

REPORT ON ELECTRICAL EQUIPMENT

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

17 AUG 1955

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Port of YOKOHAMANo. in Survey held at Shimizu, Japan
Reg. Book.Date, First Survey 15th June 1955 Last Survey 23rd July 1955(No. of Visits 11)

on the M. V. "NISSHUN MARU"

Tons { Gross 9988.74
Net 6235.42Built at Shimizu, Japan By whom built Shimizu Shipyard Yard No. 120 When built 7-55Owners Nissan Kisen K. K. Port belonging to TokyoInstallation fitted by Nippon Kokan K. K. Shimizu Shipyard When fitted 7-55Is vessel equipped for carrying Petroleum in bulk NO Is vessel equipped with D.F. yes E. S. D. NO Gy. C. yes Sub. Sig. NO Radar yesPlans, have they been submitted and approved yes System of Distribution 3 phase 3 wire Voltage of Lighting 110 VHeating 110 V Power 440 V ~~D.C.~~ or A.C., Lighting AC Power AC If A.C. state frequency 60 cyclesPrime 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 6' and from switchboard 10'. Are the generators arranged to run in parallel yes, are shunt field regulators provided —. 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 NO. Have certificates of test for machines under 100 kw. been supplied yes and the results found as per Rule yesPosition of Generators Port inboard and outboard of maneuvering platformis 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 Port forward of maneuvering platformare 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 "BAKELITE", 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 — 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 the switch and fuse gear (or circuit breakers) for each outgoing circuit A triple pole linked with enclosed fuse in each pole.Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes. Instruments on main switchboard AC 4 DC 2ammeters AC 4 DC 2 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 Earth

indicating lamps of metal filament type, each 10 watts.

Switches, Circuit Breakers and Fuses, are they as per Rule yes, are the fuses an Approved Type yesmake of fuses Fuji Elect. Mfg. Co. Ltd. Siemens type cartridge fuses are all fuses labelled yes. If circuit breakers are provided for the generators, at what overload do they operate 150%, and at what current do the reversed current protective devices operate —Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule yesCables, 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 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 yesAre 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 yesAre 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 Where not exposed to drip or accumulation of water or oil, or risk of mechanical damage, are supported by clips or straps on saddles, metal hangers or backing plates, and where exposed to them are protected by sheet iron plates or heavy gauge screwed 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 yesRefrigerated 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 200A H 2nd battery, 2 sets fitted in battery room at bridge 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 24 V. 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 yes.

if so, how are they protected yes.

Are all fittings suitably ventilated yes.

and where are the controlling switches fitted yes.

Searchlight Lamps, No. of 1, whether fixed or portable yes, are they of the carbon arc or of the filament type yes.

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 yes of fire in the pump.

Are motors coupled to oil fuel transfer and pressure pumps capable of being stopped from a position yes of fire in the pump compartment yes.

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and 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 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 yes, are all fuses of an Approved Cartridge Type yes, make of fuse yes.

Are the fittings for pump rooms, tween deck spaces, etc., in accordance with the special requirements for such ships yes.

Are the cables lead covered as per Rule yes.

E. S. D., if fitted state maker yes location of transmitter yes and receiver yes.

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				TYPE.	PRIME MOVER.
			Kilowatts per Generator.	Volts.	Amperes.	Revs. per Min.		
MAIN	2	FUJI ELECT. MFG. CO. LTD.	80 KVA	450	103	720	Diesel engine	HANSON DIESEL WKS 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	80 KVA	1	3" x 0.1	103	128	30	Cambric	Lead alloy sheathed & steel wire braided
" " EXCITER EQUALISER	2 KW	1	2" x 0.007	18.2	19	30	"	"
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

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

DESCRIPTION.								
From M.S.B. to Power panel board	P-1	1	3" x 0.01	15	29	80	Cambric	Lead alloy sheathed & steel wire braided
" " " "	P-2	1	3" x 0.0045	4	14	50	"	"
" " " "	P-3	1	"	12	"	65	"	"
" " " "	P-4	1	3" x 0.007	7	19	50	"	"
" " " "	P-5	1	3" x 0.01	27.5	29	50	"	"
" " " "	P-6	1	3" x 0.0045	10	14	160	"	"
" " Section board	S-1	1	3" x 0.0145	18	38	400	"	"
" " " "	S-2	2	3" x 0.04	56.5	64	30	Rubber	Lead alloy sheathed & cotton braided
" " Power panel board	P-7	1	3" x 0.0225	32	51	130	Cambric	Lead alloy sheathed & steel wire braided
" " " "	P-8	1	"	30	"	30	"	"
" " " "	P-9	1	3" x 0.0045	3.5	14	90	"	"

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

DESCRIPTION.	No. in Parallel per Pole.	CONDUCTORS. Sectional Area or No. and Dia. of Strands, Sq. ins. or Sq. mm.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
			In the Circuit.	Rule.			
From M.S.B. to ref. mach. board	1	3" x 0.007	11	19	200	Cambric	Lead alloy sheathed & steel wire braided
" " wireless board	1	3" x 0.01	8	29	480	"	"
From section board S-2 to " " "	1	3" x 0.007	5	19	90	Rubber	Lead alloy sheathed & cotton braided
From M.S.B. to transformers	2	2" x 3" x 0.007	14.5	17.5	30	Rubber	"
From section board S-1 to " " "	2	2" x 3" x 0.007	"	"	20	"	"
" " S-2 to panel board L-1	1	3" x 0.0045	7	14	90	Cambric	Lead alloy sheathed & steel wire braided
" " " " L-2	1	3" x 0.007	10	19	75	Cambric	"
" " " " L-3	1	3" x 0.0045	9.8	14	30	"	"
" " " " L-4	1	3" x 0.007	13	19	90	"	"
From M.S.B. to panel board L-5	1	"	15.7	"	75	"	"
From panel board L-5 to panel board L-6	1	"	7.7	"	100	"	"
From M.S.B. to " " " L-7	1	3" x 0.01	19.5	29	70	"	"
From panel board L-7 to " " " L-8	1	3" x 0.007	10.5	19	100	"	"
From M.S.B. to " " " L-9	1	"	15	"	70	"	"
" " " " L-10	1	3" x 0.01	20	29	15	"	"
" " " " L-11	1	3" x 0.007	15	19	65	"	"
" " " " L-12	1	3" x 0.0045	7	14	75	"	"
From section board S-2 to " " " C-1	1	3" x 0.007	15.5	19	30	"	"
From M.S.B. to " " " C-2	1	"	16.5	"	90	"	"
From section board S-2 to " " " F-1	1	3" x 0.0045	3.5	14	45	"	"
From M.S.B. to " " " F-2	1	"	4	"	70	"	"
From section board S-2 to Navigation Panel	1	"	1.8	"	60	Rubber	Lead alloy sheathed & steel wire braided
From 2nd battery to " " " F	1	3" x 0.007	12	17	60	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Main engine turning gear	1	10	1	3" x 0.007	13.1	19	80	Cambric
Sanitary pump	1	4	1	3" x 0.0045	5	14	50	"
Fresh water pump	1	3	1	"	3.7	"	75	"
Boiler circulating pump	2	2	1	"	6	"	30	"
F.O. classifier	2	2	1	"	2.6	"	"	"
" " pump	2	1	1	"	1.3	"	"	"
" Purifier	2	2	1	"	3.5	"	"	"
" " pump	2	2	1	"	"	"	"	"
L.O. " "	1	2	1	"	"	"	45	"
Fuel valve cooling pump	2	1.5	1	"	2.7	"	45	"
Eng. room ventilating fan	2	5	1	"	6.6	"	75	"
Ref. machine compressor	2	5	1	"	8	"	30	"
" " cooling pump	1	1.5	1	"	2.7	"	150	"
F.O. service pump	1	2	1	"	3.5	"	140	"

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.

G. Tzokari

Electrical Contractors.

Date *27th July 1955*

COMPASSES.

Have the compasses been adjusted under working conditions *yes*

G. Tzokari

Builder's Signature.

Date *27th July 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 *19-4-55, 20-5-55*

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, Approved plans and Secretary's letters.

The Workmanship and materials were found to be satisfactory. The Equipment has been examined under working condition and installation tested according to 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 7,55.

Total Capacity of Generators *128* Kilowatts.
(160KVA)

The amount of Fee ... *£122,400* : { When applied for, *19*
When received, *19*

Travelling Expenses (if any) £ :

R. Hasan
Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRIDAY 30 SEP 1955*

Assigned *See Rpt. 4C.*