.0145	13.5	19	35.2	"	"
" - ID9 " (")	"	0.06	27	42	52.4	"	lead & armoured
JL3 " (upper DS) - KD10 " (upper DS)	"	0.007	7.2	12	20.2	"	"
" - LDV " (")	"	"	7.5	"	31.8	"	"
JL4 " (Engine room) - ND1 " (Engine room)	"	0.06	35	42	138	"	"
JL5 " (Upper DS) - GP14 " (Bridge DS)	"	0.0225	18.5	23	52.4	"	lead & braid
" - PP16 " (Foremast house)	"	0.0145	16	19	197	"	"
" - AD17 " (Main Mast house)	"	0.0225	18	23	250	"	"
P6 " (Gyro room) - gyro compass	"	0.0145	16	19	32.7	"	"
" - Fire detector	"	0.003	6	7	"	"	"
" - Whistle	"	0.007	10	12	81.6	"	chloroprene lead
P7 " (Wheel house) - Radar	2C	0.06	20	42	78.6	"	lead & braid
" - Loran	"	0.007	11	17	49	"	chloroprene
" - Kuddler angle indicator	"	0.003	2.5	7	23	"	"
" - Echo sounder	"	"	3	"	49	"	"
" - Telegraph	"	"	"	"	22.7	"	"
" - Gyro pulpit	"	"	1	"	49	"	"
" - Clear view screen	"	"	3	"	65.4	"	"
Aux switch board - CD1 Distribution Box (Port DS)	"	0.07	8.2	17	32.7	"	"
" - CD2 " (Upper DS)	"	"	6.6	"	45.8	"	"

ALL IMPORTANT MOTORS TO BE ENUMERATED.

DESCRIPTION.	No.	B.H.P.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
Main Switch board - No. 1 main cooling water pump motor	1	55 HP	3C 0.2 sq in	1440	2000	49 ft Varnished cambric	lead & armoured
" - No. 2 main cooling water pump motor	1	"	"	"	"	36	"
" - No. 1 & 2 dist. cooling oil pump motor	1	60	"	130	"	45.8	"
" - No. 2 " "	1	"	"	157	"	36	"
" - No. 3 " "	1	"	"	"	"	105	"
" - Fuel valve cooling water pump motor	1	5	"	0.007 x 2	16	122	95
" - No. 1 water pump motor	1	"	"	"	"	98	Vulcanized rubber
" - Bilge & Bellows pump motor	1	45	"	0.15	118	166	75
" - Fire 2 9.5 pump motor	1	"	"	"	"	88.2	Varnished cambric lead & braid
" - No. 1 engine room distribution fan motor	1	6	"	0.007 x 2	20	122	157
" - No. 2 " "	1	"	"	"	"	177	Vulcanized rubber
" - Workshop machine motor	1	5	"	0.0145	16	19	98
" - No. 1 Main engine turning gear motor	1	12	"	0.0225	37	51	103
" - No. 2 " "	1	"	"	"	"	118	Varnished cambric
" - No. 1 Hoisting motor	1	5	"	0.0145	16	19	81.8
" - No. 2 " "	1	"	"	"	"	102	Vulcanized rubber
" - Steering motor	1	35	"	0.15	100	166	317
" - Refrigerating motor	3	7.5	"	0.04	45	70	49
P1 Section box - F.O. purifier motor	1	8	"	0.045	25	38	26.2
" - F.O. clarifier motor	1	"	"	"	"	36	lead & braid
" - L.O. Purifier motor for Purifier & Clarifier	1	2	"	0.0045	7	11	39.3
" - F.O. service pump motor	1	"	"	"	"	26.2	Vulcanized rubber lead & armoured
" - No. 1 purifier motor	1	2	"	"	"	32.7	"
" - No. 2 purifier motor	1	3	"	0.007	10	12	39.2
P2 " - Dist. cooling fan motor for engine room	1	7.5	"	0.007 x 2	22	122	39.3
" - Fresh water pump motor for exhaust boiler	1	2	"	0.0045	7	"	32.7
P3 " - No. 1 F.O. Transfer pump motor	10	"	"	0.0145	30	28	26.2
" - No. 2 " "	1	"	"	"	"	32.7	Varnished cambric lead & braid
" - F.O. Service pump motor	1	3	"	0.007	10	12	39.3
" - L.O. Transfer pump motor	1	"	"	"	"	39.3	Vulcanized rubber lead & armoured
" - No. 1 Dist. pump motor	1	4	"	0.0145	13	19	65.4
" - No. 2 " "	1	"	"	"	"	"	lead & braid
P4 " - Sanitary pump motor	1	"	"	"	"	"	"
" - Bilge pump motor	1	7.5	"	0.007 x 2	22	122	26.2
" - Fresh water pump motor for cooking range	1	1	"	0.007	10	12	52.3
" - Blow motor for cooking range	1	"	"	0.0045	4	11	13.1
" - Bean curd machine motor	1	"	"	"	"	"	"

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.

Electrical Contractors. Date

COMPASSES.

Have the compasses been adjusted under working conditions *yes*

Keiji Fukuhara

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 *yes* If so, state name of vessel *T.M.V. "YOKOHAMA MARU"*

Plans. Are approved plans forwarded herewith *-* If not, state date of approval *24/2/53*

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

The material and workmanship are sound & good.

The Electrical installation has been tried under comprehensive deck and sea trials & found satisfactory.

Total Capacity of Generators *760 K.V.A.* Kilowatts.

The amount of Fee ... *£ 280,000 -* When applied for, *30 JUN 1953*

Travelling Expenses (if any) £ : : When received, *19*

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

FRIDAY 28 AUG 1953

Committee's Minute

Assigned *Sir F. E. Maly, rpt.*