

REPORT ON ELECTRICAL EQUIPMENT

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 4-8-59 19... When handed in at Local Office... 19... Port of Naples

No. in Survey held at Castellammare Date, First Survey 7-12-58 Last Survey 8-7- 19 59
 Reg. Book (No. of Visits 19)

25038 on the mv "PALLADE" Tons { Gross 12647
 Net 6756

Built at Castellammare By whom built Navalmeccanica Yard No. 624 When built 1959

Owners S.p.A. di Navigazione "ERICE" Port belonging to Palermo

Installation fitted by Navalmeccanica S.p.A. Cant. Nav. Castellammare di Stabia When fitted 1959

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

Plans, have they been submitted and approved yes System of Distribution 2 wir insulated Voltage of Lighting 220

Heating — Power 220 D.C. or A.C. Lighting DC Power DC 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 fitted with a trip switch — Generators, are they compound wound yes, and level compounded under working conditions yes, Are the generators arranged to run in parallel yes 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 yes Have certificates of test for machines under 100 kw. been supplied and the results found as per Rule yes Position of Generators on raised flat at aft end of 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 at aft end of generator flat arranged athwartships adjacent to ER after bulkhead facing forward.

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 dead front metallic, 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 arrangement of equaliser switches electrically operated 3 pole air break circuit - breakers with o/c trips in + & -ve poles, time delay and r/c trips. Third pole used for equaliser.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit 2 pole circuit breakers with o/c trip in each pole.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes Instruments on main switchboard 15 ammeters 5 voltmeters 1 ohmmeter For compound machines in parallel are the ammeters and reverse current protection devices connected on the pole opposite to the equaliser connection yes Earth Testing, state means provided earth lamps thro' switches & fuses 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 Croci & Farinelli, are all fuses labelled yes If circuit breakers are provided for the generators, at what overload do they operate + 25%, and at what current do the reverse current protective devices operate 95 amps Cables, are they insulated and protected as per Rule yes, 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 3 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 VC & VIR, LC & A or B Galleys VC, LC & B and laundries — State how the cables are supported or protected Cables clipped to galvanised steel trays in machinery spaces & in ventilated & drained pipes on open decks. Cables in accomodation cleated to perforated steel trays and to wooden bulkheads.

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 (domestic)

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

Are the motors accessible for maintenance at all times —



Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule... **yes**... Emergency Supply, state position

Batteries in ventilated room on S side main deck in accomodation, aft.

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 at 40. 24V.** Where required to do so does it comply with 1948 International Convention... **-**

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... **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... **steel masts**

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... **-**, are all fuses of an Approved Cartridge Type... **-**, make of fuse... **-**. Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships... **-**. Are all cables lead covered as per Rule... **-**

E.S.D., if fitted state make... **Kelvin Hughes** location of transmitter and receiver... **Cofferdam in No3 DB tank P & S.**

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			TYPE	PRIME MOVER	
			Kw. per Generator	Volts	Ampères		Revs. per Min.	MAKER
MAIN	3	Ansaldo	200	230	870	375	Diesel	Ansaldo
	1	Ansaldo	50	230	218	400	Diesel	Ansaldo
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 or sq. mm.	In the Circuit	Rule			
MAIN GENERATOR	3	200	3	315	870	3x326	108	VIR	LC & B
" " EQUALISER	1	50	1	500	-	475	18	"	"
Equaliser	1		1	200	218	246	50	"	"
			1	63	-	197	25	VC	LC & A
EMERGENCY GENERATOR									
ROTARY TRANSFORMER: MOTOR									
" " GENERATOR									

MAIN DISTRIBUTION CABLES (to Auxiliary Switchboards, etc.)

DESCRIPTION	No. of	Kw.	CONDUCTORS	MAXIMUM CURRENT	APPROX. LENGTH	INSULATION	PROTECTIVE COVERING	
			No. in Parallel per Pole	In the Circuit	(lead plus return feet)			
Main board to SB-FS1 in S accom.	1		63	119	197	40	VC	LC & A
" " " " FS2 " "	1		63	131	197	70	VC	LC & A
" " " " FS3 winches	1		250	360	282	27	VIR	LC & B
" " " " FS4 in P accom.	1		20	35	55	40	VIR	LC & B
" " " " FM1 " ER. S.	1		250	258	282	36	VIR	LC & B
" " " " FM2 " P.	1		160	232	213	24	VIR	LC & B
" " " " FM3 " aft.	1		63	128	197	10	VC	LC & A
" " " " Lighting	1		100	135	155	30	VIR	LC & A
" " " " LM1 ER lighting	1		2x 4	13	23	32	VIR	LC & B
" " " " LM2 " "	1		2x 4	11	23	22	VIR	LC & B
" " " " LM3 " "	1		2x 2.5	17	16	10	VIR	LC & B
Shore supply to main board	1		200	250	246	19	VIR	LC & B
Main board to ER vent fan SB	1		63	128	197	10	VC	LC & A

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

DESCRIPTION	No. in Parallel per Pole	CONDUCTORS No. and Dia. of Strands or sq. mm.	MAXIMUM CURRENT IN AMPERES		APPROX. LENGTH (lead plus return feet)	INSULATION	PROTECTIVE COVERING
			In the Circuit	Rule			
FS1 to FS1/A Galley	1	63	106	116	50	VC	LC & A
FS2 to SV, navigation aids	1	10	23	38	50	VIR	LC & B
FM1 to FM1/A workshop tools	1	16	72	49	90	"	LC & A
Lighting board to LNE1, lights dk.	1	2x 10	15	38	25	"	LC & A
" " " LNE2 " "	1	2x 10	16	38	15	"	LC & A
" " " LNE3 " "	1	2x 10	16	38	25	"	LC & A
" " " LNE4 " "	1	20	18	55	320	"	LC & A
" " " LNI1 " inter ¹	1	2x 2.5	11	16	35	"	LC & B
" " " LNI2 " "	1	2x 2.5	10	16	35	"	LC & B
" " " LNI3 " "	1	2x 2.5	10	16	16	"	LC & B
" " " LNI4 " "	1	2x 10	21	38	25	"	LC & A
" " " LNI5 " "	1	2x 4	14	23	15	"	LC & A
" " " LNI6 " "	1	2x 4	5	23	320	"	LC & A
Main board to navigation light SB	1	2x 2.5	1.3	16	45	"	LC & B
"SV" " " " " " "	1	2x 2.5	1.3	16	6	"	LC & B
Main board to Suez Canal light	1	2x 6.3	13.6	30	380	"	LC & B

MOTOR CABLES

ALL IMPORTANT MOTORS TO BE ENUMERATED	No.	B.H.P.	Kw.	CONDUCTORS		MAXIMUM CURRENT		APPROX. LENGTH	INSULATION	PROTECTIVE COVERING
				No. in Parallel per Pole	Sectional Area or No. and Dia. of Strands or sq. mm.	In the Circuit	Rule			
Windlass	1	58	1	250	264	282	380	VIR	LC & B	
Steering motors	2	35	1	63	160	197	60	VC	LC & A	
Lub oil pumps	2	82	2	400	372	390	54	VIR	LC & B	
Air compressors	2	70	1	315	320	326	28	VIR	LC & A	
GS. pump	1	58	1	250	265	282	66	VIR	LC & B	
ME cooling pumps	3	41	1	160	187	213	72	VIR	LC & B	
FO. booster "	2	2.5	1	2x4	11	23	34	VIR	LC & A	
Fuel valve cooling pps	2	2.8	1	2x6.3	13	30	20	VIR	LC & A	
OF transfer pumps	2	26	1	63	116	197	50	VIR	LC & A	
Turning eng.	1	11	1	25	55	63	52	VIR	LC & A	
Auxy. eng. cooling pumps	2	6.3	1	10	29	38	36	VIR	LC & B	
Boiler feed pumps	2	2.3	1	2x4	9	23	38	VIR	LC & B	
Boiler circ. pumps	2	2	1	10	9	38	30	VIR	LC & B	
Air compr. cooling pp.	1	2.3	1	2x4	10	23	25	VIR	LC & B	
Winches	4	20	1	50	90	99	30	VIR	LC & B	
Capstan	1	35	1	125	160	181	40	VIR	LC & A	
Evap. feed pump	1	5	1	2x4	23	23	32	VIR	LC & B	
Vent Fans in ER	4	7	1	10	32	38	36	VIR	LC & B	
Frig compr. (domestic)	2	6.5	1	20	30	55	40	VIR	LC & B	
Frig pump	1	1	1	2x1.6	4.5	10	40	VIR	LC & B	
O.F. daily transfer pp	1	6	1	10	27	38	25	VIR	LC & B	

NOTE.—Use Rpt. 13 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.

Electrical Contractors. Date 6/8/1959

COMPASSES

Have the compasses been adjusted under working conditions. Yes

Builder's Signature. Date 6/8/1959

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. yes If not, state date of approval.

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 equipment on this ship has been installed under special survey and the arrangements are in accordance with or, equivalent to, those shown on the approved plans, the Rules for Electrical Equipment and the Secretary's letters.

The materials used are of good quality and the workmanship is good.

The equipment, on completion, was seen operating under working conditions, the various protective devices were adjusted and operated and the insulation resistance of all circuits measured and found good.

This installation is, in my opinion, suitable for a classed ship.

Special notation:- DF. ESD. Gyro Compass, Radar.

Total Capacity of Generators. 650 Kilowatts.

The amount of Fee ... Lit. 285.813: When applied for, (85%) 19

Travelling Expenses (if any) £ : : When received, 19

E.F. Butler & C. Starc. Surveyor to Lloyd's Register of Shipping

FRIDAY - 1 JAN 1960

Committee's Minute

Assigned. See Rpt. 1

5m.3.58-Transfer. (MADE AND PRINTED IN ENGLAND) (The Surveyors are requested not to write on or below the space for Committee Minute.)

7.12.59



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