

Rpt. 13.

No. FE-3026

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

14 OCT 1955

Received at London Office

Date of writing Report July 19 1955 When handed in at Local Office SEP. 26 1955 19 Port of Kobe
 No. in Survey held at Kobe, Japan Date, First Survey March, 14, 1955 Last Survey July 15, 1955
 Reg. Book. (No. of Visits 16)
 on the M.S. "Hikawa Maru" Tons {Gross 8092.32T
 Net 5600.79T
 Built at Kobe, Japan By whom built Kawasaki Dockyard Co., Ltd. Yard No. 940 When built July 1955
 Owners Kawasaki Kisen Co., Ltd. & Nippon Kaiun Co. Ltd. Port belonging to Kobe, Japan
 Installation fitted by Kawasaki Dockyard Co., Ltd. When fitted July 1955
 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 Three phase, three wire Voltage of Lighting 110V
 Heating 110V Power 440V 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 ---, 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, are shunt field regulators provided AVR. 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 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 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 resin bonded board, 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 A triple pole linked air circuit breaker with over current. reverse power and under voltage trip relays

and the switch and fuse gear (or circuit breakers) for each outgoing circuit A triple pole linked air circuit breaker

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 6 ammeters 7 voltmeters 1 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 Three earth lamps with metal filament

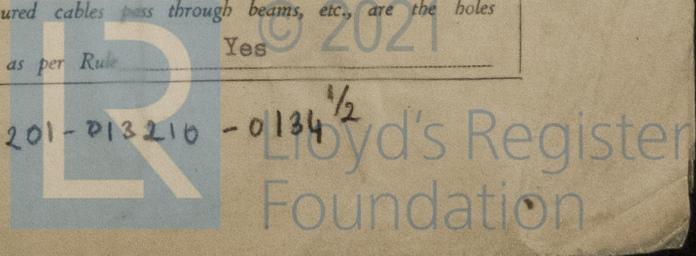
Switches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an Approved Type Yes, make of fuses Kawasaki "SK" type, are all fuses labelled Yes. If circuit breakers are provided for the generators, at what overload do they operate 115% 20 sec, and at what current do the reversed ~~current~~ protective devices operate 15% - 24 KW

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 6.92V for power 2.42V for wireless 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 cambic 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 --- or of the "HR" type ---. State how the cables are supported or protected Clipped to solid or perforated steel tray, structural steel work or woodwork

Are all lead sheaths, armoring 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 effectually 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 Batteries in battery room on boat deck (For emergency lighting)

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 ampere hours. 2 x 24V, 126 A.H

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 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 NONE

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, and 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 --- , 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 Tokyo Keiji Co., Ltd. location of transmitter E.S.P. Compartment and receiver E.S.D Compartment

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.	K.V.A. RATED AT				TYPE.	PRIME MOVER.
			Volts.	Amperes.	Revs. per Min.	MAKER.		
MAIN	2	Kawasaki Dockyard Co.	200	450	256	600	Diesel	Daihatsu Kogyo Co., Ltd
EMERGENCY ROTARY TRANSFORMER								

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 or No. and Dia. of Strands. Sq. ins. or Sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	200	2	0.1	256	282		VC	LA
" " EQUALISER								
EMERGENCY GENERATOR								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR								

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

DESCRIPTION.	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or Sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
PD - 1 Power distribution box	1	0.007	38	42	15	VC	LC
PD - 2 do.	1	0.007	16.8	21	26	"	"
PD - 3 do.	1	0.0145	39	42	38	"	"
PD - 4 do.	1	0.01	22	32	27	"	"
PD - 5 do.	1	0.0225	53	56	40	"	"

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.			
L - 1 Engine room lighting (upper) S.B.	1	0.01	30	32	10	VC	LC
L - 2 do. (Lower) S.B.	1	0.01	32	32	10	"	"
L - 3 Accom lighting (up deck) S.B.	1	0.0225	50	56	36	"	LA
L - 4 do. (Boat deck) S.B.	1	0.007	18	21	40	"	LC
L - 5 Cargo lighting (Fore) S.B.	1	0.0225	43	56	22	"	LA
L - 6 do. (Fore Projector) S.B.	1	0.0145	40	42	22	"	LC
L - 7 Nav. light indicatore	1	0.003	1.2	10	43	R	"
L - 8 Day light signal lamp	1	0.0045	5	15	55	"	LA
L - 9 Suez search light connection box	1	0.0225	27	80	55	VC	LC
L - 10 Spare lighting voltage relay	1	0.003	1	10	20	R	"
C - 1 Internal comm. dist. box	1	0.0145	38	42	50	VC	"
GP - 1 Auto-pilot power unit & hydraulic	1	0.0145	7	15	80	R	"
WS - 1 Wireless switchboard	1	0.0145	20	42	42	VC	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	CONDUCTORS.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
Fresh water cooling pump	2	60	1 0.4	75 77	26	VC	LC
Sea water cooling pump	1	35	1 0.0225	46 56	30	"	"
Lubricating oil pump	2	20/10	1 0.01	26 32	20	"	"
Oil burning pump	1	2	1 0.003	3.5 10	32	R	"
Exhaust draft fan	1	15	1 0.007	20 21	35	VC	"
Lubricating oil service pump	1	3	1 0.003	4.5 10	20	R	"
Fuel oil service pump	1	3	1 0.003	4.5 10	20	"	"
Fuel oil & Lubricating oil purifier	1	2	1 0.003	2.6 10	20	"	"
Colloidal filter	2	2	1 0.003	3.5 10	20	"	"
Fuel valve cooling pump	1	2	1 0.003	3.5 10	12	"	"
Lubricating oil pump for supercharger	2	3	1 0.003	4.5 10	30	"	"
Boiler water circulating pump	2	5	1 0.003	7.5 10	28	"	"
Fuel oil booster pump	2	2	1 0.003	3.5 10	10	"	"
Engine room ventilating fan	2	6.5	1 0.0045	9 15	31	"	"
Steering gear	1	15	1 0.01	20 32	85	VC	"
Lifting machine	1	5	1 0.0045	11 15	22	R	"
Turning motor	1	15	1 0.007	20 21	15	VC	"

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.

Saburo Yamana Electrical Contractors. Date 20 July 1955.
Managing Director of Kawasaki Dockyard Co., Ltd.

COMPASSES.

Have the compasses been adjusted under working conditions Yes

Saburo Yamana Builder's Signature. Date 20th July 1955
Managing Director of Kawasaki Dockyard Co., Ltd.

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 No If not, state date of approval Dec. 20, 1954

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 full working condition to the Rules requirement and found satisfactory.

Total Capacity of Generators 400 K.V.A. ~~400000~~

The amount of Fee ... £ 204,000 When applied for, AUG - 3 1955

Travelling Expenses (if any) £ See Rpt. 19 When received,

S. E. Hanson Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUESDAY 10 JAN 1955

Assigned See Rpt. H.C.

MADE AND PRINTED AT KOBE. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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