

19 NOV 1953

Rpt. 13.

No. 19628

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 13-10-1953 When handed in at Local Office 21-10-1953 Port of Genoa

No. in Survey held at La Spezia Date, First Survey 24-11-1952 Last Survey 19-10-1953

Reg. Book. 35164<sup>S</sup> on the M/V "FRANCESCO BIBOLINI" (No. of Visits 27)

Built at Muggiano, La Spezia By whom built Soc. Anon. "Ansaldo" Muggiano Tons Gross 15320

Owners CIA di NAVIGAZIONE BIBOLINI S.p.A. Port belonging to Genoa Tons Net 9338

Installation fitted by Soc. Anon. "Ansaldo" Cant. di Muggiano - La Spezia When fitted 1953

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 - parallel system Voltage of Lighting 440 Volts.

Heating. Power 220 Vols D.C. YES, Lighting YES Power YES If A.C. state frequency YES

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. YES and from switchboard. YES 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 two: 200 Kw oil engine generator aft of eng. room - one 350 Kw oil engine generator fwd. eng. 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 on flat aft of 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. Metallic framing with micaite tubes - washers.

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 for each generator: a double pole circuit breaker with

overload and reverse current trip and single pole equaliser switch interlocked with

circuit breakers.

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

overload trip.

Are compartments containing switchboards composed of fire-resisting material YES Instruments on main switchboard 18.

ammeters 6 voltmeters YES 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 Obsolete =

Two lamps earth indicating system on each generator.

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

make of fuses Boco - Farnelli - Milano are all fuses labelled YES. If circuit breakers are provided for the generators, at what

overload do they operate about 150% and at what current do the reversed current protective devices operate about 15%

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 5 Volts 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. YES Are cables in machinery spaces, galleys, laundries, etc., lead covered. YES or run in conduit.

or of the "HR" type. YES State how the cables are supported or protected cables are supported by galvanised

clips. All cables under floor plates, under fore &amp; aft ganway and where exposed

to risk of damage are protected by galvanised iron plating.

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.

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Lloyd's Register



Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule YES. Emergency Supply, state position One 25 Kw. oil engine generator placed on 5th deck on poop-deck.

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 two: = 24 cells x 40 Amp/hrs & 24 cells x 60 Amp/hrs.

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 of the flame proof type and in accordance with the Special Requirements for and where are the controlling switches fitted inside the bridge accommodation Are all fittings suitably ventilated YES.

Searchlight Lamps, No. of one for each, whether fixed or portable portable, are they of the carbon arc or of the filament type filament type.

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 YES. 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 Cartridge - Generali-Milan 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 Kelvin & Hughes - London location of transmitter on 5th deck and receiver chart room.

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.	
			Kilowatts per Generator.	Volts.	Ampères.	TYPE.	MAKER.
MAIN	two	Onsorio & Giorgio	200	220	910	3 1/2	Oil Engine
	one	"	75	220	340	450	"
	one	"	350	220	1590	1000	"
EMERGENCY	one	"	25	110	237	650	"
	two	Marelli - Milano	30	110	314	2000	elect. motor

## GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return loop) in feet.	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area of Conductor sq. mm.				
MAIN GENERATOR	350	4	400	1590	2708	VC	Lead covered & armoured.
"	EQUALISER	2	400	"	35	"	"
"	oil eng. aft	2	400	910	1354	VC	"
"	equiliser	2	400	910	1354	VC	"
"	oil eng. fwd.	1	400	340	517	VC	"
"	equiliser	1	200	"	35	"	"
EMERGENCY GENERATOR	25	1	250	237	10	VR	"
ROTARY TRANSFORMER: MOTOR	35.5	1	250	186	213	VR	"
"	GENERATOR	1	250	272	476	VC	"

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

DESCRIPTION.	No. in Parallel per Pole.	Sectional Area of Conductor sq. mm.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return loop) in feet.	INSULATION.	PROTECTIVE COVERING.
Engine room power S.B. no. 1	1	80	96	135	50	V.R. Lead covered & armoured.
" " " " no. 2	1	80	108	135	50	"
" " " " no. 3	1	40	63	85.5	80	"
" " " " no. 4	1	80	104	135	20	"
Workshop S.B.	1	40	64	85.5	50	"
Engine room ventilation S.B.	1	50	90	99	50	"
Refrigeration	2	125	300	263	70	"
Refrigerating station	1	125	135	171	50	"
Forward main circuit	1	50	73	99	200	"
Oil fuel circuit	1	25	49	63	70	"
Oil condensing off	1	40	57	85.5	60	"

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

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return loop) in feet.	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area of Conductor sq. mm.				
External lighting forward & aft.	1	63	66	117.8	200	V.R. Lead covered & armoured.
Internal " " "	1	40	38	85.5	210	"
Internal " " "	1	16	16	49	200	"
Internal " " "	1	16	37	49	50	"
Internal " " "	1	10	28	38	145	"
Internal " " "	1	16	40	49	145	"
Internal " " "	1	10	35	38	140	"
Internal " " "	1	16	9.5	49	320	"
Internal " " "	1	16	36	49	30	"
Internal " " "	1	16	35	49	30	"
Internal " " "	1	10	4.6	38	200	"
Internal " " "	1	16	21	49	200	"
Internal " " "	1	25	40	63	190	"
Internal " " "	1	4	12	22.5	50	"
Internal " " "	1	25	40	63	190	"
Internal " " "	1	16	20	49	190	"
Internal " " "	1	40	27	13.5	380	"
Internal " " "	1	215	227	326	80	"
Internal " " "	1	2.5	4	15.5	"	Lead covered only
Internal " " "	1	2.5	9.1	15.5	"	Lead covered & armoured
Internal " " "	1	2.5	2.7	15.5	"	Lead covered & in tubes.

## MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	Sectional Area of Conductor sq. mm.	MAXIMUM CURRENT IN AMPERES.	APPROX. LENGTH (lead plus return loop) in feet.	INSULATION.	PROTECTIVE COVERING.
Submarine oil circulating pump	3	7.8	1	250	265	4.5	35 V.C. Lead covered & armoured.
Oil eng. water circuit pump	3	60	1	200	221	4.14	90/100/10 V.C.
Oil compressor	2	105	1	250	395	4.5	60/50 V.C.
Oil fuel transfer pump	1	27	1	80	104	135	80 V.R.
Oil fuel transfer pump	1	18	1	40	69	15.5	80
Oil fuel transfer pump	1	30	1	100	114	155	100
Hot water circuit pump	1	23.2	1	63	79	117.5	50
Ballast pump	1	90	1	250	335	4.5	75 V.C.
Fire pump	1	140	2	250	515	203	140
Ballast pump	1	50	1	200	189	245	65 V.R.
Refrigeration pump	2	35	1	100	97	155	60
Refrigeration pump	1	11	1	20	43	55	20
Refrigeration pump	2	5.5	1	10	21.6	38	20
Refrigeration pump	1	4.3	1	6.3	16.9	30	20
Refrigeration pump	1	4.2	1	6.3	16.9	30	20
Oil fuel purifier	3	6	1	10	33.5	38	20
Oil fuel purifier	2	5	1	6.3	19.7	30	20
Refrigeration pump	2	5	1	10	19.7	38	20
Oil fuel purifier	2	2.6	1	2.5	2.6	15.5	30
Refrigeration pump	2	11.5	1	40	46.6	85.5	20/30
Oil fuel purifier	2	2.05	1	2.5	5.4	15.5	40
Oil fuel purifier	2	0.6	1	2.5	2.5	15.5	40/50
Oil fuel purifier	1	1.9	1	2.5	7.3	15.5	30
Oil fuel purifier	1	1.1	1	2.5	4.6	15.5	30
Oil fuel purifier	1	0.6	1	2.5	3.05	15.5	20
Oil fuel purifier	1	0.4	1	2.5	1.9	15.5	20
Oil fuel purifier	1	1.2	1	40	4.8	85.5	20
Oil fuel purifier	4	5.5	1	6.3	22.5	30	140/100/80



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.

ANSALDO

Società per Azioni - Sede in Genova

CANTIERE DI MUGLIANO

Electrical Contractors.

Date 26-10-1953

#### COMPASSES.

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

YES -

ANSALDO

Società per Azioni - Sede in Genova

CANTIERE DI MUGLIANO

Builder's Signature.

Date 26-10-1953

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.....

NO -

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

3/7/1953 & 20/7/1953

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 Equipment has been constructed and fitted under Special Survey and in accordance with the approved Plans, Secretary's letters and Rules Requirements. The Materials and Workmanship are Good. - Upon Completion the Generating Sets, Motors, Switchgear and Control gear & Apparatus have been Examined Running at Full Load and Under Service Conditions. The Examination Carried out in accordance with the Rules and found Satisfactory. =

*[Signature]*

Noted JS

2/12/53

Total Capacity of Generators..... 850 - ✓ Kilowatts.

F.E. 4% 433.500 =

The amount of Fee 10% 368.475 =

CAR FUND - 4% 3.684 =

Travelling Expenses (if any) 4% 33.241 =

REV. TAX. .... 4% 13.163 =

Committee's Minute..... FRIDAY - 4 DEC 1953

Assigned.....

See minute

on hull &c. rpt.

When applied for,

16/11/1953

When received,

19

For Surveyor to Lloyd's Register of Shipping.

*[Signature]*