

Rpt. 13.

=10081=

RETAIN

No. 10081

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

14 NOV 1927

Date of writing Report 24/10/27 When handed in at Local Office

Port of GENOA.

No. in Survey held at GENOA.

Date, First Survey Dec. 7, 1926. Last Survey Oct. 22, 1927

Reg. Book.

31006 on the STEEL TWIN SCREW M.V. "ORAZIO"

(Number of Visits 64)

Tons { Gross
Net

Built at BAIA (NAPLES) By whom built CANTIERE ED OFFICINE MERIDIONALI

Yard No. 14.

When built 1927.

Owners NAVIGAZIONE GENERALE ITALIANA. Port belonging to GENOA.

Electric Light Installation fitted by OFFICINE ALLESTIMENTO
RIPARAZIONI NAVI. - GENOA. Contract No. When fitted 1927.

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.

are they over compounded 5 per cent.

if not compound wound state distance between each generator

15 FT. 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 KW PORT SIDE. 1 OF 280 KW. STAR. SIDE. EMERGENCY GENERATOR ON

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 batplates 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 micawite 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.

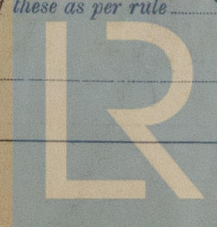
OHMMETER FOR POWER CIRCUITS.

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 6.4% 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 2 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. **SUPPORTED 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 EARTHED BY DIRECT METALLIC CONTACT (SWITCHBOARDS AND DYNAMO FRAMES). CONNECTIONS AT SWITCHBOARD FOR INDICATING EARTHS ARE OF 2 1/2 INCHES.** 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 exposed to drip or condensed moisture, watertight. **YES.** are any fittings placed in spaces in which goods are liable to be stored 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.** are the cables led where are the controlling switches situated. **YES.**
Searchlight Lamps, No. of **TWO**, 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, local 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, type 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.	
AUXILIARY	1	280	220	1270	300	"	"	"	
EMERGENCY	1	100	220	450	420	"	"	"	
ROTARY TRANSFORMER	2	66.5	220	110	300	ELECTRIC MOTOR	"	"	
	1	35	220	110	1500	"	"	"	

LIGHTING AND HEATING CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor Sq. in.	COMPOSITION OF STRAND.		Total Maximum Current Amperes.	Approximate Length (Lead and Return) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATORS	3	400	427	1.100	770	260	FROM 300 IN	FROM 300 IN
	Emergency Generator	3	500	427	1.200	1270	215	UP. COPPER	UP. TWO RIBBONS
	AUXILIARY GENERATOR	1	150	123	1.200	315	30	TIMBER, PURE	OF GALVANISED
	EMERGENCY GENERATOR	1	500	427	1.200	450	25	RUBBER	IRON AND
	ROTARY TRANSFORMER MAIN	2	300	259	1.200	600	30	WHITE AND	IMPREGNATED JUTE.
	AUXILIARY SWITCHBOARDS	2	150	133	1.200	170	3000	BLACK RUBBER	
	ENGINE ROOM	2	75	37	1.000	100	2600	TAPE, TWO	FROM 1 TO 150 IN
	Accommodation	1	6	7	1.12	30	115	RUBBERED	ABOVE LEAD
	"							TAPES	IMPREGNATED
	"							TWO TAPES	PAPER JUTE
	"							OF HESSIAM	STEEL BRAID
	"							CLOTH	COVERED WITH
	"							IMPREGNATED	PROTECTIVE
	"								VARNISH.
	"							FROM 1 TO 150 IN	
	"							COPPER TIMBER	
	"							PURE RUBBER	
	"							WHITE AND	
	"							BLACK RUBBER	
	NAVIGATION LIGHTS	2	4.45	7	0.900	5	320	TAPES TWO	
	WIRELESS	1	11	12	1.10	30	300	RUBBERED	
	SEARCHLIGHT	2	20	19	1.20	60	310	TAPES	
	MASTHEAD LIGHT	2	4.45	7	0.900	0.5	900	LEAD COVERED	
	SIDE LIGHTS	2	4.45	7	0.900	1.0	300	ALL CONDUCTORS	
	COMPASS LIGHTS	6	1.1	1	1.200	1.0	900		
	POOP LIGHTS	1	4.45	7	0.900	0.5	700		
	CARGO LIGHTS	10	4.45	7	0.900	20.0	1.150		
	ARC LAMPS								
	HEATERS								

MOTOR CONDUCTORS.									
Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor Sq. in.	COMPOSITION OF STRAND.		Total Maximum Current Amperes.	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		
	SUPERCHARGERS	2	200	189	1.150	210	40		
	EMERGENCY BILGE PUMP	1	50	61	1.0	85	175		
	SANITARY PUMPS	2	40	19	1.600	80	70		
	CHRG. SEA WATER PUMPS	2	75	37	1.600	120	55		
	MOTORS FOR LIFEBOATS	6	30	19	1.400	40	1200		
	MOTORS FOR GALLEYS ETC	25	2	7	0.600	8	2000		
	FRESH WATER PUMP	2	2	7	0.600	11.5	120		
	ENGINE TURNING GEAR	2	2	7	0.600	10.0	160		
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMPS	2	95	91	1.150	150	65		
	OIL FUEL TRANSFER PUMPS	2	50	61	1.0	85	90		
	WINDLASS	1	300	259	1.200	300	515		
	CRAPSTANS	4	135	37	2.150	185	1050		
	WINCHES	22	120	127	1.100	135	2150		
	STEERING GEAR								
	(a) MOTOR GENERATOR								
	(b) MAIN MOTOR S.	2	120	127	1.100	135	520		
	WORKSHOP MOTOR	3	50	7	0.950	14	85		
	VENTILATING FANS	25	11	19	0.914	17/40	365		
	OIL FUEL SEPARATOR	3	2	7	0.600	10	55		
	LUBRICATING OIL	2	2	7	0.600	5	45		
	OIL PUMP PUMP	1	20	19	1.200	50	70		
	HOT SALT WATER PUMP	1	2	7	0.600	10	50		
	EVAPORATOR PUMPS	2	2	7	0.600	10	80		
	DRINKING WATER PUMP	1	2	7	0.600	6.5	50		
	BRINE PUMPS	4	4.50	7	0.850	13.5	28		
	REFRIGERATING MOTORS	2	85	91	1.100	135	40		
	LIFTS	5	11	19	0.914	8/40	1200		

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

Electrical Engineers.

Date

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 Ampères 30 feet from standard compass 20 feet from steering compass.

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

A cable carrying 30 Ampères 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 **S.W.** course in the case of the standard compass, and **NIL** degrees on **S.W.** course in the case of the steering compass.

Stabilimento Tecnico Triestino

Fabbrica macchine S. Andrea - Trieste

OFFICINE ALLESTIMENTO E RIPARAZIONI NAVI

Builder's Signature.

Date

Is this installation a duplicate of a previous case **No.** If so, state name of vessel **✓**

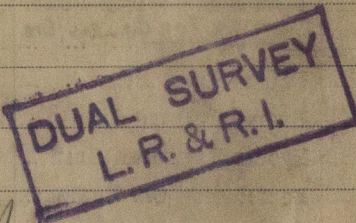
General Remarks (State quality of workmanship, opinions as to class, &c.)

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 it has been found satisfactory.

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

It is submitted that this vessel is eligible for THE RECORD. Elec light.



Total Capacity of Generators **890** Kilowatts.

The amount of Fee

£ 6020-00

When applied for,

5/11/27

Travelling Expenses (if any) £

750-00

When received,

20/2/28

Committee's Minute

FRI, 18 NOV 1927

Assigned

Elec. light



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