

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

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 No. in Survey held at NAGASAKI, JAPAN Date, First Survey 24<sup>th</sup> Mar '49 Last Survey 15<sup>th</sup> Nov. 1949  
 Reg. Book. (No. of Visits 10)  
 on the STEEL STEAM SHIP "HAKUBASAN MARU" Tons { Gross 4900 about  
 Net 2750 }  
 Built at NAGASAKI By whom built NAGASAKI SHIPYARD & ENGINE WORKS, MITUBISHI HEAVY INDUSTRIES LTD. Yard No. 1413 When built Nov. 1949  
 Owners MITSUBI SEMPAKH Co. LTD. Port belonging to TOKYO  
 Installation fitted by NAGASAKI SHIPYARD & ENGINE WORKS MITSUBISHI H.I. LTD. When fitted Nov. 1949  
 Is vessel equipped for carrying Petroleum in bulk No 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 D.C. Constant pressure 2 wire parallel system Voltage of Lighting 220 V.  
 Heating 220 V. Power 220 V. 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, if 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 pole 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 \_\_\_\_\_ and the results found as per Rule yes  
 Position of Generators all generators are fitted on port-side of the Engine room 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 On aft-port side of the 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 Micanite or phenol-resin, 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 double pole isolating switch, double pole circuit breaker and single pole equalizer switch for each generator is fitted on switch-board, Circuit breaker is of trip free type and equalizer switch being interlocked to the circuit breaker as per Rule. and the switch and fuse gear (or circuit breakers) for each outgoing circuit two 600A. & one 300A. double pole circuit breakers, and one 250A; one 150A; five 100A; one 80A; one 60A; three 50A; five 40A; nine 30A; nine 20A; two 15A. & one 10A. double pole switches and fuse gears are fitted on main switch board, one breaker or a switch and fuses for each outgoing circuit Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes Instruments on main switchboard Seven ammeters three 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 two lamps, each of 10 watts metal filament type  
 Switches, Circuit Breakers and Fuses, are they as per Rule yes, are the fuses an Approved Type yes, make of fuses Fibre tube Carrier with Contact blade, are all fuses labelled yes If circuit breakers are provided for the generators, at what overload do they operate at 50% overload (1/200A) and at what current do the reversed current protective devices operate at 10% reverse current (70 Amp)  
 Joint 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 9.12 V. for lighting 6.84 V. for power 1.25 V. for Radio apparatus main. 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 \_\_\_\_\_ 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 \_\_\_\_\_ or of the "HR" type \_\_\_\_\_ State how the cables are supported or protected generally, the cable throughout the ship are fitted on galvanized metal plates and secured by metal crips except that for the mains in engine room and circuits for deck machineries such as windlasses & Cargo winches which are secured on angle bar supporters by metal crips and, moreover, the latter being led through the strong metal ducts having protective strong coverings. 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 yes Refrigerated 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

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 ampère hours 1 set 32V 120 A.H. 7 sets 8V 80 A.H. 5 sets 156V 2 A.H. for Radio, 1 set 66V 100 A.H. for Gyro Compass

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 the accommodation of the convection type

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 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 pump compartment

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, are they constructed and fitted as per Rule yes Lightning Conductors, where required are they fitted as per Rule

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, are all fuses of an Approved Cartridge Type, make of fuse

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

Are the cables lead covered as per Rule

E.S.D., if fitted state maker Nippon Electric location of transmitter in double bottom and receiver in double bottom

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 per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN ...	3	Mitsubishi electric Mfg. Co Ltd.	160	225	712	1500	Turbo generator	Ishikawajima Heavy Industries 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 ...	160	4	61/.093	712	808	110' for No. 34.	Vulcanized Rubber	Lead Covered Armoured
" " EQUALISER ...		2	61/.093	356	404	do.	do.	do.
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR ...								
" " GENERATOR...								

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

DESCRIPTION.								
No 1 Auxiliary S.W.-board for Cargo Winches & Windlass	1	91/.103	318.1	323	530	Vulcanized Rubber	Lead Covered Armoured	
No 2 Auxiliary S.W.-board for Cargo Winches & mooring winch	1	91/.103	318.1	323	400	do.	do.	
Section board for Coal winches	1	61/.093	169	202	240	do.	do.	
fuse board for Combined evaporator pump motors	1	7/.052	18.9	26	170	do.	do.	
fuse board for oil purifier motors	1	7/.052	18	26	100	do.	do.	
fuse board for Heaters	1	7/.064	12	32	270	do.	do.	
Refrigerator main	1	7/.064	26	32	230	do.	do.	
Gyro Compass main	1	7/.064	15	32	170	do.	do.	
Battery charging main	1	19/.052	35	45	400	do.	do.	
Radio main	1	37/.072	50	106	400	do.	do.	
Shore Connection	1	37/.103	120	168	200	do.	do.	
Navigation light main	1	7/.029	1	10.5	400	do.	do.	
No 1 Section-board for lighting of bridge decks &c	1	19/.052	25.46	45	200	Vulcanized Rubber	Lead Covered Armoured	
No 2 " for lighting of upper decks	1	7/.064	23.23	32	150	do.	do.	
No 3 " for Cargo lights	1	7/.064	13.09	32	300	do.	do.	
No 4 " for Cabin	1	7/.064	26	150	do.	do.	do.	
No 1 Dist. board	1	7/.064	17	230	do.	do.	Lead Covered	