

23 FEB 1960

Rpt. 13.

No. FE-1053

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 14th Dec. 1959 When handed in at Local Office 19 Port of Nagasaki Received at London Office Nagasaki

No. in Survey held at Sasebo, Japan Date, First Survey 14-10-59 Last Survey 5-12-59 Reg. Book. (No. of Visits 12)

on the S.S. "ORIENTAL GIANT" Tons {Gross 43,422 Net 29,739

Built at Sasebo, Japan By whom built Sasebo Ship Industry Co. Ltd. Yard No. 200 When built Dec. 1959

Owners Tanker Service Inc., Liberia Port belonging to Monrovia

Installation fitted by Sasebo Ship Industry Co., Ltd., Sasebo Dock Yard When fitted Dec. 1959

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. Yes Radar Yes

Plans, have they been submitted and approved Yes System of Distribution three phase three wire Voltage of Lighting 115 Volts

Heating 220 Volts Power 440 Volts D.C. or A.C., Lighting A.C. Power A.C. If A.C. state frequency 60 Cycles

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 No Generators, are they compound wound No, and level compounded under working conditions -

Are the generators arranged to run in parallel Yes Is the compound winding connected to the negative or positive pole -

Have machines 100 kw. and over been inspected by the Surveyors Yes 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 main generators: Starboard lower flat in ER, fore & aft; Emergency generator: starboard upper flat in ER.

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 forward lower flat in ER.

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 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 Switchgear

for each generator and arrangement of equaliser switches for main switchboard:- a triple-pole linked circuit-breaker with overcurrent trip in two phase and with reverse power relay; for emergency switchboard:- a triple-pole linked circuit-breaker with overcurrent trip in two phase.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit a triple-pole linked circuit-breaker (molded case thermal trip type)

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 6 ammeters 6 voltmeters 1 synchronising devices. For compound machines in parallel are the ammeters and reverse current protection devices connected on the pole opposite to the equaliser connection - Earth Testing, state means provided -

Three lamps Preference Tripping, state if provided No, and tested -

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

make of fuses Utsunomiya, cellolite, are all fuses labelled Yes If circuit breakers are provided for the generators, at what overload do they operate 2100 amp 20 sec. 6000 amp inst., and at what current do the reverse current protective-devices operate 46 kilo-watt

Cables, are they insulated and protected as per Rule - if otherwise than as per Rule are they of an Approved Type Yes, state maximum fall of pressure between bus bars and any point under maximum load 10.93 volts. 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 State type of cables (if in conduit this should also be stated) in machinery spaces * V1 or R1, galleys * V1 or R1

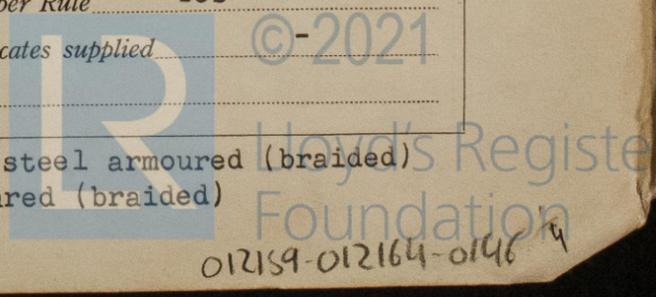
and laundries * R1 State how the cables are supported or protected supported on the steel hanger and clipped by brass cable band, protected by steel duct, conduit and steel plate where necessary.

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

Have refrigeration fan motors been constructed under survey - and test certificates supplied -

Are the motors accessible for maintenance at all times Yes

* V1: varnished cambric insulated, impervious sheathed and steel armoured (braided)
R1: rubber insulated, impervious sheathed and steel armoured (braided)



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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
 Emergency generator: Starboard upper flat in ER. Battery: Battery room in navigation bridge deck
 After emergency battery
 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, fitted and adequately ventilated as per Rule Yes, state battery capacity in
 ampere hours 120 ampere hours Where required to do so does it comply with 1948 International Convention -
 Lighting, is fluorescent lighting fitted Yes If so, state nominal lamp voltage 115 V and compartments where lamps are fitted ma-
 noeuvring platform in engine room and boiler room, saloon, owner's day room and passage
 front saloon
 Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof
Yes

Searchlights, No. of two, whether fixed or portable fixed, 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 - 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 Yes 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

Lightning Conductors, where required are they fitted as per Rule Yes

Ships carrying Oil having a Flash Point of 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 Utsunomiya cello-lite Are the fittings for pump
 rooms, tween deck spaces, etc., in accordance with the special requirements for such ships Yes Are all cables lead covered as per Rule Yes

E.S.D., if fitted state maker Tokyo Keiki location of transmitter and receiver transmitter; bottom of fore part
receiver; chart room

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.	
			Kw. per Generator.	Volts.	Amperes.	Revs. per Min.	TYPE.	MAKER.
MAIN ...	2	Fujidenki Seizo K.K.	920	450	1,475	1,200	Turbine	Shinmitsubishi Jukogyo K.K., Kobe
EMERGENCY ROTARY TRANSFORMER	1	ditto	248	450	398	720	Diesel	Yanmmer K.K. Osaka

GENERATOR CABLES.

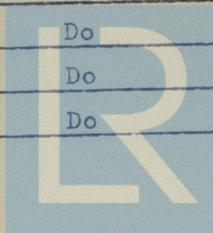
DESCRIPTION.	No. of	Kw.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead in feet).	INSULATION.	PROTECTIVE COVERING.
			No. in Parallel	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	2	920	6	400	1475	1,914	50	V	Steel Wire
" " EQUALISER									
EMERGENCY GENERATOR	1	248	2	300	398	534	43	V	Steel Wire
ROTARY TRANSFORMER: MOTOR									
" " GENERATOR									

MAIN DISTRIBUTION CABLES (to Auxiliary Switchboards, etc.).

DESCRIPTION.	No. of	Kw.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead in feet).	INSULATION.	PROTECTIVE COVERING.
To Emergency Switch Board from Main S.B.	3		300	398	66	V	Steel Wire
To Auxiliary Switch Board (ditto)	1		210	120	460	"	Bronze Wire
To Main Switch Board (from Emerg. S.B.)	2		300	335	66	"	Steel Wire
To Auxiliary Switch Board (ditto)	1		600	462	430	"	Bronze Wire

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Description	No. in para. per pole	Sectional area	Maximum current in Amp		Rule	Appro. length	Insulation	Protective covering
			In the circuit	C.M.				
Lighting distribution box "LD-10"	1	X10 ³ C.M. 20	29	44	✓	16.5	Rubber	Steel wire
Ditto "LD-11"	1	Do 33	28.5	70	✓	79.2	Varnished cambric	Ditto
Ditto "ELD- 1"	1	Do 16	29	39	✓	92.4	Rubber	Ditto
Ditto "ELD- 2"	1	Do 16	20.8	39	✓	36.3	Do	Ditto
Ditto "ELD- 3"	1	Do 20	28.6	44	✓	46.2	Do	Ditto
Ditto "ELD- 4"	1	Do 20	19	44	✓	33	Do	Ditto
Ditto "ELD- 5"	1	Do 20	35.8	44	✓	49.5	Do	Ditto
I.C. distribution box "CD- 1"	1	Do 16	9	39	✓	92.4	Do	Ditto
Ditto "CD- 2"	1	Do 20	37.6	44	✓	42.9	Do	Ditto
Ditto "CD- 3"	1	Do 26	12	49	✓	132	Do	Ditto
Navigation lights indicator	1	Do 20	1.56	49	✓		Do	Bronze wire

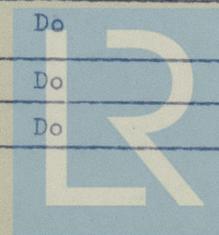


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ALL IMPORTANT MOTORS ENUMERATED	NO.	B.H.P.	No. in para. per pole	Sectional area	Maximum current in Amp			Appro. length	Insulat- ion	Protective covering
					In the circuit	Rule				
Grinder	1	1	1	Do 4	1.8	✓ 13	23	Rubber	Steel wire	
Ref. machine for air conditioner	1	60	1	Do 66	75	✓ 106	132	Varnished cambric	Ditto	
Ditto	1	30	1	Do 33	39	✓ 57	66	Rubber	Ditto	
Thermostat fan for cir. cond.	3	15/4.4	1	Do 10	20	✓ 29	No.1: 33 No.2: 49 No.3: 49	Do	Ditto	
Cooling water P. for air cond.	1	20	1	Do 16	26	✓ 39	69	Do	Ditto	
Galley and store vent. fan	2	3	1	Do 4	4.5	✓ 13	Süp. 132 Exh. 132	Do	Ditto	
Galley burner fan	2	1	1	4	3.5	✓ 13	No.1: 76 No.2: 82	Do	Ditto	
Electric mixer	1	1	1	Do 4	3.5	✓ 13	73	Do	Ditto	
Potato peeler	1	1/2	1	Do 4	2	✓ 13	53	Do	Ditto	



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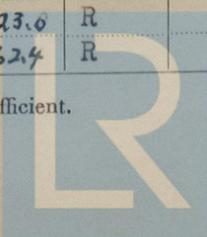
DISTRIBUTION CABLES (to Section-Boards and Distribution-Fuse-Boards, etc.).

DESCRIPTION.		CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (Lead 100 feet).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area of Strands	In the Circuit.	Rate.			
Power Distribution Box	"PD-1"	1	x10 ³³	49.8	70	39.6	V	Steel Wire
ditto	"PD-2"	1	" 66	88.05	106	89	V	ditto
ditto	"PD-3"	1	" 133	136.45	163	79	V	ditto
ditto	"PD-4"	1	" 66	80.85	106	86	V	ditto
ditto	"PD-5"	1	" 66	88.3	106	109	V	ditto
ditto	"PD-6"	1	" 66	71.1	106	109	V	ditto
ditto	"PD-7"	1	" 106	115.7	142	241	V	ditto
ditto	"PD-8"	1	" 41	29.8	80	33	V	ditto
ditto	"EPD-1"	1	" 33	49.8	70	39.6	V	ditto
ditto	"EPD-2"	1	" 66	98.7	106	89	V	ditto
ditto	"EPD-3"	1	" 66	83.85	106	79	V	ditto
ditto	"EPD-4"	1	" 66	81.05	106	86	V	ditto
Heating Distrubution Box	"SPD-1"	1	" 33	45.2	57	49.5	R	ditto
ditto	"SPD-2"	1	" 106	30.9	142	241	V	ditto
ditto	"SPD-3"	1	" 106	30.2	142	53	V	ditto
ditto	"SPD-4"	1	" 16	22.6	39	39.6	R	ditto
Lighting Section Box	"LS-1"	1	" 168	150	187	73	V	ditto
ditto	"LS-2"	1	" 66	96.5	106	59.4	V	ditto
ditto	"ELS-1"	1	" 41	44	80	82.5	V	ditto
Lighting Distribution Box	"LD-1"	1	" 20	24.4	44	92.5	R	ditto
ditto	"LD-2"	1	" 10	15.7	29	62.7	R	ditto
ditto	"LD-3"	1	" 20	28	44	59.4	R	ditto
ditto	"LD-4"	1	" 52	17.8	92	304	V	Bronze Wire
ditto	"LD-5"	1	" 26	32	49	46.2	R	ditto
ditto	"LD-6"	1	" 26	29.4	49	62.7	R	ditto
ditto	"LD-7"	1	" 33	33.6	57	79.2	R	ditto
ditto	"LD-8"	1	" 41	33	66	95.7	R	ditto
ditto	"LD-9"	1	" 16	27.7	39	42.9	R	ditto

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
Main Circulating Pump	2	135/70	2	83	180/165	244	72.2	V	Steel Wire
Aux. Circulating Pump	2	25	1	20	32	44	138.0	R	ditto
ditto	1	50	1	41	62	80	113.0	V	ditto
Main condensate pump	2	45	1	33	52	70	72.3	V	ditto
Aux. condensate pump	2	15	1	10	20	29	59.0	V	ditto
Lubricating oil pump	2	45	1	33	53.8	70	62.4	R	ditto
Forced draft fan	2	200/90	2	133	232/120	326	95.0	V	ditto
Fuel oil service pump	2	20/10	1	16	26/14	61	124.6	V	ditto
Cold start fuel oil service pump	1	1.5	1	6	2	23	78.8	R	ditto
Aux. feed pump	1	15	1	10	19	29	200.0	R	ditto
Atmospheric drain pump	2	25	1	20	30.5	44	174.0	R	ditto
Fire and bilge pump	1	60	1	66	75	106	79.0	V	ditto
Bilge pump	1	3	1	4	4.2	13	79.0	R	ditto
Sanitary pump	2	7.5	1	6	11	21	59.0	R	ditto
Fresh water pump	2	4	1	4	5.5	13	164.0	R	ditto
Air compressor for ship Service	2	40	1	33	52	70	161.0	R	ditto
Air compressor for A.C.C. vice	2	15	1	10	20	29	89.0	V	ditto
Lub oil purifier	2	3.5	1	4	5.5	12	102.0	R	ditto
Sea water service pump	2	7.5	1	6	11	21	157.5	R	ditto
Evaporator distilling pump	2	2	1	4	2.65	13	167.5	R	ditto
Evaporator brine pump	2	2	1	4	2.65	13	137.0	R	ditto
Gland exhaust fan	1	1	1	4	1.8	13	77.0	R	ditto
Engine room vent. fan	4	6	1	6	9	21	89.0	R	ditto
Boiler room vent. fan	2	6	1	6	9	21	123.0	R	ditto
ditto	2	7.5	1	6	11	23	103.0	V	ditto
Steering Gear	2	85	1	168	140	187	92.0	V	ditto
Pump room vent. fan	1	10	1	6	14	21	95.0	R	ditto
Ref. Machine (provision)	2	10/5	1	20	14/7.5	44	69.0	R	ditto
Ref. cooling water pump	2	2	1	4	3.5	13	108	R	ditto
Hot fresh water cir. pump	2	1	1	4	1.45	13	223.207	R	ditto
Fresh water pump for midship	1	3	1	4	4	13	190.213	R	ditto
DRINKING WATER PUMP FOR AFTER GENERATOR.	1	3	1	4	4.0	13	302.0	R	ditto
COOLING WATER PUMP FOR EMERGENCY GENERATOR	1	3	1	4	7.5	13	246.0	R	ditto
Turning gear	1	15/7.5	1	16	29/26	39	230.0	R	ditto
Universal machine	1	5	1	4	6.4	13	254.0	R	ditto
Drilling machine	1	3	1	4	3.8	13	295.0	R	ditto

NOTE.—Use Rpt. 13 Continuation Sheet if the above space is insufficient.



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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.

for *M. Nagata* Electrical Contractors. Date December, 1959
 General Manager
 Sasebo Ship Industry Co., Ltd.

COMPASSES.

Have the compasses been adjusted under working conditions Yes

for *M. Nagata* Builder's Signature. Date December, 1959
 General Manager
 Sasebo Ship Industry 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 July 11, Aug. 3, 10, 18, Sep. 11, 16, 23.

Certificates. Are certificates of test for motors engaged on essential sea services and generators forwarded herewith Yes

General Remarks. (State quality of workmanship and materials, opinions as to class, etc.)

The electrical installation fitted in this vessel has been installed under supervision of the surveyors in accordance with the approved plans and the Society's letters & tested on board under working condition and found satisfactory. The workmanship is good.

The Surveyors are requested not to write on or below the space for Committee Minute.

Total Capacity of Generators ~~1,840~~ 2088 Kilowatts.

22.2.60

The amount of Fee ... £ : : When applied for, 19
 ¥ 306,300 }
 Travelling Expenses (if any) £ : : When received, 19

W. Murray & A. Inai Young
 Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRIDAY 25 MAR 1960

Assigned See Rpt. 1.