

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 20/4/28, 19 28 When handed in at Local Office 30/4/28, 19 28 Port of GENOA Received at London Office 10 MAY 1928

No. in Survey held at GENOA. Date, First Survey 17.12.26. Last Survey 25.4.28, 19 28
Reg. Book. (Number of Visits 56)

38265, on the STEEL TWIN SCREW, M.V. "VIRGILIO" Tons { Gross 11218
Net 1

Built at BAIA (NAPLES) By whom built CANTIERE ED OFFICINE MERIDIONALE Yard No. 15. When built 1928.

Owners NAVIGAZIONE GENERALE ITALIANA. Port belonging to GENOA.

Electric Light Installation fitted by OFFICINE ALLESTIMENTO RIPARAZIONE NAVI - GENOA. Contract No. When fitted 1928.

System of Distribution TWO WIRE SEPARATE.

Pressure of supply for Lighting 110 volts, Heating volts, Power 220 volts.

Direct or Alternating Current, Lighting DIRECT Power DIRECT.

If alternating current system, state frequency of periods per second

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off YES.

Generators, do they comply with the requirements regarding rating YES, are they compound wound NO. SHUNT WOUND WITH AUXILIARY INTERPOLES.
are they over compounded 5 per cent. YES, if not compound wound state distance between each generator 15 FEET. APPROX.

Where more than one generator is fitted are they arranged to run in parallel YES, is an adjustable regulating resistance fitted in series with each shunt field YES.

Are all terminals accessible, clearly marked, and furnished with sockets YES, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched YES. Are the lubricating arrangements of the generators as per Rule YES.

Position of Generators IN ENGINE ROOM, 3 OF 170 K.W. PORT SIDE, 1 OF 280 K.W. STAR SIDE, EMERGENCY GENERATOR ON "D" DECK AFT. 1 OF 100 K.W.

is the ventilation in way of the generators satisfactory YES, are they clear of all inflammable material YES.

if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the generators and , are the generators protected from mechanical injury and damage from water, steam or oil YES.

are their axes of rotation fore and aft YES.

Earthing, are the bedplates and frames of the generating plant efficiently earthed YES, are the prime movers and their respective generators in metallic contact YES.

Main Switch Boards, where placed MAIN IN ENGINE ROOM OFF FORWARD BULKHEAD. EMERGENCY BOARD IN DYNAMO ROOM "D" DECK AFT. If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard YES.

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes YES, are they protected from mechanical injury and damage from water, steam or oil YES, if situated near unprotected woodwork or other combustible material, state distance of same horizontally from or vertically above the switchboards and , are they constructed wholly of durable, non-ignitable non-absorbent materials YES, is all insulation of high dielectric strength and of permanently high insulation resistance YES, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micaite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework YES, and is the frame effectively earthed YES. Are the fittings as per Rule regarding: - spacing or shielding of live parts YES, accessibility of all parts YES, absence of fuses on back of board YES, proportion of omnibus bars YES, individual fuses to voltmeter, pilot or earth lamp YES, connections of switches YES.

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches DOUBLE POLE FUSES AND SWITCHES. CIRCUIT BREAKERS WITH OVERLOAD AND REVERSED CURRENT TRIPS. ALL TO RULE REQUIREMENTS.

Instruments on main switchboard 18 ammeters 7 voltmeters synchronising device for paralleling purposes.

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system PUSHES AND LIGHTS ON SWITCHBOARD. OHM METER FOR POWER CIRCUITS.

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules YES.

Joint Boxes Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule YES.



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N.B. CABLES. AREA MORE THAN $6.9 \frac{mm^2}{m^2}$ SINGLE.
 " " " LESS " " " TWIN.

MULTICORE CABLES USED FOR LOW TENSION SERVICES 20 VOLTS TO 6 VOLTS.

Cables: Single, twin, concentric, or multicore. SINGLE TWIN MULTICORE. are the cables insulated and protected as per Tables IV or V of the Rules. **YES.**
Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load. **0 VOLTS LIGHTING, 3 VOLTS POWER.**
Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets. **YES.**

Paper Insulated Cables, If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound. **NO PAPER INSULATED CABLES FITTED.**

Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, valves or other hot objects, or to avoidable risk of mechanical damage. **YES.**

Support and Protection of Cables, state how the cables are supported and protected. **SUPPORTS IN GALVANISED IRON CLIPS. CABLES STEEL BRAIDED THROUGHOUT INSTALLATION WITH EXCEPTION OF CABINS WHERE LEAD COVERED.**

WHERE cables are run in wood casings, are the casings and caps secured by screws. **YES.** are the cap screws of brass. **YES.** are the cables run in separate grooves. **YES.** If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII. **YES.**

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements. **YES.**

Joints in Cables, state if any, and how made, insulated, and protected. **LOOPING SYSTEM.**

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands. **YES.**

Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed. **YES.** state the material of which the bushes are made. **LEAD.**

Earthing Connections, state what earthing connections are fitted and their respective sectional areas. **IMPORTANT PARTS ARE EARTHED BY DIRECT METALLIC CONTACT (SWITCHBOARDS AND DYNAMO FRAMES) CONNECTIONS AT SWITCHBOARD FOR INDICATING EARTHS ARE OF $2 \frac{mm^2}{m^2}$.** are their connections made as per Rule. **YES.**

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule. **YES.**

Emergency Supply, state position and method of control of the emergency supply, and how the generator is driven. **CONTROLLING SWITCHES ON MAIN SWITCHBOARD AND ON EMERGENCY SWITCHBOARD. - GENERATOR IS DRIVEN BY DIESEL MOTOR AND IS SITUATED ON 'D' DECK AFT.**

Navigation Lamps, are these separately wired. **YES.** controlled by separate switch and separate fuses. **YES.** are the fuses double pole. **YES.** are the switches and fuses grouped in a position accessible only to the officers on watch. **YES.**

has each navigation lamp, an automatic indicator as per Rule. **YES.**

Secondary Batteries, are they constructed and fitted as per Rule. **YES.**

Fittings, are all fittings on weather decks, in stowholds and engine rooms and where or exposed to drip or condensed moisture, watertight. **YES.** are any fittings placed in spaces in which goods are liable to be stowed in close proximity to them; if so, how are they protected. **YES.**

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected. **YES.** how are the cables led. **YES.**

where are the controlling switches situated. **YES.**

Searchlight Lamps, No. of **2.** whether fixed or portable. **FIXED.** are their fittings as per Rule. **YES.**

Arc Lamps, other than searchlight lamps, No. of **1.** are their live parts insulated from the frame or case. **YES.** are their fittings as per Rule. **YES.**

Motors, are their working parts readily accessible. **YES.** are the coils self-contained and readily removable for replacement. **YES.** are the brushes, brush holders, terminals and lubricating arrangements as per Rule. **YES.** are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material. **YES.**

are they protected from mechanical injury and damage from water, steam or oil. **YES.** are their axes of rotation fore and aft. **YES.** if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type. **YES.** if not of this type, state distance of the combustible material horizontally or vertically above the motors. **YES.** and **YES.**

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule. **YES.**

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule. **YES.**

Ships carrying Oil having a Flash Point less than 150° F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings. **YES.**

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office. **YES.**

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amperes.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	3	170 EACH	220.	720 EACH	300	DIESEL MOTOR	FUEL OIL.	ABOVE 150° F.
EMERGENCY	1	280.	220.	1270.	300	" " "	" " "	" " "
EMERGENCY	1	100.	220.	450.	420	" " "	" " "	" " "
ROTARY TRANSFORMERS	2	60 EACH	220/110	300/600	1500	ELECTRIC MOTOR	" " "	" " "
ROTARY TRANSFORMERS	1	85.	220/110	160/315	1500	" " "	" " "	" " "

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor Sq. mm.	COMPOSITION OF STRAND.		Total Maximum Current in Amps.	Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATORS	3	400.	427.	1.100.	770.	260.	FROM 300 $\frac{mm}{m}$ UP.	FROM 300 $\frac{mm}{m}$ UP.
	EMERGENCY GENERATORS	3	500.	427.	1.200.	1270.	215.	UP, COPPER	TWO RIBBONS
	AUXILIARY GENERATOR	1	500.	427.	1.200.	450.	25.	TINNED, PURE RUBBER.	OF GALVANISED IRON AND
	EMERGENCY GENERATOR	1	150.	123.	1.200.	315.	30.	RUBBER.	IRON AND
	ROTARY TRANSFORMERS	2	300.	269.	1.200.	600.	35.	WHITE AND BLACK RUBBER	IMPREGNATED TUTE.
	AUXILIARY SWITCHBOARDS	2	150/30.	133/19.	1.200.	179/60.	3000.	TAPE. TWO RUBBERED	FROM 1 TO 150 $\frac{mm}{m}$
	ENGINE ROOM	2	12.	19.	0.91.	30.	115.	TAPES.	ABOVE LEAD.
	WATER ROOM	1	6.	7.	1.12.	10.	76.	TWO TAPES OF HESSIAN CLOTH	IMPREGNATED, STEEL BRAID COVERED WITH PROTECTIVE VARNISH.
	ACCOMMODATION	40.	4.45.	7.	0.900.	20.	175.	PURE RUBBER	WHITE AND BLACK RUBBER TAPES.
	" FORD CREW, ETC.	40.	4.45.	7.	0.900.	20.	175.	TWO RUBBERED TAPES.	LEAD COVERED ALL CONDUCTORS.
	" 1 st CLASS DINING	65	4.45.	7.	0.900.	20.	255.	IMPREGNATED.	FROM 1 TO 150 $\frac{mm}{m}$ VARNISH.
	" " CABINETS	29.	4.45.	7.	0.900.	20.	175.	COPPER TINNED.	PURE RUBBER
	" 2 nd & 3 rd CLASS CABINS, ETC.	27.	4.45.	7.	0.900.	20.	165.	WHITE AND BLACK RUBBER TAPES.	TWO RUBBERED TAPES.
	NAVIGATION LIGHTS	2	4.45.	7.	0.900.	5.	320.	LEAD COVERED ALL CONDUCTORS.	AS ABOVE
	WIRELESS	1.	11.	12.	1.10.	30.	300.	AS ABOVE	AS ABOVE.
	SEARCHLIGHT	2.	20.	19.	1.20.	60.	310.	AS ABOVE	AS ABOVE.
	MASTHEAD LIGHT	2.	4.45.	7.	0.900.	0.5.	900.	AS ABOVE	AS ABOVE.
	SIDE LIGHTS	2.	4.45.	7.	0.900.	1.0.	300.	AS ABOVE	AS ABOVE.
	COMPASS LIGHTS	6.	1.1.	1.	1.10.	1.0.	900.	AS ABOVE	AS ABOVE.
	POOP LIGHTS	1.	4.45.	7.	0.900.	0.5.	700.	AS ABOVE	AS ABOVE.
	CARGO LIGHTS	10.	4.45.	7.	0.900.	20.0.	1,150.	AS ABOVE	AS ABOVE.
	ARC LAMPS	1.	11.	12.	1.10.	30.	300.	AS ABOVE	AS ABOVE.
	HEATERS	1.	11.	12.	1.10.	30.	300.	AS ABOVE	AS ABOVE.

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor Sq. mm.	COMPOSITION OF STRAND.		Total Maximum Current in Amps.	Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP	2	130.	127.	1.150.	180.	62.	AS ABOVE	AS ABOVE.
	MAIN BILGE LINE PUMPS	2	130.	127.	1.150.	180.	60.	AS ABOVE	AS ABOVE.
	SUPERCHARGER	2	200.	189.	1.150.	210.	40.	AS ABOVE	AS ABOVE.
	EMERGENCY BILGE PUMP	1	50.	61.	1.0.	85.	175.	AS ABOVE	AS ABOVE.
	AND FIRE SANITARY PUMPS	2	40.	19.	1.600.	80.	70.	AS ABOVE	AS ABOVE.
	CIRC. SEA WATER PUMPS	2	75.	37.	1.600.	120.	55.	AS ABOVE	AS ABOVE.
	MOTORS FOR LIFE BOATS	6	30.	19.	1.400.	40.	1200.	AS ABOVE	AS ABOVE.
	MOTORS FOR GALLEY, KITCHENS AND COMPARTMENTS, ETC.	25	2.	7.	0.600.	3.	2000.	AS ABOVE	AS ABOVE.
	FRESH WATER PUMPS	2	2.	7.	0.600.	11.5.	120.	AS ABOVE	AS ABOVE.
	ENGINE TURNING GEAR	2	2.	7.	0.600.	10.0.	160.	AS ABOVE	AS ABOVE.
	ENGINE REVERSING GEAR	1	2.	7.	0.600.	10.0.	160.	AS ABOVE	AS ABOVE.
	LUBRICATING OIL PUMPS	2	262.	61.	2350.	269.	65.	AS ABOVE	AS ABOVE.
	OIL FUEL TRANSFER PUMPS	2	50.	61.	1.0.	85.	90.	AS ABOVE	AS ABOVE.
	WINDLASS	1	300.	269.	1.200.	300.	515.	AS ABOVE	AS ABOVE.
	CAPSTANS	4	135.	37.	2.150.	185.	1050.	AS ABOVE	AS ABOVE.
	WINCHES	22	120.	127.	1.100.	135.	2150.	AS ABOVE	AS ABOVE.
	STEERING GEAR	1	120.	127.	1.100.	135.	520.	AS ABOVE	AS ABOVE.
	(a) MOTOR GENERATOR	2	120.	127.	1.100.	135.	520.	AS ABOVE	AS ABOVE.
	(b) MAIN MOTOR	3	5.0.	7.	0.950.	14.	85.	AS ABOVE	AS ABOVE.
	WORKSHOP MOTORS	25	11.	19.	0.914.	17/40.	365.	AS ABOVE	AS ABOVE.
	VENTILATING FANS	3	2.	7.	0.600.	10.	55.	AS ABOVE	AS ABOVE.
	OIL FUEL SEPARATORS	2	2.	7.	0.600.	5.	45.	AS ABOVE	AS ABOVE.
	LUBRICATING OIL	1	20.	19.	1.200.	50.	70.	AS ABOVE	AS ABOVE.
	OIL SUMP PUMP	1	2.	7.	0.600.	10.	50.	AS ABOVE	AS ABOVE.
	HOT SALT WATER PUMP	2	2.	7.	0.600.	10.	80.	AS ABOVE	AS ABOVE.
	EVAPORATOR PUMPS	1	2.	7.	0.600.	6.5.	50.	AS ABOVE	AS ABOVE.
	DRINKING WATER PUMP	1	2.	7.	0.600.	13.5.	28.	AS ABOVE	AS ABOVE.
	BRINE PUMPS	4	4.50.	7.	0.850.	135.0.	40.	AS ABOVE	AS ABOVE.
	REFRIGERATING MOTORS	2	85.	91.	1.100.	135.0.	40.	AS ABOVE	AS ABOVE.
	LIFTS	5	11.	19.	0.914.	8/40.	1200.	AS ABOVE	AS ABOVE.

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All Conductors are of annealed copper conforming to British Standard Specification No. 7.

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

Stabilimento Tecnico Triestino

Fabbrica macchine S. Andrea - Trieste

OFFICINE ALLESTIMENTO E RIPARAZIONI NAVI - GENOVA

Società Anonima - Capitale L. 2.000.000 Interamente Versato

[Signature]

Electrical Engineers.

Date

30/4/28

COMPASSES.

Distance between electric generators or motors and standard compass

315'-0"

Distance between electric generators or motors and steering compass

300'-0"

The nearest cables to the compasses are as follows:—

A cable carrying 5 Amperes 30 feet from standard compass 20 feet from steering compass.

A cable carrying 50 Amperes 40 feet from standard compass 30 feet from steering compass.

A cable carrying 30 Amperes 60 feet from standard compass 50 feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power YES

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted YES

The maximum deviation due to electric currents was found to be NIL degrees on W. course in the case of the standard compass, and NIL degrees on W. course in the case of the steering compass.

Stabilimento Tecnico Triestino

Fabbrica macchine S. Andrea - Trieste

OFFICINE ALLESTIMENTO E RIPARAZIONI NAVI - GENOVA

Società Anonima - Capitale L. 10.000.000 Interamente Versato

[Signature]

Builder's Signature.

Date

30/4/28

Is this installation a duplicate of a previous case YES. If so, state name of vessel

M.V. "ORAZIO"

GENOA REPORT NO 10081.

General Remarks (State quality of workmanship, opinions as to class, &c.)

The installation has been built under Special Survey of tested materials and in accordance with the Secretary's letters approved plans and Rule requirements.

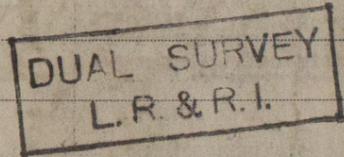
The materials and workmanship are good and the installation when tried under full working conditions at sea was found satisfactory.

In our opinion the vessel is eligible for the notation "ELECTRIC LIGHT".

Elec Light.

[Signature]

18/5/28



Total Capacity of Generators 890. Kilowatts.

The amount of Fee ...

Lit. 5650.00

When applied for, 30/4/28

Travelling Expenses (if any)

Lit. 500.00

When received, 18/6/28

LATE FEE

Lit. 100.00

18/6/28

[Signature]
Surveyor to Lloyd's Register of Shipping.

FRI. 18 MAY 1928

Committee's Minute

Assigned

[Signature]

Im. 188.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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