

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

14 AUG 1954

Date of writing Report 20th July 1954 When handed in at Local Office 10.8.1954 Port of TRIESTE Received at London Office

No. in Survey held at 40694 on the "MARE NOSTRUM" Date, First Survey Please see Last Survey Rpt. 40 Reg. Book. (No. of Visits 20451)

Built at Monfalcone By whom built Cant. Riva dell'Adriatic Yard No. 1777 When built 1954

Owners Fratelli d'Amico-Frattatori Port belonging to Pa Permo Installation fitted by Cantieri Riuniti dell'Adriatico When fitted 1954

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 two wire Voltage of Lighting 110 Heating 110 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 fitted with a trip switch yes Generators, are they compound wound yes, and level compounded under working conditions yes, if not compound wound state distance between generators and from switchboard Are the generators arranged to run in parallel yes, are shunt field regulators provided yes Is the compound winding connected to the negative or positive pole negative Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing yes Have certificates of test for machines under 100 kw. been supplied yes and the results found as per Rule yes

Position of Generators 2 turbo sets in eng. room start. plat. level, star. aft - 1 diesel set 2nd platform level, port aft.

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 Main engine room starting platform level, port aft

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 steel panels - dead front type, 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 yes 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 double pole circuit breaker with overload trip on each pole, reference current trip and interlocked equalizer switch for the 450 kw. gens and the rotary transformer dynamo and the 100 kw. diesel set.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit double pole circuit breaker with overload trip on each pole.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes Instruments on main switchboard 20

ammeters 5 voltmeters synchronising devices For compound machines in parallel are the ammeters and reversed current protection devices connected on the pole opposite to the equaliser connection yes Earth Testing, state means provided 4 voltmeters and 2 earth indicating lamps

Switches, Circuit Breakers and Fuses, are they as per Rule yes, are the fuses an Approved Type yes, make of fuses F.E.R. M.Pan or C.B. Stots, are all fuses labelled yes If circuit breakers are provided for the generators, at what overload do they operate 50% and at what current do the reversed current protective devices operate 10%

Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule yes 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 4.7 Vols, are the ends of all cables having a sectional area of 0.01 square inch and above provided with soldering sockets yes 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 in conduit Are cables in machinery spaces, galleys, laundries, etc., lead covered yes or run in conduit part

or of the "HR" type yes State how the cables are supported or protected CP lead and supported as per Rules - lead covered and steel braided or spiral wire armoured where required or run in conduit

Are all lead sheaths, armoured 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 (lead) Refrigerated chambers, are the cables and fittings as per Rule yes



Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule yes Emergency Supply, state position yes  
 Poop casing. 24V. / 40 Hwp. w. battery for emergency lighting in E. & B. rooms & pass automatic  
 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 and fitted as per Rule yes, are they adequately ventilated yes  
 state battery capacity in ampere hours. 40 F.H. Emerg. light - 80 F.H. Teleph. etc - 40 F.H. Wireless  
 Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof yes  
 Are any fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present yes  
 if so, how are they protected approved flameproof pumps and fittings installed  
 and where are the controlling switches fitted to Rule requirements Are all fittings suitably ventilated yes  
 Searchlight Lamps, No. of 1, 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 ✓ 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  
 Control Gear and Resistances, are they constructed and fitted as per Rule yes Lightning Conductors, where required are they fitted as per  
 Rule yes Ships carrying Oil having a Flash Point 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 F.E.R. - N. H. HAN Are the fittings for pump  
 rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships yes Are the cables lead covered as per Rule yes  
 E.S.D., if fitted state maker Marconi location of transmitter 100-50-51 and receiver 100-50-51  
 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			REVS. PER MIN.	TYPE.	PRIME MOVER.
			Kilowatts per Generator.	Volts.	Ampères.			
MAIN	2	Cant. 2000 dell. Fan	450	220	2045	800	Steam Turb	Cant. del. 10000 - Genoa (See Genoa Cent. No. M349)
AUXILIARY	1		100	220	454	500	Diesel eng.	Cant. 2000 dell. Fan
ROTARY TRANSFORMER	2		40	110	364		Elect. motor	

#### GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return) in ft.	INSULA-TION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area of Strands sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR	450	6	400	2045	2225	27	Rubber	Lead cov. - Steel braid.
" EQUALISER		3	400	✓	1164	17		
AUXILIARY GENERATOR	100	2	200	454	498	13		
ROTARY TRANSFORMER MOTOR	(60 HP)	1	200	220	249	15		
" GENERATOR	40	1	400	364	288	14		

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

DESCRIPTION.								
Eng. power section board	FM 1	2	200	427	408	68	Rubber	Lead cov. - Steel braid.
"	FM 2	2	200	338	498	50		
"	FM 3	1	215	236	231	58		
"	FM 4	1	160	105	212	19		
"	FM 5	1	160	102	212	42		
"	FM 6	1	63	108	116	72		
Deck power	SSC	2	800	347	498	50		
Refrigeration	STV	1	125	146	176	96		
Workshop	FO	1	32	37	72	12		
Refrigerat.	FF	1	63	103	116	56		
Shore connection	DT	2	160	100	424	64		

#### LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

DESCRIPTION.		CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return) in ft.	INSULA-TION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area of Strands sq. mm.	In the Circuit.	Rule.			
Eng. lighting section board	SLM 1	1	32	51	72	54	Rubber	Lead cov. - Steel braid.
"	SLM 2	1	50	71	97	52		
Deck	SLC 1	2	100	171	174	252		
"	SLC 2	1	200	175	249	54		
Navigating lights	QFN	1	4	2	42	276		
Wireless	BT	1	63	32	116	288		
Suez projector	P	1	20	14	57	450		
Various signals	SV	1	20	20	57	274		

#### MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.						
Steering gear	2	40	1	100	150	158	106	Rubber
Main condenser cooling ps.	2	80	1	250	292	283	56	
exrac. ps.	2	20	1	63	115	116	60	
Fux. condenser cooling ps.	2	20	1	40	79	83	32	
exrac. ps.	2	85	1	10	25	27	34	
Reduct. gear L.O. ps.	2	23	1	80	125	136	18	
O.F. burning ps.	2	10	1	16	40	48	52	
Rotary transformer motors	2	60	1	200	220	249	15	
Boiler fans	2	110	2	200	430	408	64	
Bilge pump motor	1	55	1	100	202	212	42	
O.F. transfer pump	1	26	1	63	100	116	58	
Large pump cool. cool. p. motor	1	20.5	1	40	80	83	68	
Exrac. feed. pump motors	2	20.4	1	40	80	83	50	
Eng. space fans	4	10	1	16	41	48	60	
Boiler space fans	2	35	1	63	23	30	96	



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.

CANTIERI RIUNITI DELL'ADRIATICO  
CANTIERE NAVALE MONFALCONE

Electrical Contractors.

Date 10.8.54

#### COMPASSES.

Have the compasses been adjusted under working conditions.

yes

CANTIERI RIUNITI DELL'ADRIATICO  
CANTIERE NAVALE MONFALCONE

Builder's Signature.

Date 10.8.54

Have the foregoing descriptions and schedules been verified and found correct.

yes

Is this installation a duplicate of a previous case. yes (part) If so, state name of vessel. CRDA Yard 773 - MARE ADRIACUM

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, whether insulation tests, etc., have been made, opinions as to class, etc.)

The electrical installation of this vessel has been fitted under special survey in accordance with or equivalent to Rule requirements and approved plans.

The workmanship and materials are good.

On completion the plant was tried under full working conditions, the insulation resistance tested and all found satisfactory.

On completion this installation is eligible for full classification.

Total Capacity of Generators 000 Kilowatts.

The amount of Fee £35,000.

When applied for,

10.

Ref. Tax 3% 11,630.

When received,

10.

Travelling Expenses (if any) £ see 50.40

Surveyor to Lloyd's Register of Shipping.

TUESDAY 14 SEP 1954

Committee's Minute

Assigned