

Rpt. 13.

No. 5033.

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

3-FEB 1954

Date of writing Report 27th May 1953 When handed in at Local Office 19 Port of NAPLES

No. in Survey held at Castellammare & Naples Date, First Survey 17th July 1950 Last Survey 4th Sept. 1953
Reg. Book. (No. of Visits 10)

on the Twin Screw M/V "SHAKTI"

Tons { Gross 2788
Net 1445

Built at Castellammare By whom built NAVALMECCANICA Yard No. 590 When built

Owners The Government of India. Port belonging to

Installation fitted by Navalmeccanica Cantiere di Castellammare. When fitted 1950

Is vessel equipped for carrying Petroleum in bulk yes Is vessel equipped with D.F. No E.S.D. No Gy.C. No Sub.Sig. No Radar No

Plans, have they been submitted and approved yes System of Distribution two wires Voltage of Lighting 110 V.

Heating Power 110 V D.C. none, Lighting 110 V. Power 110 V; If A.C. state frequency =

Prime Movers, has the governing been found as per Rule when full load is thrown on and off Are turbine emergency governors fitted with a trip switch = Generators, are they compound wound yes, and level compounded under working conditions =

Are the generators arranged to run in parallel no Is the compound winding connected to the negative or positive pole negative

Have machines 100 kw. and over been inspected by the Surveyors during manufacture and testing = Have certificates of test for machines under 100 kw. been supplied and the results found as per Rule. Position of Generators 1 60 Kw in E.R. aft port, 1 24 Kw in E.R. aft Stbd., 1 24 Kw (Emergency) on poop deck.

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 on platform in E.R. port side after. The emergency switchboard near the emergency generator in poop deck casing.

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 mycanite, if of synthetic insulating

material is it an Approved Type =, 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 emergency switchboards~~ a double pole circuit breaker with overload trip for each generator.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit double pole circuit breaker or double pole switch and fuses.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule. yes Instruments on main switchboard 15 ammeters 2 voltmeters 1 Ohmmeter On Emerg. switchboard 10 ammeters, 1 voltmeter 1 Ohmmtr. protection devices connected on the pole opposite to the equaliser connection = Earth Testing, state means provided Ohmmeter

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 FER & DIAZED

make of fuses. Fabbriche Elettrotec. Riunite. (FER) are all fuses labelled yes If circuit breakers are provided for the generators, at what overload do they operate 10% and at what current do the reverse current protective devices operate =

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 3 volts. Are all paper insulated and varnished cambric insulated cables sealed at the ends =

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 no, if so, are they adequately protected = State

type of cables (if in conduit this should also be stated) in machinery spaces lead covered & arm. galleys = and laundries = State how the cables are supported or protected with galvanized clips to perforated galvanized plates, and in conduit (galvanized steel pipes) along the gangways.

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 motors been constructed under survey = and test certificates supplied =

Are the motors accessible for maintenance at all times =



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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 fore and aft on the poop deck casing.

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 40 Where required to do so does it comply with 1948 International Convention. yes

Lighting, is fluorescent lighting fitted. no 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, weatherproof. yes

Searchlights, No. of 1 whether fixed or portable. portable, 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. = 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. =

Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found as per Rule. not supplied

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. DIAZED 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. not fitted Location of transmitter and receiver. =

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.	Amps.	Revs. per Min.	TYPE.	MAKER.
MAIN	1	C.R.D.A. Type C.180	60	110	545	470	Diesel	Q.I.4 c.l. FRANCO TOSI
MAIN	1	C.R.D.A. Type C.150	24	110	220	400	Diesel	Q.I.2 c.l. LEGNANO
EMERGENCY ROTARY TRANSFORMER	1	C.R.D.A. Type C.150	24	110	220	400	Diesel	Q.I.2 c.l.

GENERATOR CABLES.

DESCRIPTION.	No. of	Kw.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return) mts.	INSULATION.	PROTECTIVE COVERING.	
			No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands sq. mm.	In the Circuit.	Rule.				
MAIN GENERATOR	1	60	2	1 x 480	545	550	16	Vulcaniz.	Lead & Steel	
"	1	24	1	1 x 200	220	240	20	Rubber.	Lead & Steel	
EMERGENCY GENERATOR	1	24	1	1 x 200	220	240	8	"	"	"
ROTARY TRANSFORMER: MOTOR										
"										

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

DESCRIPTION.	No. of	Kw.	Sectional Area or No. and Dia. of Strands sq. mm.	In the Circuit.	Rule.	INSULATION.	PROTECTIVE COVERING.
Main & Emergency switchboards conn.	1	1 x 300	300		60	Vulc.	Lead & Steel.
Air compressor 1	1	100	147	155	60	Rubber	
Air compressor 2	1	100	147	155	60	"	"
Gen. Serv. pump.	1	160	200	205	50	"	"
Shore connection.	1	180			60	"	"
Cooling water pump.	1	160	200	205	70	"	"
Turning gears.	1	40	72	75	70	"	"
Lub oil pump.	1	80	130	132	60	"	"
Kitchen.	1	20	50	53	55	"	"
Oil & Fuel Depurators.	1	20	47	53	60	"	"
Sanitary, FW and fuel pumps.	1	25	45	60	40	"	"
Fuel transfer pump.	1	25	55	60	70	"	"

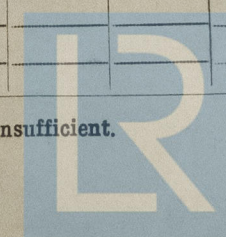
DISTRIBUTION CABLES (to Section-Boards and Distribution-Fuse-Boards, etc.).

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return) mts.	INSULATION.	PROTECTIVE COVERING.	
	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands sq. mm.	In the Circuit.	Rule.				
Wireless	1	20	25	53	140	Vulcan.	Lead & Steel.	
Navigation Lights.	1	2.5	2	12	140	Rubber	"	"
Light centre	1	16	40	46	100	"	"	"
" forward.	1	6.3	10	31	160	"	"	"
" after.	1	25	60	62	50	"	"	"
Refrigerator.	1	40	66	85	40	"	"	"
Forward bilge & ballast pump.	1	200	100	245	180	"	"	"
Steering engine.	1	80	60	80	60	"	"	"
Electric Fans.	1	50	90	98	100	"	"	"
D. Boiler aux.	1	16	20	46	50	"	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	MOTOR FRAME.						
Lub oil pump.	1	18	1	160	136	210✓	60	Vulc. rubber	Lead & Steel.
Sanitary pump.	1	4	I	6.3	30	32✓	60		"
For'd bilge & ballast pump.	I	13	I	200	100	242✓	180		"
General Service Pump.	I	25	I	200	240	242✓	50		"
Cooling water pump.	I	23	I	160	200	210✓	70		"
Fuel transf. pump	I	7	I	25	55	62✓	70		"
Air compressor (1)	I	22	I	100	147	155✓	60		"
Air compressor (2)	I	22	I	100	147	155✓	60		"
F.W. pump. (Drinking)	I	I	I	2.5	8	13✓	40		"
F.W. pump.	I	I	I	2.5	8	13✓	40		"
Turning gear. (port)	I	9	I	32	70	72✓	70		"
Turning gear. (stbd)	I	9	I	32	70	72✓	70		"
Fuel pump to M.E.	I	1.5	I	4.5	13	24✓	40		"
Refrigerator.	I	8	I	50	68	96✓	40		"
Steering Engine.	I	10	I	80	78	138✓	60		"
" "	I	10	I	80	78	138✓	60		"
Fan	I	5	I	16	39	45✓	30		"
Depurator.	I	1.9	I	2.5	12	13✓	60		"
"	I	1.9	I	2.5	12	13✓	60		"
"	I	1.9	I	2.5	12	13✓	60		"

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



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The foregoing is a correct description.

Electrical Contractors.

Date.

COMPASSES.

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

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 REV If so, state name of vessel.

Plans. Are approved plans forwarded herewith yes. If not, state date of approval.

Certificates. Are certificates of test for motors engaged on essential sea services and generators forwarded herewith no.

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

The above installation has been fitted in accordance with the Rules and approved plans.

Materials and workmanship are good throughout.

I am of the opinion that this installation is worthy to be classed and included in the list

record LMC recommended for the machinery.

Total Capacity of Generators.....108.....✓.....Kilowatts.

The amount of Fee ...

Lib 148, 410.

When applied for,

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When received,

Travelling Expenses (if any)

FRIDAY 30 JUL 1954

Committee's Minute

Assigned.

G. Butler & H. L. Luffe, Stevenson

Surveyor to Lloyd's Register of Shipping.

A. Ausaldo & S^{on}

FRIDAY - 6 AUG 1954

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2m. 8 50.—Transfer. (MADE AND PRINTED IN ENGLAND.)