

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 19 When handed in at Local Office 3 Nov. 1927, Port of ROUEN.

No. in Survey held at Rouen. Date, First Survey 9 Nov. 26. Last Survey 29 Oct. 1927.  
Reg. Book.

25/38. on the TWIN SCREW MOTOR VESSEL "ITAPAGE" (Number of visits 48)

Tons { Gross 4998.  
Net 3012.

Built at Rouen By whom built Ch de Normandie Yard No. P5 When built 1927.

Owners Companhia Nacional Navegacao Costeira Port belonging to Rio de Janeiro

Electric Light Installation fitted by Chantier de Normandie Contract No. P5 When fitted 1927.

**System of Distribution** Two wired insulated system. ✓

**Pressure of supply for Lighting** 110 volts, Heating ✓, Power 110 volts. ✓

**Direct or Alternating Current, Lighting** Direct Current ✓, Power Direct Current. ✓

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. ✓

**Position of Generators** Engine Room Bottom Platform 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 effectively earthed? yes. ✓, are the prime movers and their respective generators in metallic contact? no. ✓

**Main Switch Boards**, where placed? Engine Room Bottom Platform Port Side. ✓

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 breakers with overload & reversed current trips, central pole equalizer. Switch interlocked with circuit breaker so that switch closes before and opens after main circuit breaker.

**Instruments** on main switchboard Two ammeters Two 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 Earth lamps.

**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. ✓



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

Fail of Pressure, state maximum between bus bars and any point of the installation under maximum load 5 Volts

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 Armoured and lead covered cables secured to perforated galvanised iron plates, protected by iron casings in holds.

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 No. 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 Water tight function boxes. Porcelain function boxes in cabins.

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 Deck house Port Side of Boat Deck. Generator controlled by a special switchboard in same compartment and driven by direct coupled Petrol 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 Watertight lamps with metal guard protectors.

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

how are the cables led yes

where are the controlling switches situated yes

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

Are 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                             | 2      | 110        | 110    | 1000  | 425            | Steam Engine  |   |                      |
| EMERGENCY                        | 1      | 8          | 110    | 72.5  | 770            | Petrol Engine | Petrol  |                      |

| LIGHTING AND HEATING CONDUCTORS. |                                  |                    |  |                        |                     |                              |  |                   |                         |
|----------------------------------|----------------------------------|--------------------|--|------------------------|---------------------|------------------------------|--|-------------------|-------------------------|
| Ref. No.                         | DESCRIPTION.                     | No. of Conductors. | Effective Area of each Conductor. Sq. Ins. | COMPOSITION OF STRAND. |                     | Total Maximum Current. Amps. | Approximate Length. (Lead and Return.) Feet. | Insulated with    | HOW PROTECTED.          |
|                                  |                                  |                    |  | No.                    | Diameter.           |                              |  |                   |                         |
|                                  | MAIN GENERATOR...                | 2                  | 1020 $\frac{1}{4}$ "                       | 2 cables               | 12 $\frac{1}{16}$ " | 1000                         | 10 m.  | Vulcanized Rubber | Lead covered & armoured |
|                                  | EQUALISER CONNECTIONS            | 1                  | 510 $\frac{1}{4}$ "                        | 127                    | 2 $\frac{1}{16}$ "  | —                            | 5 m.   | "                 | "                       |
|                                  | EMERGENCY GENERATOR              | 2                  | 38.2 $\frac{1}{4}$ "                       | 19                     | 1 $\frac{1}{16}$ "  | 72.5                         | 20 m.  | "                 | "                       |
|                                  | BOILER ROOM                      | 2                  | 65 $\frac{1}{4}$ "                         | 37                     | 1 $\frac{1}{16}$ "  | 105                          | 110 m.                                       | "                 | "                       |
|                                  | AUXILIARY SWITCHBOARDS           | 2                  | 25.2 $\frac{1}{4}$ "                       | 19                     | 1 $\frac{1}{16}$ "  | 52                           | 64 m.  | "                 | "                       |
|                                  | ENGINE ROOM                      | 2                  | 6.65 $\frac{1}{4}$ "                       | 7                      | 1 $\frac{1}{16}$ "  | 20                           | 19 m.  | "                 | "                       |
|                                  | BOILER ROOM                      | 2                  | 6.65 $\frac{1}{4}$ "                       | 7                      | 1 $\frac{1}{16}$ "  | 20                           | 19 m.  | "                 | "                       |
|                                  | ACCOMMODATION                    | 2                  | 10.8 $\frac{1}{4}$ "                       | 7                      | 1 $\frac{1}{16}$ "  | 27.3                         | 80 m.  | "                 | "                       |
|                                  | Emergency Interior Lighting      | 2                  | 6.65 $\frac{1}{4}$ "                       | 7                      | 1 $\frac{1}{16}$ "  | 12                           | 90 m.  | "                 | "                       |
|                                  | Navigation lights                | 2                  | 6.65 $\frac{1}{4}$ "                       | 7                      | 1 $\frac{1}{16}$ "  | 5.5                          | 150 m.                                       | "                 | "                       |
|                                  | Hold & Deck lights               | 2                  | 14.1 $\frac{1}{4}$ "                       | 7                      | 1 $\frac{1}{16}$ "  | 14.2                         | 50 m.  | "                 | "                       |
|                                  | 2 <sup>nd</sup> Class & Stewards | 2                  | 14.1 $\frac{1}{4}$ "                       | 7                      | 1 $\frac{1}{16}$ "  | 24.9                         | 130 m.                                       | "                 | "                       |
|                                  | Crew & 3 <sup>rd</sup> Class     | 2                  | 14.1 $\frac{1}{4}$ "                       | 7                      | 1 $\frac{1}{16}$ "  | 19.4                         | 160 m.                                       | "                 | "                       |
|                                  | WIRELESS                         | 2                  | 25.2 $\frac{1}{4}$ "                       | 19                     | 1 $\frac{1}{16}$ "  | 70                           | 140 m.                                       | "                 | "                       |
|                                  | SEARCHLIGHT                      | 2                  | 6.65 $\frac{1}{4}$ "                       | 7                      | 1 $\frac{1}{16}$ "  | 20                           | 100 m.                                       | "                 | "                       |
|                                  | MASTHEAD LIGHT                   | 2                  | 1 $\frac{1}{4}$ "                          | 1                      | 1 $\frac{1}{16}$ "  | 7                            | 150 m.                                       | "                 | "                       |
|                                  | SIDE LIGHTS                      | 2                  | 1 $\frac{1}{4}$ "                          | 1                      | 1 $\frac{1}{16}$ "  | 7                            | 30 m.  | "                 | "                       |
|                                  | COMPASS LIGHTS                   | 2                  | 1 $\frac{1}{4}$ "                          | 1                      | 1 $\frac{1}{16}$ "  | 15                           | 15 m.  | "                 | "                       |
|                                  | POOP LIGHTS                      | 2                  | 1.54 $\frac{1}{4}$ "                       | 7                      | 1 $\frac{1}{16}$ "  | 7                            | 100 m.                                       | "                 | "                       |
|                                  | CARGO LIGHTS                     | 2                  | 2.09 $\frac{1}{4}$ "                       | 7                      | 1 $\frac{1}{16}$ "  | 4                            | 40 m.  | "                 | "                       |

| MOTOR CONDUCTORS. |                             |                |  |                        |                    |                              |  |                   |                         |
|-------------------|-----------------------------|----------------|--|------------------------|--------------------|------------------------------|--|-------------------|-------------------------|
| Ref. No.          | DESCRIPTION.                | No. of Motors. | Effective Area of each Conductor. Sq. Ins. | COMPOSITION OF STRAND. |                    | Total Maximum Current. Amps. | Approximate Length. (Lead and Return.) Feet. | Insulated with    | HOW PROTECTED.          |
|                   |                             |                |  | No.                    | Diameter.          |                              |  |                   |                         |
|                   | BALLAST PUMP                |                |  |                        |                    |                              |  |                   |                         |
|                   | MINE DECK LINE PUMPS        |                |  |                        |                    |                              |  |                   |                         |
|                   | GENERAL SERVICE PUMP        |                |  |                        |                    |                              |  |                   |                         |
|                   | EMERGENCY DECK PUMP         |                |  |                        |                    |                              |  |                   |                         |
|                   | SANITARY PUMP               | 2              | 14.1 $\frac{1}{4}$ "                       | 7                      | 1 $\frac{1}{16}$ " | 40                           | 52 m.  | Vulcanized Rubber | Lead covered & armoured |
|                   | COLD SEA WATER PUMPS        |                |  |                        |                    |                              |  |                   |                         |
|                   | COLD FRESH WATER PUMPS      |                |  |                        |                    |                              |  |                   |                         |
|                   | SEA COMPRESSOR              |                |  |                        |                    |                              |  |                   |                         |
|                   | FRESH WATER PUMP            | 2              | 4.45 $\frac{1}{4}$ "                       | 7                      | 1 $\frac{1}{16}$ " | 20                           | 50 m.  | "                 | "                       |
|                   | ENGINE TURNING GEAR         | 2              | 14.1 $\frac{1}{4}$ "                       | 7                      | 1 $\frac{1}{16}$ " | 40                           | 40 m.  | "                 | "                       |
|                   | ENGINE REVERSING GEAR       | 2              | 14.1 $\frac{1}{4}$ "                       | 7                      | 1 $\frac{1}{16}$ " | 40                           | 60 m.  | "                 | "                       |
|                   | LUBRICATING OIL PUMPS       | 2              | 262 $\frac{1}{4}$ "                        | 37                     | 2 $\frac{1}{16}$ " | 300                          | 64 m.  | "                 | "                       |
|                   | OIL FUEL TRANSFER PUMP      | 2              | 262 $\frac{1}{4}$ "                        | 37                     | 2 $\frac{1}{16}$ " | 300                          | 64 m.  | "                 | "                       |
|                   | WATER PUMPS                 | 2              | 25.2 $\frac{1}{4}$ "                       | 19                     | 1 $\frac{1}{16}$ " | 60                           | 24 m.  | "                 | "                       |
|                   | WATER PUMPS                 |                |  |                        |                    |                              |  |                   |                         |
|                   | WATER PUMPS                 |                |  |                        |                    |                              |  |                   |                         |
|                   | STEERING GEAR               |                |  |                        |                    |                              |  |                   |                         |
|                   | (a) MOTOR GENERATOR         |                |  |                        |                    |                              |  |                   |                         |
|                   | (b) MAIN MOTOR              | 2              | 126 $\frac{1}{4}$ "                        | 37                     | 2 $\frac{1}{16}$ " | 100                          | 100 m.                                       | "                 | "                       |
|                   | WORKSHOP MOTOR              | 2              | 10.8 $\frac{1}{4}$ "                       | 7                      | 1 $\frac{1}{16}$ " | 35                           | 60 m.  | "                 | "                       |
|                   | VENTILATING FANS            | 2              | 14.1 $\frac{1}{4}$ "                       | 7                      | 1 $\frac{1}{16}$ " | 37                           | 80 m.  | "                 | "                       |
|                   | FAN in Refrigerator Room    | 2              | 14.8 $\frac{1}{4}$ "                       | 7                      | 1 $\frac{1}{16}$ " | 53                           | 60 m.  | "                 | "                       |
|                   | F.D. FAN. Boiler Room       | 2              | 2.01 $\frac{1}{4}$ "                       | 1                      | 1 $\frac{1}{16}$ " | 10                           | 80 m.  | "                 | "                       |
|                   | Ventilation local hospitals | 2              | 2.01 $\frac{1}{4}$ "                       | 1                      | 1 $\frac{1}{16}$ " | 2                            | 150 m.                                       | "                 | "                       |
|                   | Section Board No 2          | 2              | 29.2 $\frac{1}{4}$ "                       | 19                     | 1 $\frac{1}{16}$ " | 64.8                         | 70 m.  | "                 | "                       |
|                   | " " No 1                    | 2              | 19.9 $\frac{1}{4}$ "                       | 7                      | 1 $\frac{1}{16}$ " | 42                           | 120 m.                                       | "                 | "                       |



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.

Electrical Engineers.

CHANTIER BOUENNAISE  
S 25 SEP 1927 S  
Grand-Quevilly (Seine-Inférieure)

#### COMPASSES.

Distance between electric generators or motors and standard compass 38 metres

Distance between electric generators or motors and steering compass 37 metres

The nearest cables to the compasses are as follows:—

A cable carrying 5.5 Ampères 3<sup>m</sup> feet from standard compass 2<sup>m</sup> feet from steering compass.

A cable carrying 2 Ampères 3<sup>m</sup> feet from standard compass 2<sup>m</sup> 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 Two degrees on East course in the case of the standard

compass, and one degrees on South course in the case of the steering compass.

Builder's Signature.

CHANTIER BOUENNAISE  
S 25 SEP 1927 S  
Grand-Quevilly (Seine-Inférieure)

Is this installation a duplicate of a previous case yes If so, state name of vessel "ITAIMBE"

General Remarks (State quality of workmanship, opinions as to class, &c. The Electric Installation of this vessel

has been fitted in accordance with the Society's Rules, and as per approved plans. The material and workmanship is satisfactory and the installation is eligible in our opinion to be classed and the vessel to have the notation in the Register Book of "Electric Light" also "wireless".

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

FW  
9/11/27  
Jy

Total Capacity of Generators 220. Kilowatts.

The amount of Fee ... 4.500 :  
When applied for, 25.10.1927  
When received, 2.11.1927  
Travelling Expenses (if any) See Hely Report

L. Desest & R. B. Guier.  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 2 DEC 1927

Assigned Elec. Light

Im. 127.—Transfer.  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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