

REPORT ON ELECTRIC FITTINGS

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

-9 DEC 1929

Date of writing Report 12th No. 29 When handed in at Local Office 12th Nov. 29 Port of NAGASAKI.

No. in Survey held at NAGASAKI. Date, First Survey 1st March 29 Last Survey 3rd October 1929.

Reg. No. 14556 on the Steel Quad. Screw Motor Vessel "A S A M A M A R U". (Number of Visits 24.)

Built at Nagasaki. By whom built Nagasaki Works, Mitsubishi Zosen Kaisha. Yard No. 450. When built 1929.

Owners Nippon Yusen Kabushiki Kaisha. Port belonging to Tokio.

Electric Light Installation fitted by Nagasaki Works, Mitsubishi Zosen Kaisha, Ltd. Contract No. When fitted 1929.

System of Distribution Two wire system.

Pressure of supply for Lighting 225 volts, Heating 225 volts, Power 225 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 - except 40 KW. is 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 auxiliary engine room.

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 In auxiliary engine room at aft end at level of 3rd deck.

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 In same compartment.

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 micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework 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, proportion of omnibus bars 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 For each of 450 K.W. and 100 K.W. sets a 3 pole interlocked, as per Rules, circuit breaker with overload trip, time lag device and reverse current trip; for 40 K.W. a 2 pole circuit breaker with overload trip, reverse current trip and time lag device; for each of out-going circuit a 2 pole circuit breaker with overload, time lag device on each pole and a 2 pole knife switch.

Instruments on main switchboard 25 ammeters 6 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.

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules 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 Single and Multicore. are the cables insulated and protected as per Tables IV or V of the Rules Yes

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 11.4 volts for Power, 8.35 volts for Lighting, 11.54 volts for Heater.

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 metal bracket or perforated galvanized steel plate by metal clips and protected by galvanized steel pipes.

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 In junction boxes, as per Rules.

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 are no earthing connections except for wireless telegraph and radio compass, for which the earthing conductors having sectional area of 0.0145 and 0.0070 sq.in are used. 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 D.C. 40 K.W. Emergency generator, driven by Kerosene engine and placed in emergency dynamo room on boat deck supplies the Power for lighting throughout the ship and also for boat winches, W.T. door, control gear, motors, emergency bilge pump, gyro compass and wireless tel. etc.

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 alternate, 3rd class or Cargo space are protected by strong cast iron cover., 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 2 sets., 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 - except a few very small motors., 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 pipe ventilated 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.

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DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.	R.P.M.		Fuel Used.	Flash Point of Fuel.
MAIN	4	450	225	2000	250	Diesel Engine.	Tarakan oil	above 150°
AUXILIARY ...	1	100	225	445	350	" "	" "	
EMERGENCY ...	1	40	225	178	1000	Kerosene oil engine.	Kerosene oil	
	1	7 K.V.A.	250	28	2000	DC 12HP. 220V. 50A. motor.		
	1	2 KW. DC.	2100	0.48	3000	DC 3.5HP 220V 18.5A motor.		
ROTARY TRANSFORMER	1	1 KVA. AC	100	5.76	1500	DC 3HP 220V 13A motor.		
	1	2.25 KVA. AC	250	4.0	1800	DC 3.5HP 220V 18A motor.		

LITTING AND HEATING CONDUCTORS.

[illegible]

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Returns.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	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 ZOSEN KAISHA, LTD.

S. Kawai
GENERAL MANAGER.

Electrical Engineers.

Date 15/11/29

COMPASSES.

Distance between electric generators or motors and standard compass About 14 ft. from clear view screen motor.

Distance between electric generators or motors and steering compass About 10 ft. from clear view screen motor.

The nearest cables to the compasses are as follows:—

A cable carrying 0.1 Ampères 1 feet from standard compass 1 feet from steering compass. (for Compass lamp)

A cable carrying 0.7 Ampères 14 feet from standard compass 10 feet from steering compass. (for clear view screen motor).

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 No degrees on Any and every course in the case of the standard compass, and No degrees on Any and every course in the case of the steering compass.

NAGASAKI WORKS, MITSUBISHI ZOSEN KAISHA, LTD.

S. Kawai
GENERAL MANAGER.

Builder's Signature.

Date 15/11/29

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.)

The materials and workmanship are good and the installation has been fitted in accordance with the Rules, tested under working conditions and found satisfactory.

Plans sent under separate cover of:— Wiring Diagram (6 sheets).

It is submitted that
this vessel is eligible for
THE RECORD. Etc Light.

9/12/29

Total Capacity of Generators 1940 Kilowatts.

The amount of Fee ...	¥ 812.00	When applied for,	27. 9 19 29
Travelling Expenses (if any) £	:	When received,	28. 10 29

George Anderson
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec Light