

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 12 AUG 1950

Date of writing Report 28/7/1950 When handed in at Local Office 28/7/1950 Port of Yokohama
 No. in Survey held at Yokohama Date, First Survey 14th April Last Survey 12th May 1950
 Reg. Book. 985 in supplement on the S.S. "Fuji Maru" Tons { Gross 3629 Net 1995
 Built at Nippon Steel Tube Co. By whom built Tsurumi Shipyard Yard No. 651 When built 7-1949
 Owners Nippon Yusosen K.K. Port belonging to Tokyo
 Electric Light Installation fitted by Tsurumi Shipyard Contract No. When fitted 7-1949
 Is the Vessel fitted for carrying Petroleum in bulk No

Handwritten initials

System of Distribution Two-wire with direct current

Pressure of supply for Lighting 100 volts, Heating 100 volts, Power 100 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 temperature rise Yes, are they compound wound Yes

are they over compounded 5 per cent. Flat compound, if not compound wound state distance between each generator -

Where more than one generator is fitted are they arranged to run in parallel No, is an adjustable regulating resistance fitted in series with each shunt field Yes

Have certificates of test results for machines under 100 kw. been submitted and approved Yes

Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing -

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 On the engine room floor (Starboard), is the ventilation in way of the generators satisfactory Yes

are they clear of all inflammable material Yes, if 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 their respective generators in metallic contact Yes

Main Switch Boards, where placed Starboard side in the engine room (near the generator)

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

is it of an approved type 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 non-hygroscopic insulating material of an approved type Yes, and 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, temperature rise of omnibus bars Yes

individual fuses to voltmeter, pilot or earth lamp Yes, are moving parts of switches alive in the "off" position No

are all screws and nuts securing connections effectively locked Yes, are any fuses fitted on the live side of switches No

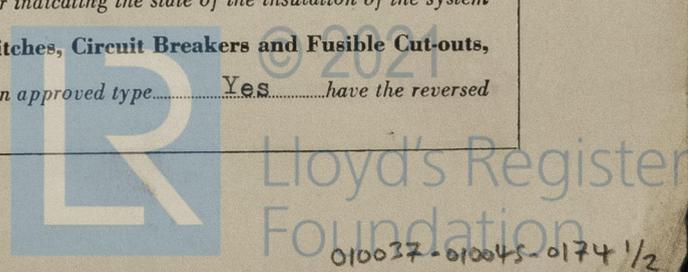
Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches 2p 400A, ACBx2, 2p-DT-KS 400Ax2, 200Ax1, 2p-ST-KS 300Ax1, 200Ax1 120Ax1 60Ax7 30Ax18 and No Eg. Switch.

Are turbine driven generators fitted with emergency trip switch as per rule No, Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material Yes

Instruments on main switchboard 3 ammeters 2 voltmeters No, synchronizing device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equalizer connection

positive pole Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system

Two earth lamps of the metal-filament type are provided Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules Yes, are the fusible cutouts of an approved type Yes, have the reversed



current protection devices been tested under working conditions... **Yes** Joint Boxes, Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule... **Yes**

Cables: Single, twin, concentric, or multicore... **all kinds** are the cables insulated and protected as per Tables IV, V, X or XI of the Rules... **Yes**

If the cables are insulated otherwise than as per Rule, are they of an approved type... **Yes** Fall of Pressure, state maximum between bus bars at any point of the installation under maximum load... **not exceed 6 volts** Cable Sockets, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets... **Yes** Paper Insulated and Varnished Cambric Insulated Cables

If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound... **or waterproof insulating tape** Cable Runs, are the cables fixed as far as possible in accessible position 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** Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit... **Yes**

Support and Protection of Cables, state how the cables are supported and protected... **being done as per Rule.**

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

Refrigerated Chambers, are the cables and fittings in accordance with the special requirements... **Yes**

Joints in Cables, state if any, and how made, insulated, and protected... **being done 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... **Soft non-ferrous metal**

Earthing Connections, state what earthing connections are fitted and their respective sectional areas... **Earthing lead is of high conductivity. Copper and other being done as per Rule, and also the cross sectional area of such earthing lead being done as per Rule** 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... **Secondary battery (24V 160AHx2sets) for emergency light and int. communication, being arranged at passage way on the promenade deck**

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... **None**

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected... **None** how are the cables led

Cables fixed within cargo space are being protected by sheet iron plating. where are the controlling switches situated... **They are not situated in such places.**

are all fittings suitably ventilated... **Yes**, are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials... **Yes**

Heating and Cooking Appliances, are they constructed and fitted as per Rule... **are air heaters constructed and fitted as per Rule**

Searchlight Lamps, No. of... **4 (Incandescent)** whether fixed or portable... **Fixed** are their fittings as per Rule... **Yes**

Are Lamps, other than searchlight lamps, No. of... **No**, 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... **Yes** if not of this type, state distance of the combustible material horizontally or vertically above the motors... **and** have machines of over 100 BPH been inspected by the Surveyors during manufacture and testing... **Control Gear and Resistances**, are the general field and motor speed regulators, starters and controllers constructed and fitted as per Rule... **Yes** Lighting Conductors, where lightning conductors are required, are these fitted as per Rule... **Yes** Ships carrying Oil having a Flash Point less than 150°F. Have the special requirements the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables and fittings... **are all fuses of the filled cartridge type** are they of an approved type... **are they of an approved type** If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office... **are they of an approved type** Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule... **Yes**

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 GENERATOR	2	40	105	381	1500	Turbine		
STANDBY GENERATOR								
EMERGENCY GENERATOR								
STANDBY TRANSFORMER								

GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length (Lead and Return.) Feet.	Insulated with	HOW PROTECTED
	No. per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule at 45°C			
MAIN GENERATOR	1	267.1	85	2.0	381	460	60	Vulcanized rubber	Lead & Steel armored
MAIN CONNECTIONS									
STANDBY GENERATOR									
EMERGENCY GENERATOR									
STANDBY TRANSFORMER (GENERATOR ROOM)	1	15.08	30	0.8	45.3	65	60	"	"
STANDBY TRANSFORMER (ENGINE ROOM)									
STANDBY SWITCHBOARDS									
Emergency light	1	9.511	19	0.8	17.6	49	170	"	"
Emergency light	1	9.511	19	0.8	15.4	49	78	"	"
ACCOMMODATION									
Promenade Dk Light	1	6.032	12	0.8	23	37	210	"	"
Deck Dk Light	1	6.032	12	0.8	10	37	150	"	"
Bridge Dk Light	1	6.032	12	0.8	25	37	173	"	"
Deck light	1	3.519	7	0.8	65	26	430	"	"
RELEAS	1	50.90	80	0.9	82	145	490	"	"
SEARCHLIGHT Projector	1	9.511	19	0.8	20	49	170	"	"
ASTHEAD LIGHT	1	3.519	7	0.8	28	26	740	"	"
DECK LIGHTS (Navigation Light)									
COMPASS LIGHTS									
COOP LIGHTS	1	9.511	19	0.8	25.8	49	500	"	"
CARGO LIGHTS	1	6.032	12	0.8	31.6	49	170	"	"
CARGO LAMPS							90		
HEATERS	1	6.032	12	0.8	13.1	37	100	"	"

MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length (Lead and Return.) Feet.	Insulated with	HOW PROTECTED
		No. per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule at 45°C			
BALLAST PUMP										
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
STANDBY PUMP										
DECK SEA WATER PUMPS										
DECK FRESH WATER PUMPS										
REFRIGERATOR COMPRESSOR										
FRESH WATER PUMP										
ENGINE TURNING GEAR	1	1	15.08	30	0.8	46	65	130	Vulcanized rubber	Lead & Steel armored
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
FUEL TRANSFER PUMP										
STEERING GEAR										
INCHES, FORWARD										
Lubricating Oil Purifier	1	1	6.032	12	0.8	20	37	60	"	"
INCHES, AFT										
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR	1	1	50.90	80	0.9	67	145	540	"	"
WORKSHOP MOTOR	2	1	6.032	12	0.8	10	37	130	"	"
VENTILATING FANS	2	1	6.032	30	0.8	44	65	570	"	"
CARGO OIL PUMP	1	1	68.99	61	1.2	133	180	60	"	"
REFRIGERATING COMPRESSOR	1	1	15.08	30	0.8	44	65	127	"	"
DO. COOLING WATER	1	1	3.519	7	0.8	10	26	60	"	"

All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

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

The foregoing is a correct description.

Electrical Engineers.

Date

COMPASSES.

Distance between electric generators or motors and standard compass 100 feet from generators, 45 feet from motor generators.

Distance between electric generators or motors and steering compass 95 feet from generators, 42 feet from motor generators.

The nearest cables to the compasses are as follows:—

A cable carrying 25 Ampères - feet from standard compass 13 feet from steering compass.

A cable carrying 44 Ampères - feet from standard compass 16 feet from steering compass.

A cable carrying 50 Ampères 23 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 No

The maximum deviation due to electric currents was found to be degrees on course in the case of the standard compass, and degrees on course in the case of the steering compass.

Builder's Signature.

Date

Is this installation a duplicate of a previous case No If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. This vessel was built in 1949 and is now submitted for classification with this Society in accordance with the Rules for vessels not built under Survey, the electrical equipment has been examined and tested in accordance with the Rules and found to comply with approved plans.

There is no alternative means of supply to the navigation lights provided and the Owners request that this modification be deferred until November 1950 merits the favourable consideration of the Committee.

Noted and 16/9/50

Total Capacity of Generators 80 Kilowatts.

The amount of Fee ... £Y 40;320 : When applied for, 19
Traveling Expenses (if any) £Y 2;000 : When received, 19

Surveyor to Lloyd's Register of Shipping

Committee's Minute FRI. 10 NOV 1950

Assigned See P.E. mchey. rpt

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