

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

8 AUG 1945
Received at London Office

Date of writing Report... 31 July 1945 When handed in at Local Office... 19... Port of... LISBON

No. in Survey held at... LISBON Date, First Survey 1st. April Last Survey 30th. July 1945
Reg. Book. (Number of Visits... 7...)

on the Single Screw Motor Trawler "JOÃO ALVARES FAGUNDES" Tons { Gross... 1270
Net... 657

Built at... Lisbon By whom built... Cia. União Fabril Yard No. 117 When built 1945

Owners... Soc. Nac. dos Armadores de Bacalhau. Port belonging to... Lisbon

Electrical Installation fitted by... Cia. União Fabril Contract No. - When fitted 1945

Is vessel fitted for carrying Petroleum in bulk... no Is vessel equipped with D.F... no E.S.D... yes Gy.C... no Sub.Sig... no

Have plans been submitted and approved... yes System of Distribution 2 wire direct Voltage of supply for Lighting 220

Heating... - Power 220 Direct or Alternating Current, Lighting direct Power direct of Alternating Current state frequency... - Prime Movers,

has the governing been tested and found efficient when the whole load is suddenly thrown on and off... yes Are turbine emergency governors fitted with a

trip switch as per Rule... - Generators, are they compound wound... yes, are they level compounded under working conditions... yes,

if not compound wound state distance between generators... - and from switchboard... - Where more than one generator is fitted are they

arranged to run in parallel... no, are shunt field regulators provided... yes Is the compound winding connected to the negative or positive pole

positive Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing... - Have certificates of

test for machines under 100 kw. been supplied... and the results found as per rule... Are the lubricating arrangements and the construction

of the generators as per rule... yes Position of Generators... (main) on port side, (trawl-winch) on stbd. side of

engine room flat is the ventilation in way of generators satisfactory... yes are they clear of inflammable material... yes, if situated

near unprotected combustible material state distance from same horizontally... - and vertically... - are the generators protected from mechanical

injury and damage from water, steam and oil... yes, are the bedplates and frames earthed... yes and the prime movers and generators in metallic

contact... yes Switchboards, where are main switchboards placed... at forward end of engine room flat

are they in accessible positions, free from inflammable gases and acid fumes... yes, are they protected from mechanical injury and damage from water, steam

and oil... yes, if situated near unprotected combustible material state distance from same horizontally... yes and vertically... yes, what insulation

material is used for the panels... marble, if of synthetic insulating material is it an Approved Type... - if of

semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule... yes Is the frame effectually earthed... yes

Is the construction as per Rule... yes, including accessibility of parts... yes, absence of fuses on the back of the board... yes, individual fuses

to pilot and earth lamps, voltmeters, etc... yes locking of screws and nuts... yes, labelling of apparatus and fuses... yes, fuses on the "dead"

side of switches... yes Description of Main Switchgear for each generator and arrangement of equaliser switches... circuit breaker for

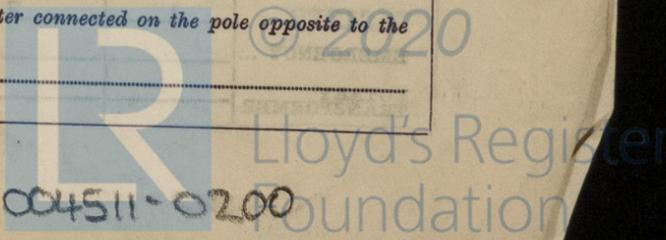
each dynamo

and for each outgoing circuit... D.P. switch and fuses

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule... yes Instruments on main switchboard... two

ammeters... two voltmeters... - synchronising devices. For compound machines in parallel is the ammeter connected on the pole opposite to the

equaliser connection... - Earth Testing, state means provided... earth lamps



Switches, Circuit Breakers and Fuses, are they as per Rule. yes, are the fuses an approved type. yes, are all fuses labelled as per Rule. yes, are the reversed current protection devices connected on the pole opposite to the equaliser connection. -, have they been tested under working conditions. - Joint Boxes, Section Boards and Distribution Boards, is the construction and position as per Rule. yes Cables, are they insulated and protected as per the appropriate Tables of the Rules. yes, if otherwise than as per Rule are they of an approved type. -, state maximum fall of pressure between bus bars and any point under maximum load. nil, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets. yes. Are paper insulated and varnished cambric insulated cables sealed at the exposed ends. - with insulating compound. - or waterproof insulating tape. -. Are all the cable runs in accessible positions, not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical damage. yes, are cables laid under machines or floorplates. yes, if so, are they adequately protected. yes. Are cables in machinery spaces, galleys, laundries, etc., lead covered. yes or run in conduit. -. State how the cables are supported and protected. clipped to perforated trays

Are all lead sheaths, armoring and conduits effectually bonded and earthed. yes. Refrigerated chambers, are the cables and fittings as per Rule. yes

Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands. yes, where unarmoured cables pass through beams, etc., are the holes effectively bushed. yes and with what material. lead Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule. yes. Emergency Supply, state position. - and method of control. -

Navigation Lamps, are they separately wired. yes controlled by separate double pole switches. yes and fuses. yes. Are the switches and fuses in a position accessible only to the officers on watch. yes, is an automatic indicator fitted. yes. Secondary Batteries, are they constructed and fitted as per Rule. -, are they adequately ventilated. -

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof. yes. Are fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present. no, if so, how are they protected. -

and where are the controlling switches fitted. -, are all fittings suitably ventilated. yes, are all fittings and accessories constructed and installed as per Rule. yes. Searchlight Lamps, No. of. -, whether fixed or portable. -, are their fittings as per Rule. -. Heating and Cooking, is the general construction as per Rule. -, are the frames effectually earthed. -, are heaters in the accommodation of the convection type. -. Motors, are all motors constructed and installed as per Rule. yes and placed in well-ventilated compartments in which inflammable gases cannot accumulate and free from damage from water, steam and oil. yes, if situated near unprotected combustible material state minimum distance from same horizontally. - and vertically. -

Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing. -. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule. yes. Control Gear and Resistances, are they constructed and fitted as per Rule. yes. Lightning Conductors, where required are they fitted as per Rule. -. Ships carrying Oil having a Flash Point less than 150° F. Have all the special requirements of the Rules for such ships been complied with. -, are all fuses of the cartridge type. - are they of an approved type. -. If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type. -. Spare Gear, if the vessel is for open sea service have spares been provided as per Rule. yes, are they suitably stored in dry situations. yes. Insulation Tests, has the insulation resistance of all circuits and apparatus been megger tested and found satisfactory. yes

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 ✓ | 25 ✓ | 220 ✓ | 114 ✓ | 1200 ✓ | Diesel Engines made: | | |
| TRAWL | 1 | 80 | 220 | 334 | 600 | Russell, Newbery & Co. | Heavy oil over 150°F | |
| EXCITER | 1 | 7 | 220 | 32 | 1350 | S.L.M. Winterthur | Heavy oil over 150°F | |
| EMERGENCY ... | | | | | | " | " | |
| ROTARY TRANSFORMER | | | | | | | | |

GENERATOR CABLES.

| DESCRIPTION. | KILOWATTS. | CONDUCTORS. | | MAXIMUM CURRENT IN AMPERES. | | APPROX. LENGTH (lead plus return feet). | INSULATED WITH. | HOW PROTECTED. |
|---------------------------|------------|---------------------------|---|-----------------------------|-------|---|-----------------|----------------|
| | | No. in Parallel Per Pole. | Sectional Area or No. and Dia. of Strands. Sq. ins. | In the Circuit. | Rule. | | | |
| MAIN GENERATOR ... | 25 | 1 | 19/.083 | 114 | 118 | 80&100 | rubber | armoured |
| " " EQUALISER ... | | | | | | | | |
| TRAWL WINCH GENERATOR | 80 | 1 | 61/.103 | 334 | 332 | 105 | rubber | armoured |
| " " EXCITER | 7 | 1 | 7/.052 | 32 | 37 | 160 | rubber | armoured |
| EMERGENCY GENERATOR ... | | | | | | | | |
| ROTARY TRANSFORMER: MOTOR | | | | | | | | |
| " " GENERATOR ... | | | | | | | | |

MAIN DISTRIBUTION CABLES.

| DESCRIPTION. | KILOWATTS. | CONDUCTORS. | MAXIMUM CURRENT IN AMPERES. | APPROX. LENGTH (lead plus return feet). | INSULATED WITH. | HOW PROTECTED. |
|--|------------|-------------|-----------------------------|---|-----------------|----------------|
| AUX. SWITCHBOARDS AND SECTION BOARDS ... | | | | | | |
| POOP LIGHTING | | 1 7/.052 | 20 / 37 | 45 | rubber | armoured |
| WIRELESS | | 1 7/.052 | 7 / 37 | 140 | rubber | armoured |
| ENGINE ROOM | | 1 7/.036 | 5 / 24 | 36 | rubber | armoured |
| NAVIGATING LIGHTS | | 1 7/.029 | 2.5 / 15 | 140 | rubber | armoured |
| FISHING LIGHTS | | 1 7/.036 | 7 / 24 | 140 | rubber | armoured |
| FORWARD LIGHTS | | 1 7/.029 | 4.5 / 15 | 340 | rubber | armoured |

LIGHTING AND HEATING, ETC., CABLES.

| DESCRIPTION. | KILOWATTS. | CONDUCTORS. | MAXIMUM CURRENT IN AMPERES. | APPROX. LENGTH (lead plus return feet). | INSULATED WITH. | HOW PROTECTED. |
|--------------------------------------|------------|-------------|-----------------------------|---|-----------------|----------------|
| WIRELESS ... | | 1 7/.052 | 7 / 37 | 140 | rubber | armoured |
| NAVIGATION LIGHTS ... | | 1 7/.029 | 2.5 / 15 | 140 | rubber | armoured |
| LIGHTING SEARCHLIGHTS ... | | | | | | |
| POOP LIGHTING | | 1 7/.052 | 20 / 37 | 45 | rubber | armoured |
| ENGINE ROOM | | 1 7/.036 | 5 / 24 | 36 | rubber | armoured |
| FISHING LIGHTS | | 1 7/.036 | 7 / 24 | 140 | rubber | armoured |
| FORWARD LIGHTS | | 1 7/.029 | 4.5 / 15 | 340 | rubber | armoured |

MOTOR CABLES.

| ALL IMPORTANT MOTORS TO BE ENUMERATED. | No. | B.H.P. | CONDUCTORS. | MAXIMUM CURRENT IN AMPERES. | APPROX. LENGTH (lead plus return feet). | INSULATED WITH. | HOW PROTECTED. |
|--|-----|--------|-------------|-----------------------------|---|-----------------|----------------|
| TRAWLWINCH | 1 | 90 | 1 61/.103 | 334 / 332 | 105 | rubber | armoured |
| STEERING MOTOR | 1 | 5 | 1 19/.052 | 21 / 64 | 180 | rubber | armoured |
| O.F. PUMP | 1 | 5 | 1 19/.052 | 21 / 64 | 60 | rubber | armoured |
| F.W. PUMP | 1 | 5 | 1 19/.052 | 21 / 64 | 25 | rubber | armoured |
| COD LIVER OIL PLANT | 1 | 5 | 1 19/.052 | 21 / 64 | 105 | rubber | armoured |
| COMPRESSOR | 1 | 12 | 1 19/.052 | 48 / 64 | 45 | rubber | armoured |
| CAPSTAN | 1 | 14 | 1 19/.083 | 56 / 118 | 180 | rubber | armoured |
| L.O. PUMP | 1 | 5 | 1 19/.052 | 21 / 64 | 45 | rubber | armoured |
| SEPARATOR | 1 | 2 | 1 19/.052 | 9 / 64 | 55 | rubber | armoured |
| GEN. SERV.-BALLAST PUMPS | 2 | 12 | 1 19/.052 | 48 / 64 | 55&40 | rubber | armoured |
| WINDLASS | 1 | 24 | 1 19/.083 | 92 / 118 | 380 | rubber | armoured |
| REFRIGERATOR | 1 | 2 | 1 7/.036 | 9 / 24 | 100 | rubber | armoured |

The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.
All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.
The foregoing is a correct description.

COMPANHIA UNIAO FABRIL
Arrondataria do
ESTALEIRO NAVAL DA A.G.P.L.
Engenharia

Electrical Engineers. Date

COMPASSES.

Minimum distance between electric generators or motors and standard compass 20 feet

Minimum distance between electric generators or motors and steering compass 12 feet

The nearest cables to the compasses are as follows:—

A cable carrying 2.5 Ampères 4 feet from standard compass 10 feet from steering compass.

A cable carrying 7 Ampères 6 feet from standard compass 12 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 nil degrees on any course in the case of the standard compass, and nil degrees on any course in the case of the steering compass.

COMPANHIA UNIAO FABRIL
Arrondataria do
ESTALEIRO NAVAL DA A.G.P.L.
Engenharia

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, whether insulation tests, etc., have been made, opinions as to class, etc.)

The electric installation has been satisfactorily fitted on board this vessel in accordance with the Secretary's letters, the approved plans and the Society's Rules.

The insulation has been tested throughout.

The installation in my opinion is eligible to be classed.

valid.
Mar 6945

Total Capacity of Generators 137 Kilowatts.

The amount of Fee ... Ess: 5000\$00 } When applied for, 1/8 1945

Travelling Expenses (if any) Ess: 100\$00 } When received, 19

John Guthrie
Surveyor to Lloyd's Register of Shipping.

Committee's Minute FEB 14 SEP 1945

Assigned See F.E. weekly rpt.

Date of writing Reg
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(The Surveyors are requested not to write on or below the space for Committee's Minute.)

