

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

27 FEB 1945

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Writing Report 20th Jan. 1945 When handed in at Local Office 30th Jan. 1945 Port of Baltimore, Maryland
 in Survey held at Baltimore, Maryland Date, First Survey 25th Aug. Last Survey 14th Dec. 1944
 Book. (Number of Visits 4)
 on the Motor Tanker "POZA RICA" Tons { Gross 7599
 Net -
 at Genoa - Sestri By whom built Soc. Anon Ansaldo Yard No. - When built 1940
 rs Garibaldi S.A.C.N. Port belonging to -
 tric Light Installation fitted by - Contract No. - When fitted 1940
 Vessel fitted for carrying Petroleum in bulk Yes

be made

1 and over Distribution 2 - Wire

ure of supply for Lighting 110 volts, Heating 110 volts, Power 110 volts.
 t or Alternating Current, Lighting Direct Power Direct
 rrating current system, state frequency of periods per second -
 e Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes
 rators, do they comply with the requirements regarding temperature rise - , are they compound wound Yes
 y over compounded 5 per cent. - , if not compound wound state distance between each generator -
 more than one generator is fitted are they arranged to run in parallel Yes , is an adjustable regulating resistance fitted in
 with each shunt field Yes Have certificates of test results for machines under 100 kw. been submitted and
 ved - Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing -
 i terminals accessible, clearly marked, and furnished with sockets Yes , are they so spaced or shielded that they cannot be accidentally earthed,
 ircuit, or touched Yes Are the lubricating arrangements of the generators as per Rule Yes
 on of Generators Tween deck at After end of E. R. , is the ventilation
 of the generators satisfactory Yes are they clear of all inflammable material Yes if situated near unprotected
 ork or other combustible material, state distance of same horizontally from or vertically above the generators - and -
 generators protected from mechanical injury and damage from water, steam or oil Yes , are their axes of rotation fore and aft Yes
 ing, are the bedplates and frames of the generating plant efficiently earthed Yes are the prime movers and their respective generators
 illic contact Yes Main Switch Boards, where placed on After Bulkhead of Generator
 Flat If the generators and main switchboard are not placed in the same compartment, is each generator provided with
 on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard -
 boards, are they placed in accessible positions, free from inflammable gases and acid fumes Yes , are they protected from mechanical
 and damage from water, steam or oil Yes , if situated near unprotected woodwork or other combustible material, state distance of same
 ally from or vertically above the switchboards - and - , are they constructed wholly of durable, non-ignitable non-absorbent
 ils Yes , is all insulation of high dielectric strength and of permanently high insulation resistance Yes
 an approved type Steel with mica bushes , if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micanite or other
 groscopic insulating material, and the slab similarly insulated from its framework - , is the non-hygroscopic insulating material of an approved
 , and is the frame effectively earthed Yes Are the fittings as per Rule regarding:—spacing or shielding of live parts
 es , accessibility of all parts Yes , absence of fuses on back of board Yes , temperature rise of
 s bars - , individual fuses to voltmeter, pilot or earth lamp Yes , are moving parts of switches alive in the
 position No are all screws and nuts securing connections effectively locked Yes are any fuses fitted on the live side of
 No Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches
 erator has a 2 pole circuit breaker with an incorporated knife switch to the equalising bus.
 outgoing circuit has a two pole switch , except steering gear which has a 2 pole circuit breaker.
 bine driven generators fitted with emergency trip switch as per rule Yes Are cupboards or compartments containing switchboards composed of
 sting material or lined with approved material Yes Instruments on main switchboard 2 ammeters 2 volt-
 - synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection
 Yes Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system
 Ohmmeter
 comply with the requirements of the Rules Yes are the fusible cutouts of an approved type Yes have the reversed

current protection devices been tested under working conditions **Yes** Joint Boxes, Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule **Yes**

Cables: Single, twin, concentric, or multicore **Single** are the cables insulated and protected as per Tables IV, V, X or XI of the Rules **Yes**

If the cables are insulated otherwise than as per Rule, are they of an approved type **-** Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load **-**

Cable Sockets, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets **Yes** Paper Insulated and Varnished Cambric Insulated Cables.

If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound **-**, or waterproof insulating tape **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** Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit **lead covered**

Support and Protection of Cables, state how the cables are supported and protected **saddles spaced 8" apart, lead covered and armoured, in steel casing along fire and after gangway**

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, are the cables and fittings in accordance with the special requirements **Yes**

Joints in Cables, state if any, and how made, insulated, and protected **None**

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 **connection made at each section board**

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 **on main deck in separate room aft of E. R. casing, double throw double pole knife switch on emergency switchboard, 2 cylinder Diesel engine**

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 **-**

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected **none fitted**

how are the cables led

where are the controlling switches situated **-**

are all fittings suitably ventilated **-**, are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials **Yes**

Heating and Cooking Appliances, are they constructed and fitted as per Rule **Yes**, are air heaters constructed and fitted as per Rule **-**

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

Are Lamps, other than searchlight lamps, No. **none**, 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 **-**, 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 **-** and **-**

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing **-** 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 **-** 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** are all fuses of the filled cartridge type **Yes** are they of an approved type **Yes**

If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office **-**

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule **Yes**

| 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 | 2 | 50 | 110 | 455 | 400 | Heavy Oil Engine | Diesel | above 150° F |
| AUXILIARY | 1 | 10 | 110 | 91 | 750 | Heavy oil Engine | Diesel | above 150° F |
| EMERGENCY | | | | | | | | |
| ROTARY TRANSFORMER | | | | | | | | |

| DESCRIPTION. | No. per Pole. | Total Nominal Area per Pole Sq. Ins. | COMPOSITION OF STRAND. | | TOTAL MAXIMUM CURRENT. AMPERES. | | Approximate Length (Lead and Return.) Feet. | Insulated with | HOW PROTECTED |
|------------------------|---------------|--------------------------------------|------------------------|-----------|---------------------------------|-------|---|----------------|-------------------------|
| | | | No. | Diameter. | Circuit. | Rate. | | | |
| MAIN GENERATOR | 2 | .62 | | | 600 | 770 | 30 | Var. Camb. | Lead covered & Armoured |
| EQUALISER CONNECTIONS | 1 | .31 | | | | | | | |
| AUXILIARY GENERATOR | | | | | | | | | |
| EMERGENCY GENERATOR | | | | | | | | | |
| ROTARY TRANSFORMER | | | | | | | | | |
| ENGINE ROOM | 1 | .010075 | | | 20 | 42 | | " " | " " " |
| Starboard | 1 | .010075 | | | 20 | 42 | | " " | " " " |
| AUXILIARY SWITCHBOARDS | | | | | | | | | |
| E R - Power | 1 | .062 | | | 100 | 135 | | " " | " " " |
| Vent Fans Deck | 1 | .31 | | | 200 | 395 | | " " | " " " |
| E.R. Workshop | 1 | .010075 | | | 40 | 42 | | " " | " " " |
| Emerg. Panel | 1 | .0775 | | | 100 | 775 | | " " | " " " |
| ACCOMMODATION | | | | | | | | | |
| Poop Port | 1 | .010075 | | | 40 | 42 | | " " | " " " |
| Poop Starboard | 1 | .010075 | | | 40 | 42 | | " " | " " " |
| Fore & Centre Castles | 1 | .062 | 18 | .058 | 100 | 135 | | " " | " " " |
| WIRELESS | | | | | | | | | |
| Telegraph | 1 | .02325 | | | 40 | 75 | | " " | " " " |
| Dom. Refrig. | 1 | .0031 | | | 20 | | | " " | " " " |
| NAV. LIGHTS | | | | | | | | | |
| Centre Castle Refrig. | 1 | .0031 | | | 20 | | | " " | " " " |
| Emergency Panel | 1 | .0775 | | | 100 | | | " " | " " " |
| Deck | | | | | | | | | |
| ARC LAMPS | 1 | .0465 | | | 100 | | | " " | " " " |
| HEATERS | | | | | | | | | |

| DESCRIPTION. | No. of Motors. | No. per Pole. | Total Nominal Area per Pole Sq. Ins. | COMPOSITION OF STRAND. | | TOTAL MAXIMUM CURRENT. AMPERES. | | Approximate Length (Lead and Return.) Feet. | Insulated with | HOW PROTECTED |
|-----------------------------|----------------|---------------|--------------------------------------|------------------------|-----------|---------------------------------|-------|---|----------------|-------------------------|
| | | | | No. | Diameter. | In Circuit. | Rate. | | | |
| Workshop Grinder | 1 | 1 | .0031 | | | 54 | 75 | | Var. Camb. | Lead covered & Armoured |
| Dom. Refrig. Comp | 1 | 1 | .02325 | | | 13 | 42 | | " " | " " " |
| Brine | 1 | 1 | .010075 | | | 7.1 | | | " " | " " " |
| PUMP | 1 | 1 | .0031 | | | 6.9 | | | " " | " " " |
| Sanitary | 1 | 1 | .0031 | | | 23 | 42 | | " " | " " " |
| PUMP | 1 | 1 | .0031 | | | 7.1 | | | " " | " " " |
| Refrig. Circ. | 1 | 1 | .0031 | | | 70 | 104 | | " " | " " " |
| Midship Refrig. Circ. Pump | 1 | 1 | .010075 | | | 21.5 | 42 | | " " | " " " |
| Fresh Water pump | 1 | 1 | .0031 | | | 60 | 104 | | " " | " " " |
| Centre castle Refrig. Comp | 1 | 1 | .0465 | | | 22 | | | " " | " " " |
| Centre castle Refrig. Brine | 1 | 1 | .010075 | | | 22 | | | " " | " " " |
| ENGINE TURNING GEAR | 1 | 1 | .0465 | | | 12.9 | 42 | | " " | " " " |
| F.O. Purifier | 1 | 1 | .0031 | | | 8.6 | | | " " | " " " |
| L.O. purifier | 1 | 1 | .0031 | | | 8.0 | | | " " | " " " |
| Drilling Machine | 1 | 1 | .010075 | | | 35 | 42 | | " " | " " " |
| Laths | 1 | 1 | .0031 | | | 9 | | | " " | " " " |
| Bread Mixer | 1 | 1 | .0031 | | | 40 | 75 | | " " | " " " |
| Bread Oven | | | | | | 29.5 | 42 | | " " | " " " |
| Galley F. O. Heater | 1 | 1 | .010075 | | | 29.5 | 42 | | " " | " " " |
| Steering Gear Motor | 1 | 1 | .02325 | | | 21 | | | " " | " " " |
| Vent Fans E.R. | 1 | 1 | .010075 | | | 21 | | | " " | " " " |
| Vent Fans E.R. | | | | | | 21 | | | " " | " " " |
| (a) Vent Fans Poop Accom. | 1 | 1 | .010075 | | | 21 | | | " " | " " " |
| (b) Vent Fans Poop Accom. | 1 | 1 | .010075 | | | 21 | | | " " | " " " |
| Vent Fans | 1 | 1 | .010075 | | | 31 | | | " " | " " " |
| Vent Fans | 1 | 1 | .010075 | | | 29 | | | " " | " " " |
| Vent Fans, Poop Accom. | 1 | 1 | .010075 | | | 14 | | | " " | " " " |
| " Midship Accom. | 1 | 1 | .010075 | | | 14 | | | " " | " " " |
| " Bridge | 1 | 1 | .010075 | | | 1.25 | | | " " | " " " |
| " Galley | 1 | 1 | .0031 | | | | | | " " | " " " |

All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

Electrical Engineers.

Date

COMPASSES.

Distance between electric generators or motors and standard compass Clear view screen motor 15 ft.

Distance between electric generators or motors and steering compass " " " " 7 ft.

The nearest cables to the compasses are as follows:—

A cable carrying .8 Ampères 1 feet from standard compass 1 feet from steering compass.

A cable carrying 1.2 Ampères 9 feet from standard compass 2 feet from steering compass.

A cable carrying .8 Ampères 11 feet from standard compass 4 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.

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 electric installation of this vessel)
now examined and tested, found in good order.

Sectional switchboards now renewed in synthetic insulating material to replace the steel switchboards
with mica bushings, several of which were burnt by shorts. The generators examined under full working
conditions, the reverse current and overload devices operated and found in good order. In my opinion
the electrical installation of this vessel is in good and safe working condition and meet the special
requirements for ships carrying oil having a flash point less than 150°.

Total Capacity of Generators 110 Kilowatts.

The amount of Fee ... £

\$180.00

When applied for,
Jan. 30, 1945

Travelling Expenses (if any) £

When received,
19

Committee's Minute

NEW YORK FEB 7 1945

Assigned Elec. Light

Wm. C. Cowan
Surveyor to Lloyd's Register of Shipping.