

# 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.

38265 on the STEEL TWIN SCREW M.V. "VIRGILIO" (Number of Visits 56) 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

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

are they over compounded 5 per cent. YES, if not compound wound state distance between each generator WITH AUXILIARY INTERPOLES, 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 YES

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 YES and YES

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



N.B. CABLES. AREA MORE THAN  $6.9 \frac{mm^2}{in^2}$  SINGLE.  
 " " " LESS " " TWIN.  
 MULTICORE CABLES USED FOR LOW TENSION SERVICES 20 VOLTS TO 6 VOLTS.

SINGLE TWIN  
 Cables: Single, twin, concentric, or multicore 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 SUPPORT 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  $2 \frac{mm^2}{in^2}$ , 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 storerooms 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 stacked 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.	770 EACH.	300	DIESEL MOTOR.	FUEL OIL.	ABOVE 150° F.	
EMERGENCY	1	280.	220.	1270.	300	" " " "	" " "	" " "	
ROTARY TRANSFORMERS	2	100.	220.	450.	420.	" " " "	" " "	" " "	
	2	60 EACH.	220/110	300/600	1550	ELECTRIC MOTOR	" " "	" " "	
	1	35.	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 amp.	Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	3	400.	427.	1.100.	770.	260.	FROM 300 $\frac{mm}{in}$ UP.	FROM 300 $\frac{mm}{in}$ UP.
	EMERGENCY GENERATOR	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.	125.	1.200.	315.	30.	WHITE AND BLACK RUBBER	IMPREGNATED
	ROTARY TRANSFORMERS	2	300.	259.	1.200.	600.	35.	TAPE. TWO RUBBERED	FROM 1 TO 150 $\frac{mm}{in}$
	AUXILIARY SWITCHBOARDS	2	150/30.	133/19.	1.200.	179/60.	3000.	IMPREGNATED. CLOTH	STEEL BRAID COVERED WITH
	ENGINE ROOM	2	75/6.	27/7.	1.000.	106/18.	2800.	TAPE. TWO RUBBERED	PROTECTIVE VARNISH.
	FOOT ROOM	1	6.	7.	1.12.	10.	76.	FROM 1 TO 150 $\frac{mm}{in}$	FROM 1 TO 150 $\frac{mm}{in}$
	ACCOMMODATION	40.	445.	7.	0.900.	20.	175.	TAPE. TWO RUBBERED	IMPREGNATED.
	" FORD CREW ETC	65	445.	7.	0.900.	20.	255.	OF HESSIAN CLOTH	PAPER, JUTE.
	" 1 <sup>st</sup> CLASS DINING	29.	445.	7.	0.900.	20.	175.	IMPREGNATED.	STEEL BRAID
	" " CABINETS	27.	445.	7.	0.900.	20.	165.	FROM 1 TO 150 $\frac{mm}{in}$	COVERED WITH
	" 2 <sup>nd</sup> & 3 <sup>rd</sup> CLASS	27.	445.	7.	0.900.	20.	165.	COPPER TINNED.	PROTECTIVE VARNISH.
	" CABINS ETC	27.	445.	7.	0.900.	20.	165.	PURE RUBBER	STEEL BRAID
	" AFT	27.	445.	7.	0.900.	20.	165.	WHITE AND BLACK RUBBER	COVERED WITH
	NAVIGATION LIGHTS	2	445.	7.	0.900.	5.	320.	TAPE. TWO RUBBERED	FROM 1 TO 150 $\frac{mm}{in}$
	WIRELESS	1.	11.	12.	1.10.	30.	300.	TAPE. TWO RUBBERED	FROM 1 TO 150 $\frac{mm}{in}$
	SEARCHLIGHT	2.	20.	19.	1.20.	60.	310.	TAPE. TWO RUBBERED	FROM 1 TO 150 $\frac{mm}{in}$
	MASTHEAD LIGHT	2.	4.45.	7.	0.900.	0.5.	900.	TAPE. TWO RUBBERED	FROM 1 TO 150 $\frac{mm}{in}$
	SIDE LIGHTS	2.	4.45.	7.	0.900.	1.0.	300.	TAPE. TWO RUBBERED	FROM 1 TO 150 $\frac{mm}{in}$
	COMPASS LIGHTS	6.	1.1.	1.	1.10.	1.0.	900.	TAPE. TWO RUBBERED	FROM 1 TO 150 $\frac{mm}{in}$
	POOP LIGHTS	1.	4.45.	7.	0.900.	0.5.	700.	TAPE. TWO RUBBERED	FROM 1 TO 150 $\frac{mm}{in}$
	CARGO LIGHTS	10.	4.45.	7.	0.900.	20.0.	1,150.	TAPE. TWO RUBBERED	FROM 1 TO 150 $\frac{mm}{in}$
	ARC LAMPS	1.	1.	1.	1.10.	1.0.	900.	TAPE. TWO RUBBERED	FROM 1 TO 150 $\frac{mm}{in}$
	HEATERS	1.	1.	1.	1.10.	1.0.	900.	TAPE. TWO RUBBERED	FROM 1 TO 150 $\frac{mm}{in}$
MOTOR CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor Sq. mm.	COMPOSITION OF STRAND.		Total Maximum Current in amp.	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.	62.	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.	17.5.	AS ABOVE	AS ABOVE.
	AND FIRE PUMPS	2.	40.	19.	1.600.	80.	70.	AS ABOVE	AS ABOVE.
	SANITARY PUMPS	2.	75.	37.	1.600.	120.	55.	AS ABOVE	AS ABOVE.
	CIRC. SEA WATER PUMPS	6	30.	19.	1.400.	40.	1200.	AS ABOVE	AS ABOVE.
	MOTORS FOR LIFE BOATS	25	2.	7.	0.600.	11.5.	120.	AS ABOVE	AS ABOVE.
	MOTORS FOR GALLEY KITCHENS	2.	2.	7.	0.600.	11.5.	120.	AS ABOVE	AS ABOVE.
	FRESH WATER PUMPS	2.	2.	7.	0.600.	10.0.	160.	AS ABOVE	AS ABOVE.
	ENGINE TURNING GEAR	1.	262.	61.	2350.	269.	65.	AS ABOVE	AS ABOVE.
	ENGINE REVERSING GEAR	1.	262.	61.	2350.	269.	65.	AS ABOVE	AS ABOVE.
	LUBRICATING OIL PUMPS	2.	50.	61.	1.0.	85.	90.	AS ABOVE	AS ABOVE.
	OIL FUEL TRANSFER PUMPS	1.	300.	269.	1.200.	300.	515.	AS ABOVE	AS ABOVE.
	WINDLASS	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.	10.	55.	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	4.	4.50.	7.	0.850.	13.5.	28.	AS ABOVE	AS ABOVE.
	BRINE PUMPS	2.	85.	91.	1.100.	135.0.	40.	AS ABOVE	AS ABOVE.
	REFRIGERATING MOTORS	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. 10.000.000 Interamente Versato

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

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 letter approved plans and Rule requirements.

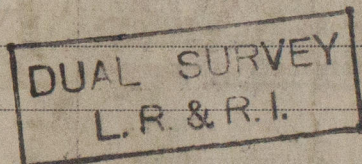
The materials and workmanship are good and the installation when tried under full working conditions at sea was found satisfactory.

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

Elec Light.

25/4

18/5/28



Total Capacity of Generators 890. Kilowatts.

The amount of Fee ...

Lt. 5650.00

When applied for,

30/4/28

Travelling Expenses (if any)

Lt. 500.00

When received,

18/6/28

LATE FEE

Lt. 100.00

FRI. 18 MAY 1928

Committee's Minute

Assigned

Elec Light

J. W. Leicester  
Surveyor to Lloyd's Register of Shipping.