

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office 1 JAN 1929

Date of writing Report

19

When handed in at Local Office

28/12/28

19

Port of Trieste

No. in

Survey held at

Monfalcone

Date, First Survey

7/10/27

Last Survey

17/12/28

19

Reg. Book.

87691

on the

T. S. M. S. Vulcania

(Number of Visits.....)

15

Tons

Gross 23976

Net 14476

Built at

Monfalcone

By whom built

Cant. Nav. Triest

Yard No. 161

When built

1928

Owners

Carulich Soc. Triest. di Nav. Port belonging to Trieste

Electric Light Installation fitted by

Cantiere Navale Triestino

Contract No. -

When fitted 1928

System of Distribution

Two wire

Pressure of supply for Lighting

110

volts, Heating

230

volts, Power

230

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 yes

series with each shunt field yes is an adjustable regulating resistance fitted in

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

One 400 kw in Main E. R. Two 900 kw in the Auxiliaries room

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

In the Auxiliary Motor room

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 Overload switches

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 Asbestos Compound

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

Overload and reverse

current trip switch with equalizer switch interlocked. Double pole overload circuit breaker

for loads above 500 A. single pole overload circuit breaker for loads from 200 to

500 A. with fuse to other pole. Double pole link switches with fuse to each

pole for loads below 200 A.

Instruments on main switchboard

17

ammeters

4

voltmeters

synchronising device for paralleling purposes.

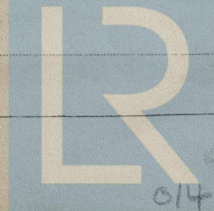
Also one ammeter to each outgoing circuit for Aux. Switch Boards

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system

contacts 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



© 2021

Lloyd's Register

014349-014356 9298 1/2

Cables: Single, twin, concentric, or multicore *single & twin* 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

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 *none*

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 *Armoured or lead covered cables supported by clips*

If cables are run in iron casings, are the casings and caps secured by screws —, are the cap screws of brass —, are the cables run in separate grooves —. 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 in ship's Store Chamber*

Joints in Cables, state if any, and how made, insulated, and protected *WT junction boxes*

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

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 or hard wood*

Earthing Connections, state what earthing connections are fitted and their respective sectional areas —

are their connections made as per Rule —

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 *on deck C. Special P.B. with an overload double pole circuit breaker for generator and double pole link switches with fuses to each pole for each outgoing circuit.*

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 *Armoured cables passed in tubes. Leads from generators to P.B. in special ventilated casing* are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected *no*

how are the cables led

where are the controlling switches situated —

Searchlight Lamps, No. of *none*, whether fixed or portable —, are their fittings as per Rule —

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

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

fatally enclosed, if not of this type, state distance of the combustible material horizontally or vertically above the motors — and —

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 *none. Hel. masts*

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 —

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

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.	
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.
MAIN	2	1800	230	4100 x 2	195	6 Cyl. S.B. H.C. Diesel	Diesel Oil	✓
AUXILIARY	1	450	230	2050	195	3 Cyl. S.B. H.C. Diesel	"	✓
EMERGENCY	1	30	115	242	1250	Petrol motor	Petrol	✓
ROTARY TRANSFORMER	2	160/120	230/110	125/1100	675	Steam turbine	Petrol 12.35	✓

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
42-43	MAIN GENERATOR	3 bars	744	3	62 x 12	4100	36	bare	Hel casing
	EQUALISER CONNECTIONS	4 "	328	4	62 x 5.3		36	"	"
44	AUXILIARY GENERATOR	16 cables	496	16	62 x 8	2000	100	rubber	armoured
	EMERGENCY GENERATOR	1 "	242	61	2.25	242	36	"	"
41	ROTARY TRANSFORMER	3/6	299/242	61/61	2.5/2.25	725/1100	200	"	"
Starb. 19	EQUALISER	23	299	61	2.5	853	100	"	"
Port 22	AUXILIARY SWITCHBOARDS	3	394	91	2.35	1107	150	"	"
19	ENGINE ROOM AUX. S.B.	1	15	7	1.6	445	60	"	"
41(1,2,3)	Accommodation from Sub. Stn.	1	460	99	70	37	800	"	Arm. or lead cov.
17	To Substation I 220V	2	242	61	2.25	529	30	"	Armoured
18	To Substation II 220V	6	324	61	2.6	2177	300	"	"
25	To Substation III 220V	2	242	61	2.25	458	300	"	"
41(1)	To Substation I 110V	2	299	61	2.5	468	300	"	"
41(2)	To Substation II 110V	4	394	91	2.35	1054	300	"	"
41(3)	To Substation III 110V	2	394	91	2.35	566	300	"	"
20(4)	To Emergency S.B.	1	242	61	2.25	202	250	"	"
20(56)	Navigation	1	665	7	1.1	112	150	"	"
63	Secondary Battery	1	14/242	7/61	16/225	40/250	200	"	"
20	WIRELESS	1	215	19	1.2	45	300	"	"
	SEARCHLIGHT							"	"
56	MASTHEAD LIGHT	1	13	1	1.3	0.5	250	"	"
56	SIDE LIGHTS	1	13	1	1.3	0.5	50	"	"
56	COMPASS LIGHTS	1	13	1	1.3	0.2	20	"	Lead covered
56	POOP LIGHTS	1	13	1	1.3	0.5	500	"	Armoured
18	CARGO LIGHTS	1	14.5	7	0.9	20	300	"	"
	ARC LAMPS							"	"
	HEATERS	1	13	1	1.3	3		"	"

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Ampères.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
42-35	BALLAST PUMP	2	74	37	1.6	115	90	rubber	Armoured
32-33	MAIN BILGE LINE PUMPS	2	38	19	1.6	78	190	"	"
8-9	GENERAL SERVICE PUMP	2	51	19	1.85	98	130	"	"
19	EMERGENCY BILGE PUMP	1	147	37	2.25	103	200	"	"
13-14	SANITARY PUMP	2	394	91	2.35	338	120	"	"
19-22	CIRC. SEA WATER PUMPS	4	181	37	2.5	226	250	"	"
19-22	CIRC. FRESH WATER PUMPS	2	99	37	1.85	154	150	"	"
25-26	AIR COMPRESSOR Refriger.	2	147	37	2.25	192	800	"	"
36-37	FRESH WATER PUMP	2	59	19	2	103	130	"	"
10.11.30	ENGINE TURNING GEAR Aux.	6	45	7	0.9	9	80	"	"
31.13.9	ENGINE TURNING GEAR Main	2	51	19	1.85	98	180	"	"
19-22	LUBRICATING OIL PUMPS	4	394	91	2.35	376	180	"	"
2-3	OIL FUEL TRANSFER PUMP	2	74	37	1.6	115	300	"	"
15	WINDLASS HAVING 1 H.	1	324	61	2.6	420	1050	"	"
16	WINCHES, FORWARD 7 1/2 H.	20	2 x 394	91	2.35	1061	450	"	"
24	WINCHES, AFT 7 1/2 H.	22	3 x 324	61	2.6	1495	500	"	"
27	STEERING GEAR	2	160	32	2.35	200	1200	"	"
40	Aux. Cond. Circ. Pump	1	51	19	1.85	82	90	"	"
41	Bilge Pump Direct	1	7	7	1.1	28	80	"	"
5	WORKSHOP MOTOR	8	2 x 665	7	1.1	53	120	"	"
20-21	Superchargers	2	3 x 299	61	2.5	661	350	"	"
28	Refriger. Space S.B.	6	51	19	1.85	96	300	"	"
38-39	Circ. Sea W. for Aux. Mot.	3	51	19	1.85	90	90	"	"
12-29	Oil Filters	4	4.5	7	0.9	9	40	"	"
34	Additional Lubr. Pump	1	51	19	1.85	98	90	"	"
22	Cold F.W. Pump	2	51	19	1.85	98	90	"	"
22	Warm F.W. Pump	2	1.3	1	1.4	4	120	"	"
22	Oil Fuel Pump Gen. Serv.	2	4.45	7	0.9	18	60	"	"
22	Ozone Motors	2	4.45	7	0.9	14	160	"	"
	Termo Tanks 12 H.	20	14.7	7	1.6	47	1400	"	"
	Termo Tanks 9 H.	8	14.7	7	1.6	32	900	"	"
	Donkey Boiler Fans	4	1.3	1	1.2	4	200	"	"

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.

CANTIERE NAVALE TRIESTINO

Electrical Engineers.

Date 27. XII. 1928

COMPASSES.

Distance between electric generators or motors and standard compass 36'

Distance between electric generators or motors and steering compass 28'

The nearest cables to the compasses are as follows:—

A cable carrying 15 Amperes 3 feet from standard compass 5 feet from steering compass.

A cable carrying Amperes feet from standard compass feet from steering compass.

A cable carrying Amperes 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 yes

The maximum deviation due to electric currents was found to be none degrees on course in the case of the standard compass, and degrees on course in the case of the steering compass.

CANTIERE NAVALE TRIESTINO

Builder's Signature.

Date 27. XII. 1928

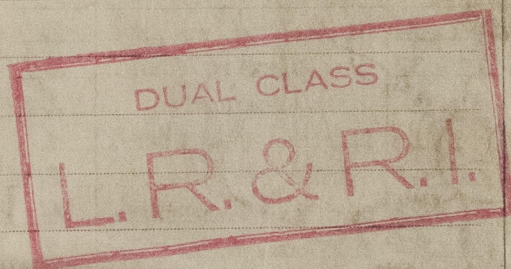
Is this installation a duplicate of a previous case yes If so, state name of vessel M. S. Saturnia

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

This installation has been made in accordance with the Rules, the material and workmanship are good. The whole installation and generators have been tested under full working condition and found satisfactory.

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

Elec. Light.



Total Capacity of Generators 2275 Kilowatts.

The amount of Fee ... Liri 8837.

When applied for.

19

Travelling Expenses (if any) £

When received.

14.3.29

Committee's Minute

TUE. 8 JAN 1929

Assigned

Ele Light



© 2021

Lloyd's Register Foundation