

30 NOV 1953

Rpt. 13.

No. 1691

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 19 When handed in at Local Office 17 NOV. 1953 Port of KOBE  
No. in Survey held at Aioi, Japan Date, First Survey 13-5-53 Last Survey 29-8-53  
Reg. Book. (No. of Visits 15) Gross 13,224.20  
on the Steel Single Screw S.T. " DAIKYO - MARU " Tons Net 9,553.47

Built at Aioi, Japan By whom built Harima S.B. & E. CO., Ltd. No. 479 When built Aug. -53

Owners Daikyo Oil Co., Ltd. Port belonging to Yokkaichi

Installation fitted by Harima Shipbuilding & Engineering Co., Ltd. When fitted Aug. -53

Is vessel equipped for carrying Petroleum in bulk Yes 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 Single-phase=Two wire Three-phase Voltage of Lighting 110

Heating 220 Power 440V For Eng. room D.C. or A.C., Lighting A.C. Power A.C. If A.C. state frequency 60

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 Synchronous Gen. Yes and level compounded under working conditions -

if not compound wound state distance between generators - and from switchboard - Are the generators arranged to run

in parallel Yes Automatic Volt regulator Yes Is the compound winding connected to the negative or positive 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 Yes and the results found as per Rule Yes

Position of Generators Generator Platform, After in Eng. 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

Starboard 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 insulating 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 500KVA Main Generator ; 3pole Disconnecting Switch,

3-pole circuit Breaker with overload and Reverse-power trips.

For 90KVA Aux. Generator ; 3-pole circuit breaker with overload trips

and the switch and fuse gear (or circuit breakers) for each outgoing circuit.

3-pole Non fuse breaker

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule. Yes Instruments on main switchboard 13

ammeters 8 voltmeters 5 synchronising devices. For compound machines in parallel are the ammeters and reversed current

protection devices connected on the pole opposite to the equaliser connection. - Earth Testing, state means provided

Earth-indicating lamps

Switches, Circuit Breakers and Fuses, are they as per Rule. Yes, are the fuses an Approved Type. Yes

Fuji-Elec. Mfg. Co., Ltd. make of fuses. Tokyo-Japan, are all fuses labelled. Yes If circuit breakers are provided for the generators, at what

overload do they operate. 50% over and at what current do the reversed current protective devices operate. 96.5A (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. 5.5 V, are the ends of all cables having a sectional

area of 0.01 square inch and above provided with soldering sockets. Yes Are ~~are~~ 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. Yes, if so, are they

adequately protected. Yes Are cables in machinery spaces, galleys, laundries, etc., lead covered. Yes or run in conduit. Yes

or of the "HR" type. - State how the cables are supported or protected.

in machine space : cable protected by strong steel-iron plating

Gang way : Substantial channels of steel plate.

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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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.....  
For Wireless 24V-200AH-2set  
state battery capacity in ampere hours. For interior communication 24V-200AH-2set

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. Yes.....  
if so, how are they protected. Flame -Proof approved type

and where are the controlling switches fitted. in adjacent accommodation passage Are all fittings suitably ventilated. Yes.....  
Searchlight Lamps, No. of 1....., whether fixed or portable. portable are they of the carbon arc or of the filament type. 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. Yes..... 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. Yes..... Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing. Yes.....

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. Yes..... 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. Yes....., are all fuses of an Approved Cartridge Type. Yes....., make of fuse Fuji Elec. Mfg. Co. Ltd. Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships. Yes..... Are the cables lead covered as per Rule. Yes.....

E.S.D., if fitted state maker. Nihon Denki K.K. location of transmitter. Eng. room bottom and receiver. Eng. room bottom  
(F.No. 49-50 S.S.) (F.No. 49-50 P.S.)  
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.	
			K.V.A. <del>XXXXXX</del> per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN (Turbo.)	2	Tokyo Shibaura Elec. Co., Ltd.	500	450	641	1200	Turbo-Eng.	Mitsubishi Heavy Ind. Reorganized Ltd.
Aux. EMERGENCY ... ROTARY TRANSFORMER	1	"	90	450	115.5	600	Diesel-Eng.	Daihatsu kogyo

#### GENERATOR CABLES.

DESCRIPTION.	K.V.A.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR ...	500	3	0.3	641	260x3	145	Varnished	Lead sheathed & Armoured
" " EQUALISER ...								
Aux. Generator	90	1	0.1	103	128	46	"	"
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR...								

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

DESCRIPTION.		Turning)							
No.67 Section Box(G.S. & Fire P.	1	0.1	80.1	128	✓	52.5	V.O	Lead sheathed & Armoured	
No.68 " (Eng.Boiler room Vent.F.)	1	0.06	41.75	91	✓	65.6	"	"	
No.73 " (Work snop Power)-	1	0.0225	27.6	51	✓	164	"	"	
No.74 " (Evaporator)	1	0.0225	17.2	51	✓	197	"	"	
No.A21 " (Air Compressor)	1	0.0225	18.6	51	✓	98	"	"	
No.A22 " (Ref. Machine)	1	0.0225	24.8	51	✓	250	"	"	
No.A24 " (F.W.& Sanitary P.)	1	0.0225	19.2	51	✓	131	"	"	
No.A31 " (Midship Power)	1	0.0225	22.5	51	✓	7250	"	"	
No.A34 " (Poop Power)	1	0.06	41.8	91	✓	131	"	"	
440V shore connection Box	1	0.3	250	260	✓	131	"	"	
220V " "	1	0.3	250	260	✓	98	"	"	

#### LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

DESCRIPTION.	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.			
Navigation light	1	0.0225	1.82	33 ✓	7900	V.R	Lead sheathed & Armoured
Midship light	1	0.1	70.5	128 ✓	7250	V.C	"
After cabine light	1	0.1	99	128 ✓	131	"	"
Cargo light	1	0.06	41.3	91 ✓	131	"	"
Engine & Boiler room light	1	0.1	79	128 ✓	65.6	"	"
Nautical instrument	1	0.04	46	70 ✓	131	"	"
SUEZ search light	1	0.1	18.2	85 ✓	1180	V.R	"
							"
Wireless telegraph	1	0.06	20	91 ✓	7580	V.C	"
Heater	1	0.0045	4.5	11 ✓	46	V.R	"
Transformer 440/230 3 20KVA	2	0.0225	77	72x2 ✓	65.6	V.C	"
" (Secondary)	2	0.06	150	130x2 ✓	65.6	"	"
Transformer 440/115 3 20KVA	2	0.0225	77	72x2 ✓	39.4	"	"
" (Secondary)	4	0.06	300	130x4 ✓	32.8	"	"

#### MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.		No.	B.H.P.						
Steering Gear	2	25	1	0.0225	40	51	✓	394	V.O
Main circulating Pump	1	150	1	0.3	220	260	✓	131	"
Aux. Circulating Pump	1	75	1	0.1	100	128	✓	164	"
Boiler Draft Fan	2	70	1	0.1	85	128	✓	164	"
F.O. Service Pump	2	7.5	1	0.01	10.5	16	✓	111	V.R
F.O. Transfer Pump	1	15	1	0.0225	21	51	✓	196	V.O
Lub. Oil Pump	2	35	1	0.04	45.3	70	✓	131	"
Main Condensate Pump	2	30	1	0.0225	37.2	51	✓	131	"
Aux. Condensate Pump	2	2	1	0.003	2.7	7	✓	164	V.R
Atmos. Drain Pump	2	30	1	0.0225	37.2	51	✓	164	V.O
G.S. & Fire Pump	1	50	1	0.06	60	91	✓	46	"
Eng. Turning Gear	1	10	1	0.0145	15	19	✓	98	V.R
L.O. Purifire	1	4	1	0.0045	5.1	11	✓	118	"
Pump Room Vent. Fan	1	10	1	0.0145	14	19	✓	96	"
Eng. Boiler room Vent. Fan	3	7.5	1	0.01	9.25	16	✓	96	"
Electric welder	1		1	0.0225	12	51	✓	32.8	V.O
Universal Lathe	1	5	1	0.0045	6.4	11	✓	65.6	V.R
Boring Machine	1	2	1	0.003	2.7	7	✓	65.6	"
Grinder	1	1	1	0.003	1.5	7	✓	65.6	"
Evaporator Pump	1	10	1	0.0145	12.5	19	✓	98	"
Evap. Brine & F.W. Pump	1	2	1	0.003	3.1	7	✓	131	"
Make up Evaporator	1	1	1	0.003	1.6	7	✓	98	"
Start Air Compressor	1	5	1	0.0045	7.6	11	✓	98	"
Air Compressor	1	7.5	1	0.01	11	16	✓		"
Ref. Mach. Compressor	2	7.5	1	0.01	9.7	16	✓	65.6	"
Ref. cool Water Pump	2	2	1	0.003	2.7	7	✓	196	"
Aux. Gen. Cooling Water P.	1	10	1	0.0145	12.5	19	✓	131	"
Fresh Water Pump	1	5	1	0.0045	6.7	11	✓	79	"
Sanitary Pump	1	10	1	0.0145	12.5	19	✓	79	"
Cabin Vent. Fan	3	4	1	0.01	11	16	✓	65.6	"
Bridge Fresh Water Pump	1	1.5	1	0.003	5	7	✓	46	"
Laundry Machine	1	1	1	0.003	3.4	7	✓	196	"
Galley Burner Fan	1	1	1	0.003	3.4	7	✓	131	"
Bean Curd & Ice cream	1	1	1	0.003	3.4	7	✓	131	"
Tube cleaner	1	2	1	0.01	11	16	✓	196	"

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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.

S. Kanuga  
THE HARIMA SHIPBUILDING AND  
ENGINEERING COMPANY, LTD.

Electrical Contractors.

Date

#### COMPASSES.

Have the compasses been adjusted under working conditions

Yes

S. Kanuga  
THE HARIMA SHIPBUILDING AND  
ENGINEERING COMPANY, LTD.

Builder's Signature.

Date

Have the foregoing descriptions and schedules been verified and found correct

Yes

Is this installation a duplicate of a previous case

If so, state name of vessel

Plans. Are approved plans forwarded herewith

No

If not, state date of approval

26th June '53 at Kobe Office

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 found sound and good.

The generators and motors etc., have been examined under full load working condition to the Rule's requirements and found satisfactory.

Total Capacity of Generators 1090 K.V.A. ~~1000 K.V.A.~~

The amount of Fee ...

£ 313.000

When applied for,

17. NOV. 1953

When received,

19

Travelling Expenses (if any) £

Committee's Minute

FRIDAY 15 JAN 1954

Assigned

See Rpt. 4a

S. B. Johnson H. Monohara  
Surveyor to Lloyd's Register of Shipping.



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