

20 MAY 1953

Rpt. 13.

No. 1364-7

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 12 MAY 1953 Port of Kobe, Japan

No. in Survey held at Kobe Date, First Survey 6-11-52 Last Survey 23-1-1953
Reg. Book. (No. of Visits 20)on the Steel Single Screw S.S. 'PATRICIA' Tons { Gross 17820.55
Net 13484.25

Built at Kobe, Japan By whom built Kawasaki Dockyard Co., Ltd. Yard No. 925 When built Jan. 1953

Owners Ocean Oil Operation, Inc. Port belonging to Panama

Installation fitted by Kawasaki Dockyard Co., Ltd. When fitted Jan. 1953

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. NONE Radar. Yes

Plans, have they been submitted and approved. Yes System of Distribution 3 phase 3 wire Voltage of Lighting 110 V
Heating 220V, 110V Power 440V, 220V D.C. or A.C., Lighting A.C. Power A.C. If A.C. state frequency 60 cyclesPrime 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 No 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 - 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 Frame No. 40-45 portside at manoeuvring flat 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. Frame No. 47, fore and
middle of manoeuvring flat in engine roomare 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. Phenolic 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 Switchgearfor each generator and arrangement of equaliser switches. a triple-pole linked air circuit breaker with two over current
instant trips and one voltage shunt trip which is energized when induction type over current relay or
reverse power relay functions, and a triple-pole linked disconnecting switch.and the switch and fuse gear (or circuit breakers) for each outgoing circuit. a triple-pole linked air circuit breaker with two
over current trips and a triple-pole linked switch with a fuse on each pole for three-phase circuit and
two pole-linked switch with a fuse on each pole for single phase circuit.Are compartments containing switchboards composed of fire-resisting material or lined as per Rule. Yes Instruments on main switchboard 21
ammeters 10 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 6
earth lamps with metal filamentSwitches, Circuit Breakers and Fuses, are they as per Rule. Yes are the fuses an Approved Type. Yes
make of fuses. Siemens "Diazed" Fuse are all fuses labelled. Yes If circuit breakers are provided for the generators, at what
overload do they operate. 130 % and at what current do the reversed current protective devices operate. 5% of 656 A

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 volts are the ends of all cables having a sectional
area of 0.01 square inch and above provided with soldering sockets. No. mechanical clamp 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. Yes if so, are they
adequately protected. Yes Are cables in machinery spaces, galleys, laundries, etc., lead covered. Yes or run in conduit. Yes (partly)or of the "HR" type. - State how the cables are supported or protected. generally supported by iron hangers and
fixed to them by metallic clips and protected by lead-alloy sheath and steel wire armour. Where exposedto risk of mechanical damage protected by sheet iron plating, and under floor plates in engine room
in conduits.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 **Frame No. 36 starboard manoeuvring flat in engine room**

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. **24V 84AH x 2**

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 type**

and where are the controlling switches fitted. **Outside of pump room (poop deck)** Are all fittings suitably ventilated. **Yes**

Searchlight Lamps, No. of **1**, whether fixed or portable. **fixed**, are they of the carbon arc or of the filament type. **filament**

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. **Siemens "Diazed" Fuse** 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. **National-Simplex Bottom Frame No. 99 - 100 P.S.** location of transmitter. **Same as transmitter**

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 ...	2	Kawasaki Dockyard Co., Ltd.	400	440	656	1200	Turbine	Mitsubishi Heavy Industries, Reorganized Ltd.
EMERGENCY ... ROTARY TRANSFORMER	1	Kawasaki Dockyard Co., Ltd.	120	440	197	720	Diesel	Daihatsu Kogyo Co., Ltd.

GENERATOR CABLES.

V : Varnished Cambric
R : Vulcanized Rubber

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 ...	400	3	0.25	656	762	100	V	lead-alloy sheath and steel wire armour
" " EQUALS ...	400	3	0.25	656	762	100	"	"
EMERGENCY GENERATOR ...	120	1	0.25	197	254	99	"	"
ROTARY TRANSFORMER - MOTOR	20KVA	1	0.15	88	238	15	"	"
" GENERATOR	15KVA	1	0.25	130	331	15	"	"

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

DESCRIPTION.								
From M.S.B to Shore connection box	1	0.2	200	220	220	V	lead-alloy sheath steel wire armour	
Power dist. box PD-1 (E. Rm)	1	0.01	23	32	23	"	"	
" PD-2 (")	1	0.01	"	"	89	"	"	
" PD-3 (")	1	0.01	11	"	89	"	"	
" PD-4 (")	1	0.0225	44	56	50	"	"	
" PD-5 (")	1	0.003	6	10	83	R	"	
" PD-6 (")	1	0.01	20	32	66	V	"	
" PD-7 (")	1	"	20	"	73	"	"	
" PD-8 (Ref. Rm)	1	0.0225	31	56	250	"	"	
" PD-9 (E. Rm)	1	"	18	"	96	"	"	
" PD-10 (Galley)	1	0.06	93	100	230	"	"	
" PD-11 (Mot. Rm)	1	0.03	49	64	294	"	"	

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.			
From M.S.B to Lighting Section Box L-1 (Eng. room)	1	0.03	18	64	20	V	lead-alloy sheath and steel wire armour
" L-2 (")	1	"	32	"	20	"	"
" L-3 (Poop deck, Pump room)	1	0.06	94	100	86	"	"
Lighting dist. box L-5 (Eng. room)	1	0.01	5	32	21	"	"
" L-6 (Nav. Light)	1	0.003	2	10	386	R	"
From Tr. Panel to Lighting dist. box L-7 (Nav. Light)	1	2c "	"	10	66	"	"
" L-8 (Suez search light)	1	2c 0.007	30	30	363	V	"
" L-9 (Bridge deck)	1	0.03	23	64	26	"	"
" L-10 (Fore boat deck)	1	0.01	8	32	76	"	"
" L-11 (Nav. bridge deck)	1	"	9	"	40	"	"
" L-12 (Cargo L. projector)	1	"	26	"	30	"	"
From M. S.B. to Heating dist. Box PD-12 (Pantry.)	1	0.03	64	64	178	"	"
From Tr. Panel to Heating dist. box PD-13 (Bridge deck pantry)	1	0.01	30	32	23	"	"
to Dist. box W-1 (Wireless)	1	2c 0.0145	"	37	76	"	"
" R-1 (Radar, Loran)	1	2c "	"	"	76	"	"
" G-1 (Gyro Compass)	1	0.007	15	17	36	"	"
" C-1 (E.S.D.)	1	2c 0.003	10	10	43	R	"
L-1 to Dist. box 1-L-1 (Engine room)	1	0.007	9	21	60	V	"
" 2-L-1 (")	1	"	"	"	53	"	"
L-2 to " 1-L-2 (")	1	"	19	"	66	"	"
" 2-L-2 (")	1	"	13	"	46	"	"
L-3 to " 1-L-3 (Poop deck)	1	"	18	"	109	"	"
" 2-L-3 (")	1	"	20	"	109	"	"
" 3-L-3 (Cargo L. Pump room)	1	"	20	"	185	"	"
" 4-L-3 (Upper deck)	1	"	18	"	185	"	"
" 5-L-3 (")	1	"	"	"	185	"	"

MOTOR CABLES.

No.2 Motors are omitted

ALL IMPORTANT MOTORS TO BE ENUMERATED.		No.	B.H.P.						
From M.S.B. to									
No.1 Forced draft blower	1	115	1	0.15	155	182	172	V	lead-alloy sheath and steel wire armour
No.1 Main condensate pump	1	30	1	0.0225	42	56	46	"	"
Aux. condensate pump	1	7	1	0.0045	10.5	15	80	R	"
Main circulating pump	1	155	1	0.25	205	254	66	V	"
Aux. circulating pump	1	40	1	0.03	58	64	69	"	"
No.1 Lubricating oil pump	1	45	1	0.04	60	77	46	"	"
Fire and general service pump	1	50	1	"	70	"	69	V	"
Turning motor	1	10	1	0.007	16.5	21	165	"	"
Universal machine	1	10	1	0.003	4.5	10	86	R	"
Aux. stripping pump	1	125	1	0.15	169	182	73	V	"
Fuel oil transfer pump	1	13	1	0.0225	18.5	56	135	V	"
No.1 Poop deck boat winch	1	4	1	0.0045	12	15	188	R	"
PD-1 to No.1 Fr.W. drain trans. pump	1	6	1	0.01	9	32	50	V	"
Vacuum pump	1	3	1	0.003	4.5	10	26	R	"
PD-2 to No.1 Fuel oil service pump	1	7	1	0.0045	10.5	15	26	"	"
Tube cleaner	1	1	1	0.003	1.7	10	33	"	"
PD-3 to Bilge pump	1	6	1	0.0045	9	15	36	"	"
Make up evaporator pump	1	1	1	0.003	1.7	10	46	"	"
PD-4 to No.1 Sanitary pump	1	5	1	0.003	7.5	10	69	"	"
No.1 Fresh water pump	1	5	1	"	"	"	76	"	"
Lubricating oil purifier	1	3.5	1	"	5.1	"	76	"	"
Hot water circ. pump	1	0.5	1	"	0.9	"	40	"	"
Air compressor	1	5	1	"	7.5	"	66	"	"
PD-5 to Cold starting fan	1	3	1	"	4.5	"	76	"	"
Exhauster	1	0.75	1	"	14	"	50	"	"
PD-8 to No.1 Ref. machines	1	7.5	1	0.0045	4.5	15	20	"	"
Hydraulic pump	1	0.75	1	0.003	2	10	69	"	"
PD-9 to No.1 Brine pump	1	3	1	"	4.5	"	26	"	"
No.1 Condensate pump	1	"	1	"	"	"	43	"	"
PD-11 to Fresh water pump	1	"	1	0.0045	9.5	15	69	"	"
Hot water circ. pump	1	0.5	1	0.003	"	10	60	"	"
M-C for battery charging	1	1	1	"	1.6	"	33	"	"
Vent. fan (Fore accom.)	1	3	1	0.0045	9.5	15	43	"	"
PD-6 to No.1 Vent. fan (Eng. room)	1	6.5	1	"	10	"	99	"	"
PD-7 to No.3 Vent fan (Eng. room)	1	"	1	"	"	"	99	"	"

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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.

Takeo Morimoto Electrical Contractors. Date
Standing Director of Kawasaki Dockyard, Kobe, Japan,

COMPASSES.

Have the compasses been adjusted under working conditions. *yes*

Takeo Morimoto Builder's Signature. Date
Standing Director of Kawasaki Dockyard, Kobe, Japan.

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. 13 May 1952

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 were found sound and good. The Generators and Motors etc have been examined under full load working condition to Rules requirements and found satisfactory.

Total Capacity of Generators 920 Kilowatts.

The amount of Fee ... £ 296.000

When applied for, 12 MAY 1953

When received,

Travelling Expenses (if any) £

S. G. Johnson & E. Takushi
Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 12 JUN 1953

Assigned *See F.E. maly. rpt.*