

Rpt. 13.

No. 10664

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

16 JAN 1935

Date of writing Report 12/12/34 When handed in at Local Office 12/12/34 Port of TRIESTE Received at London Office

No. in Survey held at PALERMO Date, First Survey 12th October 1934 Last Survey 1st January 1935 Reg. Book.

88308 on the M.D. "ANTEO" Tons { Gross 6771.65 Net 4036.60

Built at PALERMO By whom built CANTIERI NAVALI RIUNITI Yard No. 141 When built 1934

Owners SOCIETA' LIQURE DI ARMAMENTO Port belonging to GENOA

Electric Light Installation fitted by MESSRS VIVALDI &amp; CO. S.A. - GENOA Contract No. ✓ When fitted 1934

Is the Vessel fitted for carrying Petroleum in bulk OIL TANKER

## System of Distribution

Two wires ✓

Pressure of supply for Lighting 110 ✓ volts, Heating ✓ volts, Power 110 ✓ 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 yes ✓

are they over compounded 5 per cent. yes ✓, if not compound wound state distance between each generator ✓

Where more than one generator is fitted are they arranged to run in parallel no ✓, 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 18 Kw. starting platform stbd. side; 10 Kw. on flat in E.R. portside; 4 1/2 Kw. on flat in E.R. stbd. side.

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 10 Kw. generator athwartships, remaining fore and aft.

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 on flat in E.R. portside

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 ✓

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 micanite 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 circuit

breaker with overload. Double pole link switches with fuse on each outgoing circuit.

Instruments on main switchboard 3 ammeters 3 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 Switches to Voltmeters ✓

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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Cables: Single, twin, concentric, or multicore single 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

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 yes

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, uptakes 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 supported by clips

If 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 in gas tight junction boxes

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 yes

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 yes

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 stokeholds and engine rooms and wherever 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 in hold, gas tight lamps and holders protected with metal grids

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected in pump rooms, gas tight lamps and holders protected with metal grids

how are the cables led in tubes

where are the controlling switches situated outside the spaces

Searchlight Lamps, No. of yes, whether fixed or portable yes, are their fittings as per Rule yes

Arc Lamps, other than searchlight lamps, No. of yes, 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.

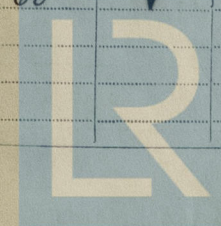
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Amps.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN ...	1	18	110	164	800	FLY 45.C.S.G.	DIESEL OIL	-
AUXILIARY ...	1	10	110	91	600	STEAM ENGINE.	✓	✓
EMERGENCY ...	1	4 1/2	110	45	600	MAIN ENGINE SHAFT.	✓	✓
ROTARY TRANSFORMER	✓							

## GENERATOR, LIGHTING AND HEATING CONDUCTORS.

DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
	No. per Pole.	Total Effective Area per Pole Sq. mm.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR ...	1	171	38	2.4	164	214	27	RUBBER	LEAD COVERED & STEEL BRAIDED
EQUALISER CONNECTIONS	✓								
AUXILIARY GENERATOR ...	1	120	37	2.1	91	184	14		
EMERGENCY GENERATOR ...	1	30	19	1.45	45	64	34		
ROTARY TRANSFORMER MOTOR	✓								
ENGINE ROOM ...	1	5.5	7	0.95	18	27	30		
BOILER ROOM ...	1	5.5	7	0.95	18	27	58		
AUXILIARY SWITCHBOARDS									
IFT 7.	1	8	7	1.2	22	34	85		
CENTRE B.	1	30	19	1.15	40	53	256		
NAVIGATION C.	1	5.5	7	0.95	2.8	26	200		
ACCOMMODATION									
4 SUBCIRCUITS in A	1 (each)	5.5	7	0.95	5.5	26	✓		
4 do in B	1 (each)	5.5	7	0.95	5.5	26	✓		
WIRELESS	1	5	7	0.9	13.5	24	180		
SEARCHLIGHT	✓								
MASTHEAD LIGHT	1	2	1	1.6	0.5	12	100		
SIDE LIGHTS	1	1	1	1.1	0.5	6.3	24		
COMPASS LIGHTS	1	1	1	1.1	0.3	6.2	10		
POOP LIGHTS	1	1	1	1.1	0.5	6.3	200		
CARGO LIGHTS	1	2	1	1.6	4.	12	90		
ARC LAMPS	✓								
HEATERS	✓								

## MOTOR CONDUCTORS.

DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT.		Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
		No. per Pole.	Total Effective Area per Pole Sq. mm.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP	✓									
MAIN BILGE LINE PUMPS	✓									
GENERAL SERVICE PUMP	✓									
EMERGENCY BILGE PUMP	✓									
SANITARY PUMP	✓									
CIRC. SEA WATER PUMPS	✓									
CIRC. FRESH WATER PUMPS	✓									
AIR COMPRESSOR	✓									
FRESH WATER PUMP	✓									
ENGINE TURNING GEAR	1	1	50	37	1.32	72	100	54	RUBBER	LEAD COVERED & STEEL BRAIDED
ENGINE REVERSING GEAR	✓									
LUBRICATING OIL PUMPS	✓									
OIL FUEL TRANSFER PUMP	✓									
WINDLASS	✓									
WINCHES, FORWARD	✓									
WINCHES, AFT	✓									
STEERING GEAR—										
(a) MOTOR GENERATOR	✓									
(b) MAIN MOTOR	✓									
WORKSHOP MOTOR	3	1	15	19	0.9	35	48	90		
VENTILATING FANS	✓									
OIL PURIFIERS	3	1	30	19	1.45	73	70	62		
REFRIGERAT. ENG.	1	1	8	7	1.2	13.4	35	139		
GALLEY	2	1	8	7	1.2	17	34	60		



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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.

*Vivaldi & Compagni*

Electrical Engineers.

Date

#### COMPASSES.

Distance between electric generators or motors and standard compass 85 mt.

Distance between electric generators or motors and steering compass 85 mt.

The nearest cables to the compasses are as follows:—

A cable carrying 24 Ampères 2 mt. feet from standard compass — feet from steering compass.

A cable carrying — Ampères — feet from standard compass — feet from steering compass.

A cable carrying — Ampères — feet from standard compass — 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 —

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

CANTIERI NAVALI RIUNITI

Builder's Signature.

Date

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

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

The installation complies with the Rules requirements and the workmanship is good.  
The installation has been tested under working condition and found satisfactory. The insulation has been tested as per Section 17 with satisfactory results.

With reference to Secretary letter E 11,10,34 addressed to the Genoa Surveyors, the electric lighting in the pump rooms is in accordance with the requirements of Section 15, clause 6(c) of the Rules. Fuses have been fitted in the leads supplying the voltmeters and pilot lamps and to the supply to the turning gear motor.

None of the generators are arranged to run in parallel.

Noted  
17/11/35

Total Capacity of Generators 32 1/2 Kilowatts.

The amount of Fee ... } 4 lit. 2.130 -  
20% added to hire } 7/1/19.35 J.A.  
Travelling Expenses (if any) } Genoa lit. 150 -  
Mente " 506 - } 11/2.35 NO  
11/2

*W. Ferriani & J. Duris*  
Surveyors to Lloyd's Register of Shipping.

Committee's Minute

TUE. 29 JAN 1935

Assigned

See for J.L. 13728



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