

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report MAY - 7, 1958 19 When handed in at Local Office MAY 23, 1958 19 Port of KobeNo. in Survey held at Kobe, Japan Date, First Survey 10th Oct., 1957 Last Survey 13th May, 58.Reg. Book. (No. of Visits 15)on the M.V. "FENIX" Tons Gross 2,431Built at Kobe, Japan By whom built Mitsubishi H.I., Reorganized, Ltd., Kobe Shipyard & Engine Works Yard No. 883 When built 1958-5Owners Phoenix Compania De Navegacion S.A. Port belonging to MonroviaInstallation fitted by Mitsubishi Heavy Ind., Reorganized, Ltd., Kobe Shipyard & Engine Works When fitted 1958-5Is 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 YesPlans, have they been submitted and approved Yes System of Distribution 2-Wire insulated Voltage of Lighting 220Heating 220 Power 220 D.C. or A.C., Lighting D.C. Power D.C. If A.C. state frequency -Prime Movers, has the governing been found as per Rule when full load is thrown on and off Yes Are turbine emergency governors fittedwith a trip switch - Generators, are they compound wound Yes, and level compounded under working conditions YesAre the generators arranged to run in parallel Yes Is the compound winding connected to the negative or positive pole negativeHave machines 100 kw. and over been inspected by the Surveyors during manufacture and testing Yes Have certificates of test for machinesunder 100 kw. been supplied and the results found as per Rule Yes Position of Generators Built seat on tank top

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 anddamage from water, steam and oil Yes Switchboards, where are main switchboards placed Forward Centre floor 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 Phenolic resin bonded board, if of synthetic insulatingmaterial is it an Approved Type Yes, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom asper 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 3 poles air circuit breaker with over current of time delay and

instantaneous, under voltage and reverse current of instantaneous trip relays.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit Piston Cooling & L.O. Pump and Winch Panels:-2 poles air circuit breakers with over load trip relay, O.F. Pumps, Bilge & Ballast Pump, Fire & G.S. Pump andSteering Gear Panels:- 2 Poles No-fuse thermal trip breakers, Others:- 2 poles knife switch with fuse.Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 4ammeters 3 voltmeters - synchronising devices For compound machines in parallel are the ammeters and reverse currentprotection devices connected on the pole opposite to the equaliser connection Yes Earth Testing, state means provided 2 earthindicating lamps with metal filament 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 YesKawasaki Dockyard Co., Ltd., make of fuses "SK" Type, are all fuses labelled Yes If circuit breakers are provided for the generators, at whatoverload do they operate 150% 20 sec. and 300% instant., and at what current do the reverse current protective-devices operate 13% of rated current (125 amp.) Cables, are they insulated and protected as per Rule Yesif otherwise than as per Rule are they of an Approved Type -, state maximum fall of pressure between bus bars and any pointunder maximum load 11 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 Statetype of cables (if in conduit this should also be stated) in machinery spaces VHRC & RHRC, galleys RHRCand laundries RHRC State how the cables are supported or protected Clipped to hangers or steel tray,or direct to structural steel or woodwork - protected by sheet steel plate and tubing where necessary.Are all lead sheaths, armouring and conduits effectually bonded and earthed Yes Are all cables passing through decks and watertightbulkheads provided with deck tubes or watertight glands Yes, where unarmoured cables pass through beams, etc., are the holeseffectively bushed Yes Refrigerated chambers, are the cables and fittings as per Rule Ship use (not to class)Have refrigeration fan motors been constructed under survey None and test certificates supplied -Are the motors accessible for maintenance at all times -

Note:- 1) Maximum current for cargo winches is calculated by I. B. Table XXII, Class V.

2) Current marks *1 & *2 are for windlass, and mooring winch motor, respectively

Alternative Lighting	are the groups of lights in the engine and boiler rooms arranged as per Rule	Yes	Emergency Groups	1	11
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Navigation Lamps are they separately wired Yes controlled by separate double pole switches and fuses Yes

Secondary Batteries are they constructed, fitted and adequately ventilated as per Rule Yes state better

Lighting is fluorescent lighting fitted None If so, state nominal lamp voltage - and compartments where lamps are fitted -

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

Heating and Cooling is the general construction as per Rule Yes are the frames effectually earthed Yes are heaters in the

compartments in which inflammable gases cannot accumulate and protected from damage from water steam and oil	Yes
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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

Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found 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

rooms, 'tween deck spaces, etc. in accordance with the special requirements for such ships = Are all cables lead covered as per Rule =

Spore Gear if the vessel is for open sea service have spares been provided as per Rule and suitably stored in dry situations Yes

PARTICULARS OF GENERATING PLANT

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DESCRIPTION OF GENERATOR.	No. of	MAKER.	RATED AT				PRIME MOVER.	
			Kw. per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN	3	Mitsubishi Electric Mfg. Co., Ltd., Kobe Works	220	230	957	450	JB5 type	Mitsubishi Heavy Ind., Ltd., Kobe S.Y. & E. Works
Motor- Generator	2	Nishishiba Denki K. K.	6KVA(G) 8.5HP(M)	115 220	52.2 34	1800		
EMERGENCY								
ROTARY TRANSFORMER								

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. XXXXXX	In the Circuit.	Rule.			
MAIN GENERATOR	3	220	4	0.25	957	✓ 251x4	No. 1 72	V	HR C
" " EQUALISER			3	"	-	✓ 251x3	No. 2 92	"	" "
FIELD			1	0.007	34	✓ 27	No. 3 144	"	" "
Motor-Generator for Radar, Echo sounder etc.			1 (M)	0.01	34	✓ 41	78	"	" "
			1 (G)	0.03	52.2	✓ 72	66	(R) ✓	" "
EMERGENCY GENERATOR					V	Varnished Cambric Insulated Cable			
ROTARY TRANSFORMER: MOTOR					R	Vulcanised Rubber Insulated Cable			
" " GENERATOR					HR	Polychloroplene Sheathed Cable			
					C	Armored Cable			

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

[illegible]

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

DESCRIPTION.		No. in Parallel per Pole.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.	
			No. and Dia. of Strands	Sectional Area or Sq. Ins. 100% D.C.					
F. O. Panel	(F1)	1		0.06	about 106 ✓	100	170	V	HR C
L. O. Panel	(F2)	1		0.007	26.7 ✓	27	153	"	" "
Boiler Panel	(F3)	1		0.06	88.7 ✓	100	118	"	" "
Ref. Machine Panel	(F4)	1		"	" ✓	"	110	"	" "
Cabin Light Section Box		1		0.04	76.23 ✓	77	215	"	" "
Battery Light		1		0.0225	43.6 ✓	61	98	"	" "
Upper Cooling Panel	(H1)	1		0.04	46.6 ✓	77	240	"	" "
Lower " "	(H2)	1		"	77.34 ✓	"	260	"	" "
Front Winch Panel	(M1)	2		0.15	304*1 ✓	178 x 2	330	"	" "
Fore " "	(M2)	2		0.25	304*1 ✓	251 x 2	755	"	" "
Aft " "	(M3)	2		0.15	305*2 ✓	178 x 2	800	"	" "
A.C. 100V Interior Communication Panel (I3)		1		0.0145	22 ✓	48	130	"	" "
D.C. 220V " " (I1)		1		0.0045	3 ✓	15	130	R	" "
D.C. 22V " " (I2)		1		0.007	10 ✓	31	130	V	" "
Boat Deck Light & Fan	(D2)	1		0.0045	13.5 ✓	15	98	R	" "
Bridge Deck Light & Fan	(D3)	1		0.01	29.3 ✓	36	135	V	" "
Upper Deck Light & Fan (S.S.)	(D4)	1		0.007	12.3 ✓	24	118	R	" "
" " (P.S.)	(D5)	1		"	14.3 ✓	"	7	"	" "
F'cle Light	(D6)	1		0.003	4.18 ✓	10	650	"	" "
Poop Light	(D7)	1		"	2.95 ✓	"	530	"	" "
Front Cargo Light	(C1)	1		0.007	11.1 ✓	31	315	V	" "
Fore " "	(C2)	1		0.01	12.3 ✓	36	360	"	" "
Aft " "	(C3)	1		0.007	13.1 ✓	27	360	"	" "
Low Eng. Room Light	(E1)	1		0.01	17.4 ✓	36	48	"	" "
Upp. Eng. Room "	(E2)	1		"	20.1 ✓	"	45	"	" "
Upper Battery Light	(B1)	1		"	23.6 ✓	"	72	"	" "
Lower " "	(B2)	1		0.01	20.0 ✓	"	98	"	" "
Running Light & Navigation L.I.	(D1)	1		0.007	21.2 ✓	27	280	"	" "

MOTOR CABLES

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.							
Steering Gear	2	17	1	0.04	68 ✓ 77	620	V	HR	C
Sea Water Circulat. Pump	"	42/25	1	0.15	160 ✓ 178	165	"	"	"
Jacket Cooling F.W. Pump	"	30/25	1	0.1	115 ✓ 141	165	"	"	"
Fuel Valve Cool. F.W. Pump	"	3/2.67	1	0.007	12 ✓ 17	125	R	"	"
Sea Water Cir. P. for Dynamo	1	5	1	"	20 ✓ 27	164	V	"	"
Piston Cool. & L.O. Pump	2	80/66.7	2	0.15	300 ✓ 178x2	145	"	"	"
F. O. Transfer Pump	1	23	1	0.06	90 ✓ 100	195	"	"	"
F. O. Booster Pump	2	3/2.5	1	0.007	13 ✓ 17	110	R	"	"
F. O. Combined Pump	2	4	1	"	16.5 ✓ 17	112	"	"	"
F. O. Service Pump	1	2	1	0.0045	8.5 ✓ 11	72	"	"	"
F. O. Purifier (or Clarifier)	4	2	1	"	9 ✓ 11	86	"	"	"
Exh. Fan for Purifier Space	1	1/2	1	0.003	2.5 ✓ 7	177	"	"	"
L. O. Service Pump	1	2	1	0.0045	8.5 ✓ 11	100	"	"	"
L. O. Purifier	2	2	1	"	9.1 ✓ 11	40	"	"	"
Eng. Room Vent. Fan	2	4	1	0.007	16.8 ✓ 27	330	V	"	"
Forced Draft Fan for Boiler	1	1 1/2	1	0.0045	6.8 ✓ 11	80	R	"	"
F. O. Burning Pump	2	1/2	1	0.003	2.3 ✓ 7	110	"	"	"
Feed Water Pump	2	6	1	0.007	25 ✓ 27	160	V	"	"
Fire & G.S. Pump	1	45	1	0.15	174 ✓ 178	125	"	"	"
Bilge & Ballast Pump	1	"	1	"	" ✓ "	140	"	"	"
Bilge Pump	1	5	1	0.007	20 ✓ 27	170	"	"	"
Fresh Water Pump	2	3	1	"	12.5 ✓ 17	185	R	"	"
Sanitary Pump	2	5	1	"	20.5 ✓ 27	185	V	"	"
Main Engine Turning Gear	1	12	1	0.0225	49 ✓ 53	200	"	"	"
Overhauling Crane	1	5	1	0.007	21 ✓ 27	195	"	"	"
Ref. Compressor for Prov.	2	7 1/2	1	0.01	30.4 ✓ 36	50	"	"	"
Ref. Cooling Pump for Prov.	1	2	1	0.0045	9.5 ✓ 11	130	R	"	"
Exh. Fan for Galley & Prov. Store	1	2	1	0.0045	8.9 ✓ 15	100	"	"	"
Windlass	1	80	1	0.25	304 ✓ 315	280	V	"	"
Cargo Winch	12	43	1	0.1	170 ✓ 190	60	"	"	"
Mooring Winch	1	53	1	0.15	205 ✓ 216	260	"	"	"
Thermo Tank Fan (No.1)	1	6	1	0.007	24.8 ✓ 31	98	"	"	"
" " " (No.2)	1	3	1	0.0045	13.5 ✓ 15	115	R	"	"

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

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Lloyd's Register
Foundation

013075-013081-0045^{2/3}

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.

K. Ogata
KOBE SHIPYARD & ENGINE WORKS,
MITSUBISHI HEAVY-INDUSTRIES, REORGANIZED, LIMITED

Electrical Contractors.

Date

COMPASSES.

Have the compasses been adjusted under working conditions. Yes

K. Ogata
KOBE SHIPYARD & ENGINE WORKS,
MITSUBISHI HEAVY-INDUSTRIES, REORGANIZED, LIMITED

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. No. If so, state name of vessel. M.V. "DDA"

Plans. Are approved plans forwarded herewith. No. If not, state date of approval. 20-9-56, 16-1-58

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 on this ship has been installed under supervision of the Surveyors in accordance with the Society's Rules, the approved plans and the Secretary's letters, tested on board under working condition and found satisfactory.

The materials and workmanship are sound and good.

Total Capacity of Generators. 660 Kilowatts.

3x220KW Generators ¥54,900.- to Mitsubishi Elect:Kobe 18/2/58.

The amount of Fee ... £¥215,900:- When applied for,

19

When received,

19

Travelling Expenses (if any) £ See Rpt. 1

Peter Manson & S. Matsumoto

Surveyor to Lloyd's Register of Shipping.

P. Manson & S. Matsumoto

FRIDAY 18 JUL 1958

Committee's Minute

Assigned

See Rpt. 1.