

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

14 MAY 1956

Received at London Office

Date of writing Report 19 When handed in at Local Office 19 Port of Kobe

No. in Survey held at Inosshima, Japan Date, First Survey 20 July 1955 Last Survey 23 Feb 1956

Reg. Book. (No. of Visits 16)

on the Steel Single Screw Steamer ALEXANDRA I

Built at Inosshima, Japan By whom built Inosshima Shipyard Yard No. 3752 When built 2 Mo. 1956

Owners: Liberian Transocean Navigation Corporation Port belonging to Monrovia

Installation fitted by Hitachi Shipbuilding Engineering Co. Ltd Inosshima Shipyard When fitted 2 Mo. 1956

Is vessel equipped for carrying Petroleum in bulk Yes Is vessel equipped with D.F. Yes E.S.D. Yes G.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 115

Cooking Heating 220 Power 440 D.C. or A.C., Lighting A.C. Power A.C. If A.C. state frequency 50

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 —, 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 during manufacture 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 All in machinery space aft of main on 3rd deck

Main generators - one each port & starboard sides Auxiliary generator - at centre

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 in machinery space, Starboard side on 3rd deck

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 Phenol-resin bonded plate, 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 Not fitted 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 A triple insulated pole linked air circuit breaker with an instantaneous over current relay in each phase and inverse over current relay in two phases

and the switch and fuse gear (or circuit breakers) for each outgoing circuit A triple insulated pole linked no fuse breaker with over current relay in each phase

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 12

ammeters 9 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 4 sets of metallic filament lamps, one for power circuit and the remainder for lighting circuit

Preference Tripping, state if provided Yes, and tested Yes

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

make of fuses Kawasaki Dockyard Co. Ltd. 2.5 K are all fuses labelled Yes If circuit breakers are provided for the generators, at what overload do they operate 25 % 11 sec, and at what current do the reverse current protective devices operate 25 A.W.

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 10 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 Varnished cambric insulated Varnished cambric insulated Lead sheathed and steel armoured galleys Lead sheathed and metal braided

and laundries Rubber insulated, lead sheathed State how the cables are supported or protected All cable secured by metal clip on galvanized perforated steel plate in machy space Cables on the deck are laid in galvanized steel trunk on galvanized 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

Have refrigeration fan motors been constructed under survey No and test certificates supplied Yes

Are the motors accessible for maintenance at all times 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

Not equipped

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 2 sets - 24V. 60A.H. 1 set - 24V. 120A.H. Where required to do so does it comply with 1948 International Convention. Yes

Lighting, is fluorescent lighting fitted. Yes If so, state nominal lamp voltage. 115V and compartments where lamps are fitted.

Accommodation, alleys and part of machinery space

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof. Yes

1 for Suez Canal

Searchlights, No. of for Gen. Use, 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. Not fitted 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

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 Kanazaki Dockyard Co. Ltd. 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. MARCONI location of transmitter and receiver FWD in eng. room (Ret. F. No. 5 and 52)

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.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN	2	Hitachi Ltd.	650 KW	450	834	1500	St. Turbine	Hitachi Ltd.
Auxiliary EMERGENCY ROTARY TRANSFORMER	1	Hitachi Ltd.	125 KW	460	160	1000	Diesel Eng.	Daihatsu Kogyo K.K.

#### GENERATOR CABLES.

DESCRIPTION.	No. of	Kw.	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	2	650 KW	4	37/0093	803	✓ 924	21K25	Varnished Cambric	Lead sheathed and metal braided
" " EQUALISER									
Aux. EMERGENCY GENERATOR	1	125 KW	1	27/0072	160	✓ 166	20	Varnished Cambric	Lead sheathed and metal braided
ROTARY TRANSFORMER MOTOR GENERATOR									

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

DESCRIPTION.									
M.S.B. to Power Section Box P14 (Evaporator pumps)	1(3C)	7/0.036	5.6	✓ 19	35	✓	V.C.	Lead sheathed and metal braided	
" " " " P16 (L.O. Purifiers)	"	"	8	✓ 11	9	✓	"	"	
" " " " P17 (Vent Fans)	"	19/0.064	73	✓ 91	15	✓	"	"	
" " " " P30 (Pump room Fans)	"	7/0.036	132	✓ 19	24	✓	"	"	
" " " " P32 (Wash. Bilge & Sanit. Pumps)	"	7/0.052	242	✓ 38	23	✓	"	"	
" " " " P33 (Eng. room Water Pumps)	"	7/0.036	5.2	✓ 19	28	✓	"	"	
" " " " P35 (Ref. machines)	"	7/0.052	28	✓ 38	42	✓	"	"	
" " " " P36 (Thermo tank Fans)	"	"	21	✓ 38	42	✓	"	"	
" " " " P8 (S.W. Service Pumps)	"	7/0.036	12	✓ 19	36	✓	"	"	
" " " " P46 (Spare)	1(2C)	7/0.036	10.2	✓ 27	24	✓	"	"	
" " " " P43 (Mess room & Laundry Machine)	1(3C)	7/0.064	39	✓ 51	23	✓	"	"	
M.S.B. to Forward Switch Board	1(3C)	19/0.052	44.3	✓ 70	125	✓	"	"	
" " " " 15 KVA Trans.	1(3C)	"	59	✓ 70	30	✓	"	"	

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

DESCRIPTION.	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
			In the Circuit.	Rule.			
M.S.B. to Lighting Distribution Box L1 (Eng. & Boiler Room)	1(3C)	19/0.052	5.6	✓ 70	13	✓	V.C. Lead sheathed & metal braided
M.S.B. to Lighting Dist. Box L2 (General Lamp)	"	19/0.064	60.2	✓ 91	23	✓	"
L2 to Lighting Dist. Box Lc (Peep D.K.)	"	7/0.044	20.4	✓ 22	23	✓	Rubber
" " " " Box Wc (Boat D.K. & Peep D.K.)	"	"	14.4	✓	23	✓	"
" " " " Box Ld (App. D.K. Sta.)	"	7/0.036	14.4	✓ 19	29	✓	V.C.
" " " " Box Ed (Peep D.K.) Le (App. D.K. Port)	"	"	11	✓	36	✓	"
" " " " Box Ed (Peep D.K.)	"	"	9.05	✓	30	✓	"
" " " " Box Ee (App. D.K. Emergency Light)	"	"	4.1	✓	40	✓	"
M.S.B. to Lighting Dist. Box Ee (Eng. & R. Emergency Light)	"	"	15	✓	13	✓	"
F.W.S.B. to Lighting Dist. Box Ea (Comp. & Nav. Bridge)	"	7/0.029	11.6	✓ 15	15	✓	Rubber
" " " " Box Wa (Nav. Bridge)	"	7/0.036	5	✓ 19	15	✓	"
" " " " Box La (Bridge D.K.)	"	7/0.029	8.4	✓ 15	5	✓	"
" " " " Box Lb (Bridge D.K.)	"	"	6.5	✓	14	✓	"
" " " " Box Wb (Cargo Lamp)	"	7/0.036	15	✓ 19	14	✓	"
" " " " Box Eb (Bridge D.K. Emergency Light)	"	7/0.029	8.05	✓ 15	15	✓	"
" " " " Box EeI (Under Bridge Explos. proof lamp)	"	7/0.025	9	✓ 26	14	✓	"
" " " " Box EeII (Fwd Lamp)	"	"	11	✓	9.4	✓	"
F.W.S.B. to Nav. Light	1(2C)	7/0.029	1.74	✓ 15	15	✓	"
" " Wireless Tele	1(3C)	7/0.052	20	✓ 25	20	✓	"
" " Gyro Compass	1(2C)	"	8	✓	20	✓	"
" " Radar	"	"	"	✓	15	✓	"
" " Search Light	"	7/0.029	8.7	✓ 15	15	✓	"
" " Day Light Signal Light	"	"	"	✓	15	✓	"
" " Suez Projector	"	7/0.064	26	✓ 80	125	✓	V.C.

#### MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.		No.	B.H.P.						
Ship's service air pump	1	35	1(3C)	7/0.064	42	✓ 51	40	✓	V.C. Lead sheathed & metal braided
Main condensate pump	2	35	"	"	"	✓	22	✓	"
Main circulating pump	2	75/50	"	19/0.083	90/65	✓ 128	27/28	✓	"
Atm. cond. circ. pump	1	50	"	19/0.052	60	✓ 70	32	✓	"
F.O. transfer pump	1	25	"	7/0.052	31	✓ 38	32	✓	"
Fire & G.S. pump	1	75	"	19/0.083	88	✓ 128	11	✓	"
Bilge & ballast pump	1	25	"	7/0.052	30	✓ 38	18	✓	"
Vent fan (supply)	4	12/6	"	7/0.036	15/9.8	✓ 19	20/35	✓	"
" " (Exh.)	2	5/2.5	"	"	6.5/7	✓ 19	15/30	✓	"
Drain transfer pump	2	20	"	7/0.052	23	✓ 38	29	✓	"
L.O. service pump	2	40	"	19/0.052	48	✓ 70	29	✓	"
Steering motor	2	35	"	7/0.064	42	✓ 51	50/61	✓	"
Aux. circ. pump	2	24/13	"	7/0.052	26/17	✓ 38	28	✓	"
Aux. condensate pump	2	7.5	"	7/0.036	9.2	✓ 19	23/25	✓	"
F.O. service pump	2	24/10	"	7/0.052	24/16	✓ 38	33	✓	"
Boiler forced draft fan	2	130/35	"	37/0.072	154/102	✓ 166	42	✓	"
Bilge pump	1	5	"	7/0.036	6	✓ 19	18	✓	"
Sanitary Pump	1	5	"	"	6.2	✓	17	✓	"
Ref. machine	2	10	"	"	12.5	✓	15	✓	"
Control system air comp.	1	7.5	"	"	10	✓	50	✓	"
S.W. service pump	1	10	"	"	12	✓	9	✓	"

NOTE.—Use Rpt. 43 Continuation Sheet if the above space is insufficient.



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.

H. Miyatake H. MIYATAKE  
Chief of Electric Engineering Section.  
Hitachi Shipbuilding & Engr. Co., Ltd. Innoshima Shipyard.

Electrical Contractors.

Date 12 April 1956

#### COMPASSES.

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

Yes

S. Akamatsu Builder's Signature. Date 12 April 1956  
S. Akamatsu, Director Yard-Manager, Hitachi Shipbuilding & Engr., Co., Ltd., Innoshima Shipyard.

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.....

—

If not, state date of approval.....

Kob

31-10-55

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 of this vessel has been constructed under Special Survey in accordance with the Rules, Approved plans and Secretary's letter.

The material and workmanship are satisfactory.

The generators and motors etc., have been examined under full loading condition to Rules requirements and found satisfactory.

Total Capacity of Generators 1425 KVA Kilowatts.

The amount of Fee £ 247,800 APR 14 1956 When received for,

aka

80,700

18,000

£ 246,500

When received,

Travelling Expenses (if any) £

:

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Mr. Lamakua  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUESDAY 12 JUN 1956

Assigned

See Rpt. 4a.



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