

Rpt. 13.

REPORT ON ELECTRIC FITTINGS.

No. 8952

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 19... When handed in at Local Office 3/10/30 Port of Trieste Received at London Office 6 OCT 1930

No. in Survey held at Monfalcone Date, First Survey 17th June Last Survey 10th Sept 1930
 Reg. Book. 65178 on the M/S Barbarigo (Number of Visits Seven)

Built at Monfalcone By whom built Cant. Nav. Triestino Yard No. 221 When built 1930
 Owners Br. Veneriana di N. a V. Port belonging to Venice
 Electric Light Installation fitted by Cant. Nav. Trieste & Ing. T. Broinack Contract No.
 Is the Vessel fitted for carrying Petroleum in bulk no When fitted 1930

System of Distribution Two wire

Pressure of supply for Lighting 110 volts, Heating — volts, Power 222 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, 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 port 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 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 near generators

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, Plate & steel, 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 For each generator and Rotary Transformer: a double pole circuit breaker with overload and covered current trip with interlocked equalizer switch. For Aux. Eng. D. B.: a double pole circuit breaker with overload and fuses to each pole. For Aux. Eng. D. B.: a single pole circuit breaker with overload and fuses to each pole. For Heating Eng.: a single pole circuit breaker with fuses to each pole. Double pole link switches with fuses to each pole for all outgoing circuits.

Instruments on main switchboard 14 ammeters 6 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 connection to Voltmeter

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 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 *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 —

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 wood 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 *none*

Joints in Cables, state if any, and how made, insulated, and protected *only in small size of cable made in WT 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 —

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 *none*

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 *none*

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 *none*

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 —

Are 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

totally 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 *steel mast*

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 ...	3	90	220	410	270	Diesel Engine	Diesel oil	
AUXILIARY ...	1	32	220	146	425	Hot salt motor	"	"
EMERGENCY ...								
ROTARY TRANSFORMER	2	13 kw/21 HP	110/120	120/88	1400	Electric motor		

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. Ins.	No.	Diameter.	In Circuit.	Rule.			
MAIN GENERATOR ...	2	161x2	37	2.35	410	214x2	60	rubber lead or 3 arm.	
EQUALISER CONNECTIONS ...	1	161	37	2.35	—	214	—	"	"
AUXILIARY GENERATOR ...	1	97	37	1.85	146	152	90	"	"
Equaliser Connection	1	39	19	1.60	—	83	—	"	"
EMERGENCY GENERATOR	1	39	19	1.60	—	83	—	"	"
ROTARY MOTOR	1	51	19	1.85	88	102	15	"	"
TRANSFORMER GENERATOR	1	74	37	1.5	120	127	15	"	"
Equaliser Connection	1	39	19	1.6	—	83	—	"	"
ENGINE ROOM ...	1	4.5	7	0.9	17	24	75	"	"
Boiler Room ...	1	13	3	0.75	3	78	120	"	"
4 AUXILIARY Switchboards									
ACCOMMODATION Officers ...	1	9.3	7	1.3	21	37	220	"	"
" Passengers	1	14	7	1.6	25	46	220	"	"
" Crew	1	9.3	7	1.3	27	37	150	"	"
Deck Navigation	1	9.3	7	1.3	30	37	250	"	"
WIRELESS	1	4.5	7	0.9	7	24	300	"	"
SEARCHLIGHT Plug	1	9.3	7	1.3	25	37	300	"	"
MASTHEAD LIGHT	1	14	7	1.6	40	46	400	"	"
SIDE LIGHTS	1	1.3	1	1.3	0.5	8	350	"	"
COMPASS LIGHTS	1	1.3	1	1.3	0.3	8	150	"	"
POOP LIGHTS	1	1.3	1	1.3	0.15	8	130	"	"
CARGO LIGHTS	1	1.3	1	1.3	0.3	8	400	"	"
ARC LAMPS	1	4.5	7	0.9	8	24	250	"	"
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. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP S.B. II	1	1	39	19	1.6	65	83	20	rubber lead or 3 arm.	
MAIN BILGE LINE PUMPS II	1	1	14.5	7	1.6	42	46	25	"	"
GENERAL SERVICE PUMP S.B. I	1	1	14.5	7	1.6	42	46	30	"	"
EMERGENCY BILGE PUMP										
SANITARY PUMP S.B. I	1	1	4.5	7	0.9	18	24	30	"	"
CIRC. SEA WATER PUMPS II	1	1	39	19	1.6	69	83	25	"	"
Oil Fuel Purifiers II	2	1	6.5	7	1.1	28	31	40	"	"
Oil Fuel Transfer Pumps										
Lub. Oil Purifier I	1	1	3	7	0.75	14	18	40	"	"
Oil Compressor										
FRESH WATER PUMP I	1	1	3	7	0.75	12	18	50	"	"
ENGINE TURNING GEAR I	1	1	14.5	7	1.6	42	46	80	"	"
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS II	1	1	39	19	1.6	69	83	35	"	"
OIL FUEL TRANSFER PUMP II	1	1	14.5	7	1.6	35	46	40	"	"
WINDLASS 1 h. rating	1	1	196	37	2.6	244	290	400	"	"
X WINCHES, FORWARD S.B.	6	1	39.5	91	2.35	646	652	100	"	"
From S.B. to winch	1	1	74.25	137.2	1.9	152	185	127.2	102	300
X WINCHES, AFT S.B.	7	2	243	261	2.25	773	424	2	100	"
From S.B. to winch	1	1	74.25	137.2	1.9	152	185	127.2	102	300
STEERING GEAR										
(a) MOTOR	1	1	39	19	1.6	64	83	400	"	"
(b) MAIN MOTOR										
WORKSHOP MOTOR	1	1	4.5	7	0.9	12	24	80	"	"
Oil Fuel Purifier	1	1	2.9	7	0.75	14	18	45	"	"
LUBRICATING PANS										
I S.B. for Auxiliaries	6	1	77	37	1.6	140	130	50	"	See letter 5-6-30
II S.B. for Auxiliaries	7	2	97.2	37	1.85	300	152	2	70	See letter 3 arm.
S.B. Thermic Resistances	3	1	74	37	1.5	109	120	45	"	"
I Resistance	1	1	4.5	7	0.9	16	24	45	"	"
II Resistance	1	1	14.5	7	1.6	36	46	45	"	"
III Resistance	1	1	39	19	1.6	57	83	45	"	"

X = 1/2 h. rating

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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.

CANTIERE NAVALE TRIESTINO
OFFICINE ELETTROMECCANICHE

Electrical Engineers.

Date

COMPASSES.

Distance between electric generators or motors and standard compass 100'

Distance between electric generators or motors and steering compass 150'

The nearest cables to the compasses are as follows:—

A cable carrying 7 Ampères 25 feet from standard compass 20 feet from steering compass.

A cable carrying 0.2 Ampères in the feet from standard compass in the 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. 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.

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.)

This electric installation has been made in accordance with the Rules. The material and workmanship are good. The whole installation was examined under working condition, the insulation withstood test and found satisfactory.

DUAL CLASS

L.R. & R.I.

THE RECORD.

Elec Light.

7/10/30

Total Capacity of Generators 302 Kilowatts.

The amount of Fee ... Linc 3632 -

When applied for,

19

Travelling Expenses (if any) £ ✓

When received,

5/12/30

Committee's Minute

FRI. 17 OCT 1930

Assigned

Elec Light



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