

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

25 MAR 1935

Date of writing Report 22nd Feb. 1935 When handed in at Local Office 22nd Feb. 1935 Port of NAGASAKI.

No. in Survey held at NAGASAKI. Date, First Survey 6th Dec. 34 Last Survey 13th Feb. 1935
Reg. Book. (Number of Visits 8)90519 on the Steel Single Screw Motor Vessel "NOJIMA MARU" Tons { Gross 7183.63
Net 4317.93

Built at Nagasaki By whom built Mitsubishi Jukogyo K.K. Yard No. 582 When built 1935

Owners Nippon Yusen Kabushiki Kaisha. Port belonging to Tokio.

Electric Light Installation fitted by Mitsubishi Jukogyo K.K. Nagasaki. Contract No. - When fitted 1935

Is the Vessel fitted for carrying Petroleum in bulk No

System of Distribution Two wire system.

Pressure of supply for Lighting 220 volts, Heating / volts, Power 220 volts.

Direct or Alternating Current, Lighting Direct current Power Direct current

If alternating current system, state frequency of periods per second /

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes

Generators, do they comply with the requirements regarding rating Yes, are they compound wound Yes

Are they over compounded 5 per cent. Yes, if not compound wound state distance between each generator /

Where more than one generator is fitted are they arranged to run in parallel Yes. Aux. Gen. excepted an adjustable regulating resistance fitted in

series with each shunt field Yes

Are all terminals accessible, clearly marked, and furnished with sockets Yes, are they so spaced or shielded that they cannot be accidentally earthed,

short circuited, or touched Yes Are the lubricating arrangements of the generators as per Rule Yes

Position of Generators In Main Engine Room, floor level.

Is the ventilation in way of the generators satisfactory Yes, are they clear of all inflammable material Yes

Are they situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators

/ and /, are the generators protected from mechanical injury and damage from water, steam or oil Yes

Are their axes of rotation fore and aft Yes

Earthing, are the bedplates and frames of the generating plant efficiently earthed Yes are the prime movers and

each respective generators in metallic contact Yes

Main Switch Boards, where placed Near forward bulkhead in Main Engine room at floor plate level.

If the generators and main switchboard are not placed in the same compartment, is each generator provided with

fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard /

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes Yes

Are they protected from mechanical injury and damage from water, steam or oil Yes, if situated near unprotected

woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards / and /

Are they constructed wholly of durable, non-ignitable non-absorbent materials Yes, is all insulation of high dielectric strength and of

permanently high insulation resistance Yes, if semi-insulating material is used, are all conducting parts insulated from the slab

with mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework Yes

Is the frame effectively earthed Yes Are the fittings as per Rule regarding:— spacing or shielding of live parts

Yes, accessibility of all parts Yes, absence of fuses on back of board Yes, proportion of omnibus

Yes, individual fuses to voltmeter, pilot or earth lamp Yes, connections of switches Yes

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches A double pole knife

switch and a double pole circuit breaker with overload release, reverse current trip and time

lag device and a single pole equalizer switch interlocked with the circuit breaker as per rule

for each of 260 K.W. Dynamos. A double pole knife switch and a double pole circuit breaker with

overload release, reverse current trip and time lag device for Aux. dynamo. A double pole knife

switch and double pole fuse or double pole circuit breaker for each of out going circuits.

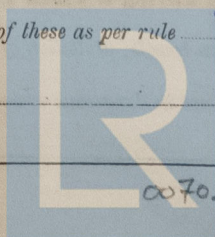
Instruments on main switchboard Eight. ammeters Three. voltmeters -- synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Lamps with fuses and

switches.

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules. Yes

Main Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule Yes



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Cables: Single, twin, concentric, or multicore Single or Multicore are the cables insulated and protected as per Tables IV, V, XI or XIII of the Rules Yes

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 10.22 volts for Power. 8.3 volts for Lighting.

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets Yes

Paper Insulated Cables. If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound Yes

Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage Yes

Support and Protection of Cables, state how the cables are supported and protected Clamped to perforated steel plates by metal clips and protected by metal covers or steel pipes where necessary.

If cables are run in wood casings, are the casings and caps secured by screws /, are the cap screws of brass /, are the cables run in separate grooves /. If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII Yes

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements Yes

Joints in Cables, state if any, and how made, insulated, and protected By junction boxes as per Rule.

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yes

Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed Yes state the material of which the bushes are made Lead.

Earthing Connections, state what earthing connections are fitted and their respective sectional areas There is no earthing connection except for the wireless telegraph. Sectional area of which is 25.60 square millimeters.

/, are their connections made as per Rule Yes

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule Yes

Emergency Supply, state position and method of control of the emergency supply and how the generator is driven /

Navigation Lamps, are these separately wired Yes, controlled by separate switch and separate fuses Yes, are the fuses double pole Yes, are the switches and fuses grouped in a position accessible only to the officers on watch Yes

has each navigation lamp an automatic indicator as per Rule Yes

Secondary Batteries, are they constructed and fitted as per Rule Yes

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight Yes, are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected Lamps in stores are protected by strong metal guards, over heavy glass, air tight, bowls.

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected /, how are the cables led /

where are the controlling switches situated /

Searchlight Lamps, No. of 4 projectors. Fixed, whether fixed or portable Fixed, are their fittings as per Rule Yes

Arc Lamps, other than searchlight lamps, No. of /, are their live parts insulated from the frame or case /, are their fittings as per Rule /

Motors, are their working parts readily accessible Yes, are the coils self-contained and readily removable for replacement Yes, are the brushes, brush holders, terminals and lubricating arrangements as per Rule Yes, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material Yes, are they protected from mechanical injury and damage from water, steam or oil Yes are their axes of rotation fore and aft Yes if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type Totally enclosed type not of this type, state distance of the combustible material horizontally or vertically above the motors / and /

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule Yes

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule /

Ships carrying Oil having a Flash Point less than 150° F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings /

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office /

PARTICULARS OF GENERATING PLANT.										
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.			
		Kilowatts.	Volts.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.		
MAIN ...	3	260	225	1155	340	Diesel engine	Diesel Oil	F.P. above 150°	F	
AUXILIARY ...	1	20	225	89	650	" "	" "	" "	"	
EMERGENCY ...	1	5 KVA	250	20	3000	D.C. Motor 7.5 HP.	220 V. 30 A.	3000 R/m.		
ROTARY TRANSFORMER	1	3 " 25 KVA	"	12	"	"	5 HP "	" 20 A.	" "	
	1	25 KVA	100	2.5	3750	"	0.45 HP 30 V.	18 A. 3750 R/m.		
GENERATOR, LIGHTING AND HEATING CONDUCTORS.										
DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.	
	No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.				
MAIN GENERATOR ...										
EQUALISER CONNECTIONS ...										
AUXILIARY GENERATOR...										
EMERGENCY GENERATOR ...										
ROTARY TRANSFORMER } MOTOR GENERATOR...										
ENGINE ROOM...										
BOILER ROOM...										
AUXILIARY SWITCHBOARDS ...										
ACCOMMODATION ...										
WIRELESS ...										
SEARCHLIGHT ...										
MASTHEAD LIGHT ...										
SIDE LIGHTS ...										
COMPASS LIGHTS ...										
POOP LIGHTS ...										
CARGO LIGHTS ...										
ARC LAMPS ...										
HEATERS ...										
MOTOR CONDUCTORS.										
DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP ...										
MAIN BILGE LINE PUMPS ...										
GENERAL SERVICE PUMP ...										
EMERGENCY BILGE PUMP ...										
SANITARY PUMP ...										
CIRC. SEA WATER PUMPS ...										
CIRC. FRESH WATER PUMPS...										
AIR COMPRESSOR ...										
FRESH WATER PUMP ...										
ENGINE TURNING GEAR...										
ENGINE REVERSING GEAR ...										
LUBRICATING OIL PUMPS ...										
OIL FUEL TRANSFER PUMP...										
WINDLASS ...										
WINCHES, FORWARD ...										
WINCHES, AFT ...										
STEERING GEAR—										
(a) MOTOR GENERATOR...										
(b) MAIN MOTOR ...										
WORKSHOP MOTOR ...										
VENTILATING FANS ...										

All Conductors are of annealed copper conforming to British Standard Specification No. 7.

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

NAGASAKI WORKS, MITSUBISHI JUKOGYO KABUSHIKI KAISHA.

GENERAL MANAGER.

Electrical Engineers.

Date

COMPASSES.

Distance between electric generators or motors and standard compass 13 meters from Winch motor on bridge deck.

Distance between electric generators or motors and steering compass 11 " " " " " " " "

The nearest cables to the compasses are as follows :-

A cable carrying 0.06 Ampères 0.3 meter from standard compass. 0.3 meter from steering compass.

A cable carrying " Ampères " feet from standard compass. " feet from steering compass.

A cable carrying " Ampères " feet from standard compass. " feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power Yes

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted Yes

The maximum deviation due to electric currents was found to be Nil degrees on Any and every course in the case of the standard

compass, and Nil degrees on Any and every course in the case of the steering compass.

NAGASAKI WORKS, MITSUBISHI JUKOGYO KABUSHIKI KAISHA.

GENERAL MANAGER.

Builder's Signature.

Date

Is this installation a duplicate of a previous case Yes If so, state name of vessel "Noto Maru" Nag.Rpt.No.1999. "Noshiro Maru" Nag.Rpt.No.2005.

General Remarks (State quality of workmanship, opinions as to class, &c.)

This installation has been constructed under Special survey in accordance with the Rules and Approved plans, and the materials and workmanship are good.

Full load, overload and parallel running tests have been carried out with satisfactory results.

All motors and lighting circuits have been tried under full working condition and found satisfactory.

This case is eligible in our opinion to have the notation of "Electric lights & Wireless" in the Register Book.

Total Capacity of Generators 800. Kilowatts.

The amount of Fee £ 51-10-0 : 13. 2. 35

Travelling Expenses (if any) £ : 28. 2. 35

Committee's Minute FRI. 29 MAR 1935

Assigned

See Nap. 26. 2018

Rpt. 9a.

Port of NAGASAKI.

Continuation of Report No. 2018 dated 22nd Feb. 1935 on the

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
Turbo blower	3	1638.00	127	2.35	1420	1536	9	Rubber	Lead covered braided.
"	3	"	"	"	"	"	15.6	"	"
P & J. Cooling water pump	1	391.00	91	"	380	384	6	"	"
Sea water circulating pump	1	262.00	61	"	255	288	22.8	"	Lead covered armoured B.
Lub oil pump	1	65.00	19	2.10	99	118	63	"	"
Fuel oil transfer pump	1	38.70	"	1.63	78	83	45	"	"
Eng. room ventilat. fan	1	9.45	7	1.30	28	37	98	"	"
Ballast pump	1	65.00	19	2.10	102	118	56.2	"	"
Fire & General service pump	1	"	"	"	"	"	48.2	"	"
Cargo oil pump	1	"	"	"	"	"	62.4	"	"
Bilge & sanitary pump	1	9.45	7	1.30	31	37	60	"	"
Work shop motor	1	4.52	7	.91	12	24	46	"	"
Main Eng. turning motor	1	25.60	19	1.30	59	64	66	"	"
Fuse box No. 1	1	14.25	7	1.63	30.6	46	60	"	"
Lub. oil purifier	1	4.52	7	.91	15.3	24	12	"	"
Fuse box No. 2	1	9.45	7	1.30	28.6	37	52	"	"
Lub oil shifting pump	1	4.52	7	.91	14.3	24	14	"	"
Fuse box No. 3	1	9.45	7	1.30	28.6	37	52	"	"
Fresh water pump	1	4.52	7	.91	14.3	24	14	"	"
Travelling crane & hoist	1	25.60	19	1.30	51	64	18	"	"
Oil burning unit	1	9.45	7	.91	23	37	88	"	"
Main dynamo	2	1340.00	127	2.60	1155	1190	51.6	"	L.C.B.
Auxiliary dynamo	1	65.00	19	2.10	89	118	51.4	"	L.C.A.B.
No. 1 fuse board	1	321.00	61	2.60	666	804	68	Paper Rubber	"
Windless main	1	391.00	91	2.35	332	499	52	"	"
Windless motor	1	262.00	61	"	307	357	24	"	"
Windless Mot.-Generator (M)	1	127.00	37	2.10	186	204	14	"	"
Windless Mot.-Generator (G)	1	262.00	61	2.35	307	357	14	"	"
5 ton cargo winch	1	159.00	37	"	222	244	18	"	"
No. 2 Fuse board	1	321.00	61	2.60	1251	1326	96	Paper Rubber	"
3 ton cargo winch	1	75.30	37	1.33	130	138	64	"	"
No. 3 fuse board	1	391.00	91	2.60	130	1046	96	Paper Rubber	"
3 ton cargo winch	1	75.30	37	1.33	130	138	22	Paper Rubber	"
No. 4 fuse board	1	262.00	61	2.35	328	663	60	Paper Rubber	"
5 ton cargo winch	1	159.00	37	"	222	244	18	"	"
3 ton cargo winch	1	75.00	37	1.63	130	138	20	"	"
Moorings winch	1	159.00	"	2.35	222	244	62	"	"
Steering motor	1	38.70	19	1.63	66	83	6	"	"
Steering motor-generator	1	49.00	"	1.85	89	87	58	"	"
"	1	38.70	"	1.63	66	83	14	"	"
"	1	49.00	"	1.85	89	87	58	"	"
Steering motor	1	38.70	"	1.63	66	83	9	"	"
"	1	49.00	"	1.85	89	87	58	"	"
Mot.-Gen. Helm indicator	1	4.52	7	.91	12	24	64	"	"
Auxiliary switch-board	1	321.00	61	2.60	104.5	118	22	"	"
Refrigerating Compressor	1	65.00	19	2.10	104.5	118	18	"	"
Brine pump	1	4.52	7	.91	22.7	24	38	"	"
Cool. water circulating pump	1	14.25	7	1.63	20.4	46	48	"	"
Fuse box No. 4	1	9.45	7	1.30	31.8	37	78	"	"
Ordance fan	1	"	"	"	"	"	144	"	"
"	1	4.52	7	.91	13.2	24	4	"	"
"	1	9.45	7	1.30	26	37	90	"	"
Fuse box No. 5	1	4.52	7	.91	24	24	12	"	"
Cooking blower	1	"	"	"	"	"	10	"	"
Grain machine	1	"	"	"	"	"	46	"	"
Electric toaster	1	"	"	"	"	"	190	"	"
Fuse box No. 6	1	"	"	"	"	"	70	"	"
Sounding machine	1	"	"	"	"	"	10	"	"
Fire detector exhaust fan	1	"	"	"	"	"	88	"	L.C.B.
"	1	25.60	19	1.30	30	64	38	"	L.C.A.B.
Wireless telegraph	1	9.45	7	.91	20	24	30	"	"
5 KVA Motor-generator for wireless telegraph	1	4.52	7	"	"	"	12	"	"
3 KVA " " "	1	"	7	"	"	"	20	"	"
1/4 KVA " " "	1	9.45	7	1.30	18	37	20	"	"
Battery for wireless tel.	1	25.60	19	"	41.17	64	64	"	"
Submain board S.1	1	4.52	7	.91	8.22	24	16	"	"
Distributing board 1	1	"	7	"	9.1	"	3	"	"
"	1	"	7	"	7.54	"	30	"	"
"	1	"	7	"	9.09	"	3	"	"
Submain board S.2	1	"	7	"	10.23	"	74	"	L.C.A.B.
Distributing board 2	1	"	7	"	4.5	"	3	"	L.C.
"	1	"	7	"	5.73	"	3	"	"
Submain board S.3	1	14.25	7	1.63	22.7	46	22	"	L.C.A.B.
Distributing board 3	1	4.52	7	.91	12.7	24	3	"	"
"	1	"	7	"	10	"	3	"	"
Bus bar light in Eng. Room	1	1.13	1	1.20	2.63	7	22	"	"
Navigation light	1	4.25	7	.91	0.98	24	75	"	"
Fore mast light	1	1.13	1	1.20	0.18	7	198	"	"
Starboard side lamp	1	"	1	"	"	7	42	"	"
Port side lamp	1	"	1	"	"	7	49	"	"
Main mast lamp	1	"	1	"	"	7	224	"	"
Stern lamp	1	"	1	"	"	7	232	"	"
Submain board S.4	1	4.52	7	.91	16.67	24	95	"	"
Cargo light & cluster	1	1.13	1	1.20	6.7	7	1	"	"
Flex. cord for cargo lamp	1	3.11	110	.19	3.4	13	50	"	Cab. type sheathed.
" " " cluster	1	"	"	"	1.09	7	40	"	L.C.A.B.
Cargo cluster	1	1.13	1	1.20	3.27	7	50	"	C.S.
Flex. cord for cargo cluster	1	3.11	110	.19	16.67	24	95	"	L.C.A.B.
Submain board S.5	1	4.52	7	.91	6.7	7	1	"	"
Cargo light & cluster	1	1.13	1	1.20	3.4	13	50	"	C.S.
Flex. cord for cargo lamp	1	3.11	110	.19	1.09	"	50	"	"
" " " cluster	1	"	"	"	"	"	"	"	"
Cargo light	1	1.13	1	1.20	3.27	7	40	"	L.C.A.B.
Flex. cord for cargo cluster	1	3.11	110	.19	1.09	13	50	"	C.S.
Distributing board 10	1	4.52	7	.91	8.9	24	68	"	L.C.A.B.



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