

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 11 JUN 1951

Date of writing Report Jan. 25th 1951 When handed in at Local Office 19 Port of Kobe

No. in Survey held at Aioi, Japan. Date, First Survey Sep. 13th Last Survey Dec. 23th 1951
g. Book. (No. of Visits 12)

on the Steel Single Screw Steam Ship "NICHIEI MARU"

Tons { Gross 11806.07T
Net 8550.57T

Built at Aioi Japan By whom built Harima Shipbuilding Works, Ltd. Yard No. 453 When built Dec. 21, 1950.

Owners Nito Shosen Co., Ltd. Port belonging to Tokyo Japan

Installation fitted by Harima Shipbuilding Works, Ltd. When fitted Dec. 21, 1950.

Vessel equipped for carrying Petroleum in bulk Yes Is vessel equipped with D.F. Yes E.S.D. Yes Gy. C. Yes Sub. Sig. No Radar No

Plans, have they been submitted and approved Yes System of Distribution Two-wire Insulated Voltage of Lighting 110

Heating 220 Power 220 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 Yes Generators, are they compound wound Yes, and level compounded under working conditions Yes,

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 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 Fore starboard side in engine floor

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

Fore centre, switchboard platform 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 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 For 180kw Main Generator: 3 pole (Center pole for equalizer)

circuit breaker with overload and reverse-current trips, 1000A 3-pole (center-pole for equalizer)

Disconnecting switch. Fore 40kw Generator: 250A 2-pole circuit breaker with overload trips.

And the switch and fuse gear (or circuit breakers) for each outgoing circuit

Current rating of outgoing circuit, 200A and above: 2-pole circuit breaker with overload trips.

" below 200A : a fuse on each pole & 2-pole linked switch

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

mmeters 300V x 4 50V x 2 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

Earth-indicating lamps. & megger tester

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

Make of fuses Fuji Electric Mfg. Co. Ltd. all fuses labelled Yes If circuit breakers are provided for the generators, at what

overload do they operate 50% over (1470A) and at what current do the reversed current protective devices operate 117A

Main 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 2.35V, 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 Yes

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

In machinery space; cable protect by strong sheet-iron plating or hanger.

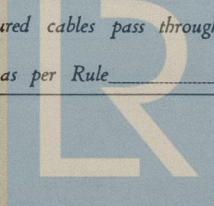
Fore and aft gangways; steel plating.

On deck ; Galvanized steel pipes.

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 (by lead bushings) Refrigerated chambers, are the cables and fittings as per Rule

Lloyd's Register
Foundation

Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule. Yes. Emergency Supply, state position

24v-240A.H Batteries-2sets in battery room on boat deck, Charge & discharge panel in w

Navigation Lamps, are they separately wired Yes controlled by separate double pole switches and fuses Yes Are the switches and fuses

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

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

accommodation of the convection type --- Motors, are all motors constructed and installed as per Rule and placed in well-venti

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 p

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

Rule None Ships carrying Oil having a Flash Point less than 150° F. Have all the special requirements of the Rules for such ships

complied with Yes are all fuses of an Approved Cartridge Type Yes make of fuse Fuji-Electric Mfg. Co. Ltd. fittings for p

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 Tokyo instrument Mfg. Co. of transmitter Engine room and receiver Chart room

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 Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN	2	Mitsubishi Electric Mfg. Co. Ltd. Nagasaki Works.	180	230	784	1800	Horizontal single reduction turbine	ISHIKAWA J. INDUSTRIES
Port service	1	Mitsubishi Electric Mfg. Co. Ltd. Nagasaki Works.	40	230	174	600	85HP Diesel	HATHUDOKI SEIZO
EMERGENCY ROTARY TRANSFORMER	M 2	"	38HP	220	149	1500		Mitsubishi Electric Ltd., Nagasaki
	G	"	25 k.w.	115	217	"		"

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULA-TION.	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	180	2	61/0.103	980	1044	166	Varnished cambric	Lead covered armored
" " EQUALISER		1	"		522	83	"	"
Port service Generator	40	1	37/0.083	174	286	116	Varnished cambric	Lead covered armored
EMERGENCY GENERATOR	38HP	1	37/0.083	149	238	65.7	Varnished cambric	Lead covered armored
ROTARY TRANSFORMER: MOTOR	25 k.w.	1	37/0.093	217	331	65.7	"	"
" " GENERATOR								

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

DESCRIPTION.	1	19/0.064	10.9	58	543	Rubber	Lead covered
Midship power(sec.Board....P1')	1	"	29.2	58	80	"	"
Poop " ("P1)	1	"	47	58	216	Varnished cambric	"
Ref. Machine ("P3)	1	"	71.7	130	34	"	"
Eng.Room Vent.fan("P4)	1	"	43	58	232	Rubber	"
Boiler fuel oil pump(" P9)	1	"	33.2	46	100	"	"
Generator cooling W.pump	1	19/0.052	18.8	46	140	Varnished cambric	"
Hot air drier,Testpanel ("P6)	1	"	297	331	250	"	"
Evaporator pump (" P7)	1	"	13.6	22	86	Rubber	"
Boiler draft fan (" P8)	1	37/0.093					
Accommodation fan (" P2)	1	7/0.044					

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

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet)	INSULA-TION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or Sq. mm.	In the Circuit.	Rule.			
From Main Switchboard							
To Navigation Fuseboard	1	7/0.029	1.82	11	726	Rubber	Lead covered & Armored
To Midship Lighting (Sec. II board)	1	37/0.072	69.6	110	692	"	"
To Poop Lighting	1	19/0.064	39.5	60	146	"	"
To aft upper deck Lighting	1	19/0.052	36.6	46	100	"	"
To Engine room Lighting	1	19/0.064	56.4	60	34	"	"
To Boiler room Lighting	1	7/0.064	23.1	33	330	"	"
To Cargo Light (Sec. II board)	1	37/0.072	58.9	110	100	"	"
To Cabin fan (")	1	7/0.064	22.2	33	100	"	"
To wireless	1	37/0.083	83	133	660	"	"
To Naviging instruments	1	37/0.072	46.4	110	594	"	"
(Gyro,Echo-sounder, Rader, etc.)							
To Battery charging panel	1	37/0.072	52	110	660	"	"
To Testing switch board	1	7/0.064	20	33	100	"	"
To Shore connection box	1	37/0.072	200	238	166	Varnished Cambric	"
note: From fuse board							
To Navigation light	1	2-core 3/0.036	0.36	5		Rubber	Lead covered & armoured
To lamp (Eng. & Boiler Rm.)	1	1-core	"	"		"	"
To lamp (Store, weather dk.)	1	3/0.036	"	"		"	Lead covered
(in accomodation)	1	"	"	"		"	"
To Cabin fan	1	"	"	"		"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Steering Motor	2	20	1	37/0.093	79.5	331	296	varnished combric Lead covered & armoured
Oil pump for main turbine	35	1	19/0.083	134	185	184	"	"
Large & Ballast Pump Motor	1	35	1	"	133	"	184	"
Large pump Motor	1	30	1	"	114	"	190	"
General service pump Motor	1	25	1	19/0.063	99	130	112	"
Miller draft fan	"	3	25	1	"	"	50-1132-1	"
Condensate pump	"	2	12	1	"	47	60	Rubber
Oil transfer pump	"	1	12	1	"	"	120	"
Welding machine Motor	"	1	8	1	"	30	"	"
Generator	1	4kw	---	---	---	---	---	"
Sanitary pump Motor	1	7HP	1	19/0.052	29.4	46	112	Rubber Lead covered & armoured
Engine turning Motor	1	7HP	1	"	28	46	178-1	"
Eng. Room Vent.fan "(Suction)	6HP	1	"	"	25	"	218-1	"
" "(Exhaust)	1	5HP	1	7/0.064	21.7	33	184	"
Filter fuel oil pump Motor	2	5HP	1	"	21.5	"	184	"
Fresh Water pump	"	1	5HP	1	"	22.3	"	"
Compressor	"	1	5HP	1	"	21.7	"	"
Machine (Compressor)	2	5HP	1	"	21	"	26	"
" (cooling W.pump)"	1	1HP	1	7/0.029	5	11	166	"
Universal lathe	"	1	3HP	1	7/0.044	13	22	"
Evaporator pump	"	1	2HP	1	7/0.036	9.4	17	"
Oil purifier	"	1	2HP	1	"	9	46	"
G. flow	"	1	2HP	1	19/0.052	18	46	"
Filter tube cleaner	"	1	2HP	1	7/0.029	4.6	11	"
Oil W.pump for Diesel Gen.	"	1	1HP	1	"	4.4	"	"
Accommodation fan Motor	2	1HP	1	"	2.4	"	99	"
Fresh W.pump for midship	1	1HP	1	"	4.6	"	132	"
Oil burner	"	1	1HP	1	"	"	230	"
Refrigerating box	"	1	1/3HP	1	3/0.029	1.8	7	"
Hot air drier	"	1	1/8HP	1	7/0.029	8.6	11	"

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. Parake

Electrical Contractors.

Date 24th Feb. '51

COMPASSES.

Have the compasses been adjusted under working conditions

Yes

H. Parake

Builder's Signature.

Date 24th Feb. '51

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

Nov. 2th 1950

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 were found sound and good.
The generators and motors etc have been examined under full load working condition to Rules' requirements and found satisfactory.

Total Capacity of Generators

400

Kilowatts.

The amount of Fee ... £

:

When applied for,

19

Travelling Expenses (if any) £

:

When received,

19

FR' 24 AUG 1951

Committee's Minute

Assigned

See F.E. mch. rph

Shunio Hatanaka
Surveyor to Lloyd's Register of Shipping.