

## REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office... 1 MAR 1947

Date of writing Report.....19..... When handed in at Local Office..... 21/2/ 47 ..... Port of Trieste

No. in Survey held at Trieste Date, First Survey 28.8.46 Last Survey 25.1.47  
 Reg. Book. (Number of Visits.....12.....)

87908 on the M.T. "LIBURNIA" Tons { Gross 8194  
 Net 4868

Built at Trieste By whom built CRDA Cant. San Marco Yard No. 1253 When built 1947

Owners "SIDARMA" Societa Italiana d'Armamento Port belonging to Roma

Electrical Installation fitted by CRDA Cantiere San Marco Contract No. — When fitted 1946

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

Have plans been submitted and approved yes System of Distribution two wire Voltage of supply for Lighting 110

Heating 110 Power 110 Direct or Alternating Current, Lighting direct Power direct If 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 yes Have certificates of

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

of the generators as per rule yes Position of Generators EA platform port side

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 in EA near Generators

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 — and vertically —, what insulation

material is used for the panels class A & B steel plate, if of synthetic insulating material is it an Approved Type yes, if of

semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule — 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 front Double 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 double pole link

switches with time & instantaneous overload system and individual

omnibus bars for each Generator

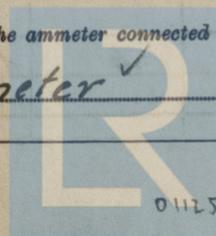
and for each outgoing circuit double pole link switches with fusible valve to each pole

On terminal circuits double pole "STOTZ" automatic circuit breakers

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule yes Instruments on main switchboard 2

ammeters 3 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 voltmeter - Ohmmeter



Switches, Circuit Breakers and Fuses, are they as per Rule yes, are the fuses an approved type Diased Centre 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 3V, 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 braided. State how the cables are supported and protected lead covered and steel braided cables supported on steel bars by steel clips in E.R. lead covered and steel braided cable in tubes on Deck. Lead covered and steel braided cable in accommodations. 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 effectually 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 in the Peep upper DK. Unit of Generator, a compressor not on board 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 yes, are they adequately ventilated yes. 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 yes, if so, how are they protected Gas tight tube & Gas tight Lamps (See Tr. L. of 12/5/47), are all fittings suitably ventilated yes and where are the controlling switches fitted outside the space. Searchlight Lamps, No. of yes, whether fixed or portable fix, are all fittings and accessories constructed and installed as per Rule yes. Heating and Cooking, is the general construction as per Rule yes. are the frames effectually earthed yes, are heaters in the accommodation of the convection type yes. 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 none. Have certificates of test for motors under 100 BHP intended for essential services been supplied and the results found as per Rule —. Control Gear and Resistances, are they constructed and fitted as per Rule yes. Lightning Conductors, where required are they fitted as per Rule steel Mast 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 yes, are all fuses of the cartridge type yes or "stop" Circ. Break yes. Are they of an approved type by letter. If portable lamps for use in dangerous spaces are supplied, are they of a self-contained battery-fed flameproof type yes. 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 ...                  | 1      | 40         | 110    | 364      | 550            | Diesel Motor "Benz" | Diesel Oil           |  |  |
|                           | 1      | 40         | 110    | 364      | 750            | Steam Eng. "Lang"   |                      |  |  |
| EMERGENCY ...             | 1      | 6          | 110    | 54       |                | Not fitted on board |                      |  |  |
| ROTARY TRANSFORMER        |        |            |        |          |                |                     |                      |  |  |

GENERATOR CABLES.

| DESCRIPTION.                  | KILOWATTS. | CONDUCTORS.               |  | MAXIMUM CURRENT IN AMPERES. |       | APPROX. LENGTH (lead plus return lead). | INSULATED WITH. | HOW PROTECTED.                |
|-------------------------------|------------|---------------------------|--|-----------------------------|-------|---|-----------------|-------------------------------|
|                               |            | No. in Parallel Per Pole. | Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm. | In the Circuit.             | Rule. |   |                 |                               |
| MAIN GENERATOR ...            | 40         | 2                         | 150x2  | 364                         | 404   |   | rubber          | Lead covered & steel braided. |
| " " EQUALISER ...             |            |                           |  |                             |       |   |                 |                               |
| EMERGENCY GENERATOR ...       | 6          | 1                         | 40   | 54                          | 88    |   | "               | " " " "                       |
| ROTARY TRANSFORMER: MOTOR ... |            |                           |  |                             |       |   |                 |                               |
| " " GENERATOR ...             |            |                           |  |                             |       |   |                 |                               |

MAIN DISTRIBUTION CABLES TO AX, SW, B

| DESCRIPTION.  | KILOWATTS. | CONDUCTORS. | MAXIMUM CURRENT IN AMPERES. | APPROX. LENGTH (lead plus return lead). | INSULATED WITH. | HOW PROTECTED. |        |                               |
|---|------------|-------------|-----------------------------|---|-----------------|----------------|--------|-------------------------------|
| AX SWITCHBOARDS AND SECTION BOARDS <u>Emergency</u> 36-37 |            | 1           | 50                          | 65                                      | 102             | 190            | rubber | Lead covered & steel braided. |
| Interlocked plugs to S.B. No 3 & 4                        |            | 1           | 3                           | 4                                       | 18              | 140            | "      | " " " "                       |
| E.R. Light No 7 & 8                                       |            | 1           | 11                          | 30                                      | 40              | 125            | "      | " " " "                       |
| Accommodation Aft No 9 & 10                               |            | 1           | 30                          | 50                                      | 72              | 190            | "      | " " " "                       |
| Accommodation Centre No 11 & 12                           |            | 1           | 15                          | 60                                      | 125             | 510            | "      | " " " "                       |

POWER LIGHTING AND HEATING, ETC., CABLES TO SB

| DESCRIPTION.                      | KILOWATTS. | CONDUCTORS. | MAXIMUM CURRENT IN AMPERES. | APPROX. LENGTH (lead plus return lead). | INSULATED WITH. | HOW PROTECTED. |        |                               |
|-----------------------------------|------------|-------------|-----------------------------|---|-----------------|----------------|--------|-------------------------------|
| WIRELESS ... No 15 2.16           |            | 1           | 20                          | 30                                      | 53              | 550            | rubber | Lead covered & steel braided. |
| NAVIGATION LIGHTS ... No 1 2.2    |            | 1           | 4.5                         | 2                                       | 24              | 550            | "      | " " " "                       |
| LIGHTING AND HEATING              |            |             |                             |   |                 |                |        |                               |
| Centre Bridge Power SB No 38 & 39 |            | 1           | 50                          | 70                                      | 102             | 540            | "      | " " " "                       |
| Owen No 40 & 41                   |            | 1           | 40                          | 60                                      | 88              | 125            | "      | " " " "                       |
| Air conditioning SB No 42 & 43    |            | 1           | 40                          | 70                                      | 88              | 125            | "      | " " " "                       |
| Welding group No 44 & 45          |            | 1           | 40                          | 66                                      | 88              | 125            | "      | " " " "                       |
| E.R. Power SB No 48 & 49          |            | 1           | 95                          | 140                                     | 150             | 90             | "      | " " " "                       |
| Shore Connection No 50 & 51       |            | 1           | 120                         | 150                                     | 180             | 100            | "      | " " " "                       |
| Secondary Battery No 5 & 6        |            | 1           | 2                           | 6                                       | 12              | 60             | "      | " " " "                       |

MOTOR CABLES.

| ALL IMPORTANT MOTORS TO BE ENUMERATED. | No. | B.H.P. | CONDUCTORS. | MAXIMUM CURRENT IN AMPERES. | APPROX. LENGTH (lead plus return lead). | INSULATED WITH. | HOW PROTECTED. |
|--|-----|--------|-------------|-----------------------------|---|-----------------|----------------|
| Turning gear Motor No 46-47            | 1   | 7      | 1           | 40                          | 50                                      | 58              | 60             |
| Condenser Circ. P. No 52-53            | 1   | 15     | 1           | 75                          | 115                                     | 125             | 80             |
| Search Light No 13-14                  | 1   | 15     | 1           | 15                          | 30                                      | 46              | 800            |

EMERGENCY SET

| DESCRIPTION.           | No. | B.H.P. | CONDUCTORS. | MAXIMUM CURRENT IN AMPERES. | APPROX. LENGTH (lead plus return lead). | INSULATED WITH. | HOW PROTECTED. |
|------------------------|-----|--------|-------------|-----------------------------|---|-----------------|----------------|
| Wireless No 67         | 1   | 20     | 1           | 20                          | 53                                      | 480             |                |
| Navigation " 68        | 1   | 4.5    | 1           | 2                           | 20                                      | 510             |                |
| E.R. Light " 69        | 1   | 4.5    | 1           | 10                          | 20                                      | 190             |                |
| Accommodation Aft " 70 | 1   | 6.5    | 1           | 10                          | 31                                      | 380             |                |
| Boat Deck " 71         | 1   | 4.5    | 1           | 10                          | 20                                      | 120             |                |
| Gyro Compass " 72      | 1   | 11     | 1           | 20                          | 42                                      | 610             |                |

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.

Ing Sebastiano Smani Electrical Engineers. Date 17. II. 1947

COMPASSES.

Minimum distance between electric generators or motors and standard compass 400'

Minimum distance between electric generators or motors and steering compass 400'

The nearest cables to the compasses are as follows:—

A cable carrying 60 Ampères 12 feet from standard compass 10 feet from steering compass.

A cable carrying 2 Ampères 12 feet from standard compass 10 feet from steering compass.

A cable carrying 0.25 Ampères in the feet from standard compass in the 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.

CANTIERI RIUNTI DELL'ADRIATICO Builder's Signature. Date 17. II. 1947

Is this installation a duplicate of a previous case yes If so, state name of vessel M/T ILLIRIA

General Remarks (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.)

This electrical equipment has been made in accordance with the Rules, approved plans and Secretary letters. The installation and S.B. have been made under special survey and the workmanship is good. The insulating condition tested and found good. Generators, motors & switch board tested in working condition and found satisfactory.

Total Capacity of Generators 86 Kilowatts. *80, increased by 6 files*

The amount of Fee ... £ 55,000 : When applied for, 21/2/10/47  
Travelling Expenses (if any) £ : : When received, 10/10/47

St. S. S. S.  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute \_\_\_\_\_

Assigned for minute see T.E. Kelly Rpt

2m.10.38.—Transfer. (MADE IN ENGLAND.)  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)