

Rpt. 13.

No. 527

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 1st October 1951 When handed in at Local Office 19 Port of KOBE

No. in Survey held at Tamano, Japan Date, First Survey 25th May 1951 Last Survey 27th September 1951  
Reg. Book. (No. of Visits)

on the Steel Single Screw Motor Ship "AKAGISAN MARU" Tons { Gross 6637.03  
Net 3735.62

Built at Tamano, Japan By whom built Mitsui Shipbuilding & Engineering Co., Ltd., Tamano Works Yard No. 563 When built 9, 1951

Owners Mitsui Senpaku K. K. Port belonging to Tokyo

Installation fitted by Mitsui Shipbuilding & Engineering Co., Ltd., Tamano Works When fitted 9, 1951

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 Yes

Plans, have they been submitted and approved yes System of Distribution 2 wire insulation Voltage of Lighting 220  
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 — 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 yes, 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 Port side in 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 Port fore side 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 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 Main switchgear has a 3 poles air circuit breaker with overload (positive or negative pole), reverse current trip (positive pole), single pole equalizer switch and 3 poles disconnecting knife switch and the switch and fuse gear (or circuit breakers) for each outgoing circuit Switchgears have 2 poles air circuit breakers with overcurrent trip for outgoing circuit rated above 300 amperes and 2 poles linked switch with a fuse on each pole for outgoing circuit rated up to 300 amperes

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes. Instruments on main switchboard 10 ammeters 3 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 system having 2 lamps of metal filament and a volt meter

Switches, Circuit Breakers and Fuses, are they as per Rule yes, are the fuses an Approved Type yes (Mitsui M.L.K. 200, 100) make of fuses Mitsui Shipbuilding & Engineering Co., Ltd., Tamano Works are all fuses labelled yes. If circuit breakers are provided for the generators, at what overload do they operate 150%, and at what current do the reversed current protective devices operate 15%

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 8.85 volts, 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 No, if so, are they adequately protected —. 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 Cargo hold and Engine room i- Cables protected by strong steel plate  
Masts and a part of Engine room and Cargo hold i- Cables are protected by steel pipes

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

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DESCRIPTION		CONDUCTORS		MAXIMUM CURRENT		APPROX LENGTH (LEAD PLUS RETURN METER)	INSULATION	PROTECTIVE COVERING
		No. IN PARALLEL PER POLE	SECTIONAL AREA OF AND DIA OF STRANDS SQ IN'S OR SQ MM	IN THE CIRCUIT	RULE			
LIGHT PANEL No. 1	NAVIGATION LAMP IND.	1	1/0.064	0.82	7		VULCANIZED RUBBER	LEAD-ALLOY-SHEATHED
	W. HOUSE & MORSE SIG. LT.	1	1/0.064	3.36	4			
	CHART RM. & DECK LT.	1	"	1.41	"			
	W/T ROOM	1	"	1.27	"			
	HEATER (W.H. & CHART RM.)	1	1/0.064	6.8	7			
LIGHT PANEL No. 2	HEATER (W/T ROOM)	1	"	4.55	"			
	CAPTAN	1	1/0.044	2.0	4			
	2/OFF. DOCTOR & DISPENS.	1	"	1.68	"			
	C/OPE. 2/OPE. & 3/OFF	1	"	1.96	"			
	3/OPE. & 2-APP.	1	"	1.23	"			
	GYRO RM., PASS., BATH & W.C.	1	"	1.64	"			
	DECK LT. & PROJECTOR	1	1/0.064	5.27	7			
	FUNNEL LT.	1	1/0.044	2.27	4			
	FAN (CAPT. & STARP.)	1	"	0.91	"			
	FAN (W/T, FORE & PORT)	1	"	1.09	"			
LIGHT PANEL No. 3	HEATER (CAPTAIN)	1	1/0.064	4.55	7			
	" (CAPTAIN & 2/OFF)	1	"	6.8	"			
	" (DOCTOR & DISPENS)	1	"	"	"			
	" (2/OPE & 3/OFF)	1	"	"	"			
	" (C/OPE.)	1	"	4.55	"			
	" (3/OPE. & 2-APP.)	1	"	6.8	"			
	SALOON	1	"	5.3	"			
	SMOKING	1	1/0.044	1.77	4			
	PURSER, CLERK & STATE	1	"	2.14	"			
	C/OFF. SPARE & STATE	1	"	2.0	"			
LIGHT PANEL No. 4	C/STEW. PANTRY & PASSAGE	1	"	1.82	"			
	D'S LT. (PORT), BATT. & M-GRM	1	"	3.28	"			
	D'S LT. (STARP.)	1	"	2.46	"			
	FAN	1	"	2.36	"			
	HEATER (SALOON)	1	1/0.064	4.55	7			
	" (SMOKING)	1	"	"	"			
	" (C/OFF)	1	"	"	"			
	" (PURSER & CLERK)	1	"	6.8	"			
	" (STATE RM. STARP.)	1	"	4.55	"			
	" (STATE RM. PORT)	1	"	"	"			
LIGHT PANEL No. 5	REFRIGERATOR	1	1/0.044	1.14	4			
	HEATER (PANTRY)	1	1/0.064	4.55	7			
	1/ENG., 2/ENG. & 3/ENG.	1	1/0.044	1.96	4			
	TALLY OFFICE & OFF'S MESS	1	"	2.0	"			
	GALLEY & CREW'S MESS	1	"	2.91	"			
	PASSAGE (PORT)	1	"	1.64	"			
	PROJECTOR & D'S LT. (PORT)	1	"	3.52	"			
	FAN (PORT)	1	"	2.18	"			
	HEATER (2/ENG. & 3/ENG.)	1	1/0.064	6.8	7			
	" (1/ENG.)	1	"	4.55	"			
LIGHT PANEL No. 6	" (TALLY OFFICE)	1	"	3.41	"			
	" (OFF'S MESS)	1	"	4.55	"			
	" (CREW'S MESS)	1	"	"	"			
	WASHER	1	1/0.044	1.59	4			
	C/ENG. & 4/ENG.	1	"	2.46	"			
	5/ENG. BOATSN & CARP.	1	"	1.77	"			
	Q. M.	1	"	1.36	"			
	3-OILER & 2-COOK	1	"	1.5	"			
	No. 1 & No. 2 OILER	1	"	1.23	"			
	PROJECTOR & D'S LT. (STARD)	1	"	3.54	"			
LIGHT PANEL No. 7	PASSAGE (STARD.)	1	"	1.36	"			
	FAN (AFT.)	1	"	0.91	"			
	" (FORE)	1	"	1.27	"			
	HEATER (C/ENG. & 4/ENG.)	1	1/0.064	6.8	7			
	" (C/ENG.)	1	"	4.55	"			
	" (5/ENG. & BOATSN.)	1	"	6.8	"			
	" (Q.M. & CARP.)	1	"	"	"			
	" (Q.M.)	1	"	3.41	"			
	" (2-COOK & 3-OIL.)	1	"	6.8	"			
	" (No. 1 & No. 2 OIL.)	1	"	"	"			
LIGHT PANEL No. 8	WIPER & DONK. MEN	1	1/0.044	1.61	4			
	BOY & PASSAGE	1	"	1.5	"			
	SAILOR	1	"	"	"			
	FAN	1	"	0.91	"			
LIGHT PANEL No. 9	HEATER (WIPER & DONK.)	1	1/0.064	6.8	7			
	" (BOY)	1	"	3.41	"			
	" (SAILOR)	1	"	6.8	"			
	STORE & REFRIG. CHAMB	1	1/0.044	1.82	4			LEAD-ALLOY-SHEATHED & ARMOURD
LIGHT PANEL No. 10	DYNAMO ROOM	1	"	1.46	"			
	PASSAGE	1	"	0.73	"			
LIGHT PANEL No. 11	CONT. RM., M'S PAN RM. & STORE	1	"	1.91	"			
	CARP. SHOP, PASSAGE & ANCHOR LT.	1	"	1.73	"			
	FOR WINCH TABLE	1	"	1.45	"			
LIGHT PANEL No. 12	PANEL & RESIST. RM.	1	"	0.73	"			
	AFTER WINCH TABLE	1	"	1.45	"			
	PANEL RM. & PROJECTOR	1	"	3.0	"			
LIGHT PANEL No. 13	HOSPITAL	1	"	2.14	"			LEAD-ALLOY-SHEATHED
	D'S LT. & ANCHOR LT.	1	"	1.36	"			LEAD-ALLOY-SHEATHED & ARMOURD
	STEERING ENG. RM.	1	"	1.82	"			
	HEATER	1	1/0.064	6.8	7			LEAD-ALLOY-SHEATHED
	FAN	1	1/0.044	0.364	4			
LIGHT PANEL No. 14	MAIN & 2 <sup>ND</sup> D'S GRATING LT.	1	"	2.1	"			LEAD-ALLOY-SHEATHED & ARMOURD
	"	1	"	1.91	"			
	MAIN & 2 <sup>ND</sup> D'S GRAT. & FLOOR LT.	1	"	2.1	"			
	2 <sup>ND</sup> D'S GRAT. & FLOOR LT.	1	"	2.46	"			
	ENG. STORE & WORK SHOP.	1	"	3.37	"			
	2 <sup>ND</sup> D'S STARP. & FLOOR LT.	1	1/0.064	5.64	7			
	FLOOR LT.	1	"	6.1	"			
	REFRIG. MACH. RM. & FLOOR LT.	1	1/0.044	3.0	4			
	PORTABLE LT. (UPPER)	1	"	0.54	"			
	SHAFT TUNNEL	1	"	2.18	"			
CARGO LIGHT PANEL No. 15	PORTABLE LT. (PORT)	1	"	1.46	"			
	" (STARP.)	1	"	"	"			
	ALARM CIRCUIT	1	"	0.18	"			
	THERMO METER	1	"	0.04	"			
	No. 1 HATCH	1	"	3.46	"			
	No. 2 HATCH	1	"	"	"			
	D'S FLOOD LT.	1	1/0.064	4.55	7			
	No. 3 HATCH	1	1/0.044	3.64	4			
	D'S FLOOD LT.	1	1/0.064	4.55	7			
	No. 4 HATCH	1	1/0.044	3.46	4			
CARGO LIGHT PANEL No. 16	No. 5 HATCH	1	"	"	"			
	D'S FLOOD LT.	1	1/0.064	3.64	7			
CARGO LIGHT PANEL No. 17	No. 6 HATCH	1	1/0.044	"	4			
	D'S FLOOD LT.	1	1/0.064	4.55	7			
NAVIGATION LAMP IND.	BRANCH BOX FOR FORE MAST	1	"	0.18	"			
	" MAIN MAST (PORT)	1	"	"	"			
	" FLYING BRIDGE (STARD)	1	"	"	"			
	" FLYING BRIDGE	1	"	"	"			
	" DOCKING BRIDGE	1	"	0.09	"			



Lloyd's Register Foundation



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 **MITSUI SHIPBUILDING & ENGINEERING CO., LTD., TAMANO WORKS.**

S. Tanaka Electrical Contractors. Date \_\_\_\_\_  
Senior Managing Director.

COMPASSES.

Have the compasses been adjusted under working conditions yes

**MITSUI SHIPBUILDING & ENGINEERING CO., LTD., TAMANO WORKS.**  
S. Tanaka Builder's Signature. Date \_\_\_\_\_  
Senior Managing Director.

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 yes If not, state date of approval 3-8-51

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 materials and workmanship are sound and good.  
The generators, motors etc. have been examined under working condition on full load to Rules' requirements and found satisfactory.

Noted ADW 8.2.52

Total Capacity of Generators 705 Kilowatts. (Including emergency generator)

The amount of Fee ... £ : : When applied for, \_\_\_\_\_ 19 \_\_\_\_\_  
Travelling Expenses (if any) £ : : When received, \_\_\_\_\_ 19 \_\_\_\_\_

S. Brown  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute FIL 13 APR 1952

Assigned See F.E. nearby opt.