

Rpt. 13.

No. 16836

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 10th JUNE 1955 When handed in at Local Office JUN 21 1955 19 Port of YOKOHAMA JUN 1955

No. in Survey held at Yokosuka, Japan Date, First Survey 4th APR. 1955 Last Survey 6th JUNE 1955
Reg. Book. (No. of Visits 15)Tons { Gross 6573.45
Net 3746.51

on the M.V. "KENWA MARU"

Built at Yokosuka, Japan By whom built The Uraga Shipbuilding Yard, Uraga Shipbuilding Yard, Uraga Dock Co. Ltd. Yard No. 673 When built 6-55

Owners Nitto Shosen K. K. Port belonging to Tokyo

Installation fitted by Uraga Shipbuilding Yard, The Uraga Dock Co., Ltd. When fitted 6-55

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 3 phase 3 wire Voltage of Lighting 110 V

Heating 110 V Power 440 V D.C. or A.C., Lighting A.C. Power A.C. 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 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 Port and starboard side of maneuvering platform are they clear of inflammable material and protected from mechanical injury and is the ventilation in way of generators satisfactory yes

damage from water, steam and oil yes Switchboards, where are main switchboards placed Centre forward of maneuvering 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 phenolic resin bonded sheet, if of synthetic insulating material is it an Approved Type - 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 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 9 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 3 lamps of the metal filament type of each 10 watts

Switches, Circuit Breakers and Fuses, are they as per Rule yes, are the fuses an Approved Type yes make of fuses FUJI "AESC" Screw-in 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 the full load wattage

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

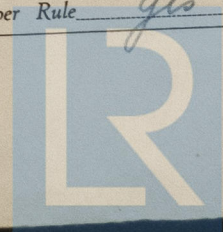
Cables, are they insulated and protected as per Rule yes, if otherwise than as per Rule are they of an Approved Type - state maximum fall of pressure between bus bars and any point under maximum load 3.93 V, are the ends of all cables having a sectional area of 0.01 square inch and above provided with soldering sockets yes

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 laid along with wall or laid under deck or ceiling are supported by metal clips or straps on saddles, backing plates or metal hanger, and cables laid under machines or floor plates are supported and protected by sheet iron plating or by steel 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 effectively bushed yes

Refrigerated chambers, are the cables and fittings as per Rule yes



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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 Secondary battery are fitted at battery room on boat deck port side.

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 -. 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 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 Elec. Co., Ltd. location of transmitter No. 2 Hold P. forward and receiver No. 2 Hold S. 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.	Ampere.	Revs. per Min.	TYPE.	MAKER.
MAIN	2	Mitsubishi Elec. Co., Ltd.	140 (175 KVA)	450	225	514	Uraga Sulzer 6BH-22	Uraga Tomashina Diesel Kogyo K.K.
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 No. and Diameter of Strands. Sq. ins.	In the Circuit.	Rule.			
MAIN GENERATOR	140	2	3 ^c -0.1	225	256	99	V.C.	L. B.
" " EQUALISER								
" " EXCITER	6	1	2 ^c 0.0225	545	72	99	"	"
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

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

DESCRIPTION.								
From Main switch board to Sect. box	P 1	1	3 ^c 0.0225	30	51	30	V.C.	L. B.
" " " " "	P 2	1	"	33	"	"	"	"
" " " " "	P 3	1	"	22	"	99	"	"
" " " " "	P 4	1	"	25	"	49	"	"
" " " " "	P 5	1	"	23	"	82	"	"
" Shore connection box		2	3 ^c -0.1	225	256	120	"	"
" 20 KVA Transformer	P	1	2 ^c 0.0225	47	72	70	"	"
" " " " "	S	1	2 ^c 0.1	178	185	"	"	"

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

DESCRIPTION.	No. in Parallel per Pole.	Sectional Area No. and Diameter of Strands. Sq. ins.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
			In the Circuit.	Rule.			
From main switch board to Sect. box L-No. 1	1	3 ^c 0.0225	28	51	128	V.C.	L. B.
" " " " L-No. 2	1	3 ^c 0.04	44	70	105	"	"
" " " " L-No. 3	1	3 ^c 0.01	10	16	72	V.R.	"
" " " " L-No. 4	1	3 ^c 0.04	50	70	"	V.C.	"
" " " " L-A	1	3 ^c 0.01	12	16	148	V.R.	"
" " " " L-L	1	3 ^c 0.0225	23	51	105	V.C.	"
" " " " L-M	1	"	25	"	23	"	"
" " " " L-N	1	"	"	"	26	"	"
" " " " C-1	1	3 ^c 0.01	10	16	99	V.R.	"
" " " " C-2	1	3 ^c 0.007	7	12	115	"	"
" navigation light indicator	1	2 ^c 0.0045	2	11	165	"	"
" Surge canal search light	1	2 ^c 0.04	27	101	201	V.C.	"
" Wireless equipment	1	3 ^c 0.0225	20	51	115	"	"
From Sect. box L-No. 2 to Dist. box L-F	1	"	16.5	"	13	"	"
" " " " L-G	1	3 ^c 0.007	4	12	205	V.R.	"
" " " " L-H	1	"	6	"	208	"	"
" " " " L-J	1	3 ^c 0.0225	19	51	145	V.C.	"
" " " " L-K	1	"	"	"	155	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
L.O. & P. cooling Pump	2	55	1	3 ^c 0.06	71	91	125	V.C.
Main cooling S.W.	2	30	1	3 ^c 0.0225	39	51	99	"
G. S. Pump	1	40	1	3 ^c 0.04	52	70	43	"
Steering gear	1	15	1	3 ^c 0.0225	21.5	51	300	"
Bilge Pump	1	7.5	1	3 ^c 0.007	10	12	99	V.R.
Eng. Room Ventilating fan	2	5	1	"	6.5	"	172	"
F.O. Transfer Pump	1	4	1	"	6.2	"	56	"
Boiler forced draft fan	1	5	1	"	6.5	"	36	"
O.F. burning pump	1	2	1	3 ^c 0.003	3.1	7	13	"
Fuel valve cooling pump	2	3	1	"	4.1	"	66	"
O.P. booster pump	2	3	1	"	"	"	26	"

V.C. Varnished Cambric.

V.R. Vulcanized Rubber

L.B. Lead Alloy Sheathed + Steel Wire Braided



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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.

Tedao Tane

Electrical Contractors.

Date

COMPASSES.

Have the compasses been adjusted under working conditions *yes*

Tedao Tane

Builder's Signature.

Date *11th 6-1955*

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 *20-1-55 (Kobe)*

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 approved plans, Rules and the Secretary's letters.

The workmanship and materials are good.

The Electrical Equipment has been examined under working condition and the 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 6.55.

Total Capacity of Generators *350 KVA* Kilowatts.
(280 KW)

The amount of Fee ... *¥ 168,000.-*

When applied for,
JUN. 2 1, 1955

When received,
19

Travelling Expenses (if any) £ : : 19

Committee's Minute *FRIDAY - 5 AUG 1955*

Assigned *See Rpt 46*

Bh...
Surveyors to Lloyd's Register of Shipping.

P. H. ...
J. H. ...