

# REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 31-12-52 19 When handed in at Local Office 25-1-1953 Port of GENOA

No. in Survey held at GENOA Date, First Survey 31st Aug. 1951 Last Survey 22nd December 1952

Book. 1997 on the STEEL TWIN SC. "ANDREA DORIA" (No. of Visits 43) Tons { Gross 29082 Net 15788

Built at GENOA-SESTRI By whom built S.A. ANSALDO-CANTIERI NAVALI Yard No. 918 When built 1952

Owners "ITALIA" SOC. per AZIONI di NAVIGAZIONE Port belonging to GENOA

Installation fitted by S.A. ANSALDO - CANTIERI NAVALI. When fitted 1952

Vessel equipped for carrying Petroleum in bulk NO Is vessel equipped with D.F. YES E.S.D. YES Gy.C. YES Sub.Sig. YES Radar YES

Plans, have they been submitted and approved YES System of Distribution TWO WIRE WITH DIRECT CURRENT CONSTANT Voltage of Lighting 220

Rating 220 Power 220 D.C. or A.C., Lighting 220 (127 to earth) Power 220 (127 to earth) If A.C. state frequency 50

Time Movers, has the governing been found as per Rule when full load is thrown on and off YES Are turbine emergency governors fitted

With a trip switch YES Generators, are they compound wound YES, and level compounded under working conditions YES

Not compound wound state distance between generators YES and from switchboard YES Are the generators arranged to run

parallel YES, are shunt field regulators provided YES Is the compound winding connected to the negative or positive pole

SPEED NEGATIVE 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

Position of Generators 5-750 KW GENERATORS FITTED IN AUX. ENGINE ROOM. 2-1000 KW GENERATORS FITTED ON FLAT ON PORT and STARB. SIDE OF MAIN ENGINE ROOM.

The ventilation in way of generators satisfactory YES are they clear of inflammable material and protected from mechanical injury and

Damage from water, steam and oil YES Switchboards, where are main switchboards placed MAIN SWITCHBOARDS FITTED ON FLAT

PORTSIDE OF AUX. ENGINE ROOM - SECONDARY SWITCHBOARD FITTED ON FLAT ON STARB. SIDE OF MAIN ENGINE ROOM.

Are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water,

Steam and oil YES, what insulation is used for the panels METALLIC FRAMES WITH MICANITE or MICA

Material is it an Approved Type YES, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom as

Rule YES Is the construction as per Rule, including locking of screws and nuts YES Description of Main Switchgear

For each generator and arrangement of equaliser switches DOUBLE POLE CIRCUIT BREAKER WITH OVERLOAD AND REVERSE

CURRENT TRIP AND A SINGLE POLE EQUALISER SWITCH INTERLOCKED WITH THE CIRCUIT BREAKER.

For the switch and fuse gear (or circuit breakers) for each outgoing circuit A DOUBLE POLE CIRCUIT BREAKER WITH

OVERLOAD CURRENT TRIP.

Compartments containing switchboards composed of fire-resisting material or lined as per Rule YES Instruments on main switchboard MAIN: 48

Meters, MAIN: 9 voltmeters, YES synchronising devices. For compound machines in parallel are the ammeters and reversed current

Protection devices connected on the pole opposite to the equaliser connection YES Earth Testing, state means provided TWO LAMP EARTH INDICATING SYS. ON MAINETER.

Cables, Circuit Breakers and Fuses, are they as per Rule YES, are the fuses an Approved Type YES

Type of fuses CROCI &amp; FARINELLI - MILANO, are all fuses labelled YES If circuit breakers are provided for the generators, at what

Load do they operate 50% and at what current do the reversed current protective devices operate 10%

Boxes, Section Boards and Distribution Boards, is the construction as per Rule YES

Are they insulated and protected as per Rule YES, if otherwise than as per Rule are they of an Approved Type YES

Maximum fall of pressure between bus bars and any point under maximum load 4 VOLTS, are the ends of all cables having a sectional

Area of 0.01 square inch and above provided with soldering sockets YES Are all paper insulated and varnished cambric insulated

Cables sealed at the ends YES Are all the cable runs in accessible positions, not exposed to drip or accumulation of water or oil,

Temperatures or risk of mechanical damage YES, are any cables laid under machines or floorplates length only, if so, are they

Adequately protected YES Are cables in machinery spaces, galleys, laundries, etc., lead covered YES or run in conduit YES

The "HR" type YES State how the cables are supported or protected SUPPORTED BY GALVANIZED PERFORATED PLATING

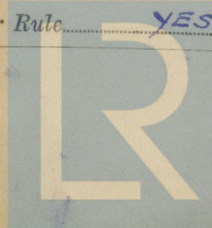
CLIPS - ALL CABLES LEAD COVERED, ARMoured OR STEEL WIRE BRAIDING - WHERE CABLES EXPOSED

RISK OF MECHANICAL DAMAGE, PROTECTED BY STEEL PLATING.

Lead sheaths, armouring and conduits effectually bonded and earthed YES Are all cables passing through decks and watertight

Ports provided with deck tubes or watertight glands YES, where unarmoured cables pass through beams, etc., are the holes

Adequately bushed YES Refrigerated chambers, are the cables and fittings as per Rule YES





Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule YES Emergency Supply, state position YES  
150 KW OIL ENGINE-GENERATOR SET FITTED ON 'A' DECK, ABOVE W.T. BULKHEAD DECK, FRAMES N°S 18.  
 Navigation Lamps, are they separately wired YES controlled by separate double pole switches and fuses YES Are the switches and fuses a position accessible only to the officers on watch YES Is an automatic indicator fitted YES Is an alternative supply provided YES  
 Secondary Batteries, are they constructed and fitted as per Rule YES are they adequately ventilated YES  
 state battery capacity in ampere hours 350 AMP. HOUR - 220 VOLTS.  
 Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof YES  
 Are any 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 YES  
 and where are the controlling switches fitted YES Are all fittings suitably ventilated YES  
 Searchlight Lamps, No. of ONE, whether fixed or portable FIXED, are they of the carbon arc or of the filament type FILAMENT  
 Heating and Cooking, is the general construction as per Rule YES, are the frames effectually earthed YES, are heaters in accommodation of the convection type YES Motors, are all motors constructed and installed as per Rule and placed in well-ventilated compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil YES  
 Are motors coupled to oil fuel transfer and pressure pumps capable of being stopped from a position accessible in the event of fire in the compartment YES Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing YES  
 Have certificates of test for motors under 100 BHP intended for essential sea 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 YES Ships carrying Oil having a Flash Point less than 150° F. Have all the special requirements of the Rules for such ships complied with YES Are all fuses of an Approved Cartridge Type YES Are the fittings for rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships YES Are the cables lead covered as per Rule YES  
 E.S.D., if fitted state maker THE SUBMARINE SIGNAL CO. LONDON location of transmitter COCKSAY, FRAMES 1/2-1/3, FORWARD and receiver CHART ROOM, ENGINE ROOM.  
 Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and suitably stored in dry situations YES  
 Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory YES

## PARTICULARS OF GENERATING PLANT.

| DESCRIPTION OF GENERATOR. | No. of | MAKER.            | RATED AT                 |        |       | Revs. per Min. | TYPE.                    | MAKER.             |
|---------------------------|--------|-------------------|--------------------------|--------|-------|----------------|--------------------------|--------------------|
|                           |        |                   | Kilowatts per Generator. | Volts. | Amps. |                |                          |                    |
| MAIN                      | 5      | ANSALDO-SANGIORIO | 750                      | 220    | 3410  | 250            | OIL ENGINE               | SA ANSALDO-STABIL. |
|                           | 2      | ditto             | 1000                     | 220    | 4545  | 700            | STEAM TURBINE S.A. GEARS | ditto              |
| EMERGENCY                 | 1      | ditto             | 150                      | 220    | 682   | 400            | OIL ENGINE               | ditto              |
|                           | 3      | ditto             | 140 KVA.                 | 220    | 368   | 1500           | D.C. ELECTRIC MOTOR      | ANSALDO-SANGIORIO  |

## GENERATOR CABLES.

| DESCRIPTION.                   | KILOWATTS. | CONDUCTORS.               |   | MAXIMUM CURRENT IN AMPERES. |       | APPROX. LENGTH (lead plus return) in m. | INSULATION. | PROTECTIVE COVER. |
|--------------------------------|------------|---------------------------|---|-----------------------------|-------|---|-------------|-------------------|
|                                |            | No. in Parallel per Pole. | Sectional Area or Nominal Diameter in sq. ins. or sq. mm. | In the Circuit.             | Rule. |   |             |                   |
| MAIN GENERATOR                 | 750        | 5                         | 405   | 3410                        | 3400  | 42                                      | V.C.        | LEAD COVERED-ARM. |
| "                              |            | 3                         | 405   |                             |       | 21                                      | V.C.        | "                 |
| "                              | 1000       | 6                         | 500   | 4545                        | 4800  | 70                                      | V.C.        | "                 |
| "                              |            | 3                         | 500   |                             |       | 35                                      | V.C.        | "                 |
| EMERGENCY GENERATOR            | 150        | 1                         | 500   | 682                         | 800   | 12                                      | V.C.        | "                 |
| A.C. GENERATOR SETS            | 121        | 1                         | 315   | 550                         | 563   | 90                                      | V.C.        | "                 |
| ROTARY TRANSFORMER: MOTOR D.C. | 140 KVA.   | 2                         | 100   | 368                         | 520   | 15                                      | V.C.        | "                 |
| "                              |            |                           |   |                             |       |   |             |                   |

## MAIN DISTRIBUTION CABLES (to Section Boards, Distribution Fuse Boards, etc.).

| DESCRIPTION.                                      | (1) | (2) | (3)  | (4)  | (5) | (6)  | (7)               |
|---|-----|-----|------|------|-----|------|-------------------|
| FROM MAIN SWITCHBOARDS:                           |     |     |      |      |     |      |                   |
| SPARE CONNECTION TO SECTION BOARDS N°S 2-3-4-5    | 3   | 400 | 1590 | 2025 | 125 | V.C. | LEAD COVERED-ARM. |
| SPARE CONNECTION-POWER CIRCUIT. MACH. SPACE-PORT. | 4   | 400 | 2725 | 2700 | 175 | V.C. | "                 |
| ditto ditto ditto-STARBOARD.                      | 4   | 400 | 2725 | 2700 | 135 | V.C. | "                 |
| REFRIGERATING MACHINERY                           | 5   | 500 | 3410 | 4000 | 200 | V.C. | "                 |
| POWER-ENGINE ROOM-PORT SIDE                       | 2   | 400 | 1330 | 1350 | 120 | V.C. | "                 |
| MAIN CIRCULATING PUMP N°1                         | 2   | 250 | 1010 | 960  | 100 | V.C. | "                 |
| INDUCED DRAUGHT FAN FOR N°1 MAIN BOILER           | 2   | 250 | 914  | 960  | 80  | V.C. | "                 |
| ditto FOR N°3 MAIN BOILER                         | 2   | 250 | 914  | 960  | 80  | V.C. | "                 |
| POWER-BOILER ROOM-PORT SIDE                       | 2   | 315 | 1459 | 1440 | 50  | V.C. | "                 |
| LIGHTING-MACHINERY SPACE-PORT SIDE                | 1   | 100 | 106  | 265  | 30  | V.C. | "                 |
| POWER-AUX. ENGINE ROOM-PORT SIDE                  | 1   | 400 | 738  | 675  | 30  | V.C. | "                 |

SEE ATTACHED SHEET N°1-2

## ATTACHED SHEET N°1

|   | (1) | (2) | (3)  | (4)  | (5) | (6)  | (7)               |
|---|-----|-----|------|------|-----|------|-------------------|
| POWER-AUX. ENGINE ROOM-STARBOARD SIDE             | 1   | 250 | 622  | 480  | 50  | V.C. | LEAD COVERED-ARM. |
| CONNECTION TO EMERGENCY SWITCHBOARDS              | 2   | 400 | 1140 | 1350 | 280 | V.C. | "                 |
| POWER-SECTION BOARD N°1                           | 1   | 80  | 140  | 299  | 175 | V.C. | "                 |
| LIGHTING ditto                                    | 1   | 250 | 186  | 480  | 175 | V.C. | "                 |
| POWER-SECTION BOARD N°2                           | 1   | 315 | 1119 | 563  | 110 | V.C. | "                 |
| LIGHTING ditto                                    | 1   | 200 | 255  | 416  | 110 | V.C. | "                 |
| POWER-SECTION BOARD N°3                           | 2   | 200 | 1113 | 832  | 130 | V.C. | "                 |
| LIGHTING ditto                                    | 1   | 200 | 184  | 416  | 130 | V.C. | "                 |
| POWER-SECTION BOARD N°4                           | 1   | 200 | 656  | 416  | 215 | V.C. | "                 |
| LIGHTING ditto                                    | 1   | 315 | 265  | 563  | 215 | V.C. | "                 |
| POWER-SECTION BOARD N°5                           | 1   | 100 | 187  | 265  | 290 | V.C. | "                 |
| LIGHTING ditto                                    | 1   | 315 | 115  | 563  | 290 | V.C. | "                 |
| AIR CONDITIONING SETS-SECTION N°1                 | 1   | 160 | 319  | 360  | 175 | V.C. | "                 |
| ditto " N°2                                       | 1   | 500 | 684  | 804  | 110 | V.C. | "                 |
| ditto " N°3                                       | 1   | 500 | 719  | 804  | 130 | V.C. | "                 |
| ditto " N°4                                       | 1   | 400 | 685  | 675  | 215 | V.C. | "                 |
| ditto " N°5                                       | 1   | 250 | 340  | 484  | 290 | V.C. | "                 |
| STEERING GEAR                                     | 2   | 250 | 625  | 960  | 320 | V.C. | "                 |
| WINDLASSES-TORN WARPING & CARGO WINCHES           | 1   | 500 | 1264 | 804  | 220 | V.C. | "                 |
| ART. WARPING WINCHES-CARGO CRANES                 | 1   | 500 | 960  | 804  | 300 | V.C. | "                 |
| BAKERY  | 1   | 125 | 268  | 307  | 145 | V.C. | "                 |
| GALLEY for officers.                              | 1   | 25  | 95   | 108  | 100 | V.C. | "                 |
| GALLEY for crew                                   | 1   | 200 | 313  | 416  | 160 | V.C. | "                 |
| GALLEY for 1st Class passengers.                  | 1   | 250 | 416  | 480  | 140 | V.C. | "                 |
| GALLEY for 2nd Class passengers.                  | 1   | 315 | 458  | 563  | 150 | V.C. | "                 |
| GALLEY for 3rd Class passengers                   | 1   | 200 | 356  | 416  | 235 | V.C. | "                 |
| SEARCH LIGHT                                      | 1   | 16  | 70   | 84   | 240 | V.C. | "                 |
| NAVIGATION LAMPS                                  | 1   | 10  | 3    | 62   | 140 | V.C. | "                 |
| RADIO STATION                                     | 1   | 50  | 40   | 169  | 120 | V.C. | "                 |
| SECTION BOARDS ON BRIDGE                          | 1   | 25  | 75   | 108  | 140 | V.C. | "                 |
| D.C. MOTOR-A.C. GENERATOR SET N°1                 | 1   | 315 | 550  | 563  | 80  | V.C. | "                 |
| ditto N°2   | 1   | 315 | 550  | 563  | 85  | V.C. | "                 |
| ditto N°3   | 1   | 315 | 550  | 563  | 90  | V.C. | "                 |
| FROM SECONDARY SWITCHBOARDS:                      |     |     |      |      |     |      |                   |
| POWER-ENGINE ROOM                                 | 1   | 315 | 604  | 563  | 60  | V.C. | "                 |
| SPARE CONNECTION TO GALLEYS CIRCUIT               | 2   | 500 | 1590 | 1600 | 70  | V.C. | "                 |
| SPARE CONNECTION TO SECTION BOARDS N°S 2-3-4-5    | 3   | 400 | 1590 | 2025 | 70  | V.C. | "                 |
| SPARE CONNECTION-POWER CIRCUIT. MACH. SPACE-PORT. | 4   | 400 | 2725 | 2700 | 175 | V.C. | "                 |
| ditto ditto ditto-STARBOARD.                      | 4   | 400 | 2725 | 2700 | 135 | V.C. | "                 |
| REFRIGERATING MACHINERY                           | 3   | 500 | 2725 | 2400 | 110 | V.C. | "                 |
| POWER-ENGINE ROOM-STARBOARD SIDE                  | 2   | 400 | 1562 | 1350 | 25  | V.C. | "                 |
| MAIN CIRCULATING PUMP N°2                         | 2   | 250 | 1010 | 960  | 50  | V.C. | "                 |
| INDUCED DRAUGHT FAN FOR N°2 MAIN BOILER           | 2   | 250 | 914  | 960  | 80  | V.C. | "                 |
| ditto FOR N°4 MAIN BOILER                         | 2   | 250 | 914  | 960  | 80  | V.C. | "                 |
| POWER-BOILER ROOM-STARBOARD SIDE                  | 2   | 315 | 1362 | 1426 | 60  | V.C. | "                 |
| LIGHTING-MACHINERY SPACE-STARBOARD SIDE           | 1   | 100 | 107  | 265  | 100 | V.C. | "                 |



ort of **GENOA**

Continuation of Report No. **19/32** dated **31-12-52**  
 on the **SS ANDREA DORIA**

ATTACHED SHEET N°2

FROM EMERGENCY SWITCHBOARDS:

|                                       |   |     |      |      |     |      |                            |
|---------------------------------------|---|-----|------|------|-----|------|----------------------------|
| CONNECTION TO BATTERY                 | 1 | 315 | 350  | 563  | 20  | V.C. | LEAD COVERED-<br>ARMOURER. |
| CONNECTION TO MAIN SWITCHBOARDS       | 2 | 400 | 1140 | 1350 | 280 | V.C. | " "                        |
| LIGHTING - LOWER DECKS                | 1 | 50  | 37   | 98   | 20  | V.R. | " "                        |
| LIGHTING - INTERMEDIATE DECKS         | 1 | 50  | 45   | 98   | 140 | V.R. | " "                        |
| EXTERNAL LIGHTING                     | 1 | 20  | 20   | 54   | 40  | V.R. | " "                        |
| LIGHTING - LIFE-BOAT DECK             | 1 | 80  | 81   | 134  | 200 | V.R. | " "                        |
| LIGHTING - BRIDGE                     | 1 | 160 | 70   | 212  | 340 | V.R. | " "                        |
| NAVIGATION LAMPS                      | 1 | 16  | 3    | 48   | 340 | V.R. | " "                        |
| H.T. DOOR PUMP                        | 1 | 32  | 60   | 73   | 200 | V.R. | " "                        |
| EMERGENCY BILGE PUMP                  | 1 | 125 | 220  | 307  | 260 | V.C. | " "                        |
| SPRINKLER PUMP                        | 1 | 160 | 218  | 360  | 210 | V.C. | " "                        |
| RADIO STATION                         | 1 | 63  | 40   | 116  | 320 | V.R. | " "                        |
| CIRCULATING PUMP FOR EMERG. GENERATOR | 1 | 6,3 | 17   | 30   | 60  | V.R. | " "                        |
| SPARE CONNECTION TO SERVICES ON DECK  | 2 | 400 | 1140 | 1350 | 16  | V.C. | " "                        |
| STEERING GEAR                         | 2 | 250 | 646  | 962  | 40  | V.C. | " "                        |
| VENT. FAN FOR EMERG. GENERATOR ROOM.  | 1 | 4   | 18   | 21   | 10  | V.R. | " "                        |
| LIGHTING - MACHINERY SPACE            | 1 | 25  | 34.5 | 62   | 150 | V.R. | " "                        |
| LIGHTING - UPPER DECKS                | 1 | 20  | 14   | 54   | 240 | V.R. | " "                        |

FROM A.C. SWITCHBOARDS:

|                            |   |     |     |     |     |      |     |
|----------------------------|---|-----|-----|-----|-----|------|-----|
| POWER - SECTION BOARDS N°1 | 1 | 25  | 42  | 74  | 105 | V.C. | " " |
| POWER. ditto N°2           | 1 | 80  | 222 | 161 | 70  | V.C. | " " |
| LIGHTING. ditto N°2        | 1 | 63  | 142 | 140 | 60  | V.C. | " " |
| POWER ditto N°3            | 1 | 125 | 311 | 215 | 80  | V.C. | " " |
| LIGHTING ditto N°3         | 1 | 63  | 145 | 140 | 70  | V.C. | " " |
| POWER ditto N°4            | 1 | 40  | 159 | 102 | 110 | V.C. | " " |
| LIGHTING ditto N°4         | 1 | 63  | 131 | 140 | 110 | V.C. | " " |
| POWER ditto N°5            | 1 | 25  | 120 | 74  | 150 | V.C. | " " |
| LIGHTING ditto N°5         | 1 | 63  | 115 | 140 | 155 | V.C. | " " |
| SPARE LIGHTING             | 1 | 125 | 215 | 215 | 70  | V.C. | " " |

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pt. 9a.

ort of **GENOA**

Continuation of Report No. **19132** dated **31-12-52** on the **5/5 ANDREA DORIA**

ATTACHED SHEET N°3

|   |   |     |     |     |    |      |  |
|---|---|-----|-----|-----|----|------|--|
| From S.B.N°3 To d.c. power D.B. F312            | 1 | 250 | 365 | 282 | 40 | V.R. | LEAD COVERED - ARMoured OR STEEL WIRE BRAIDED. |
| " " " " " D.B. F306                             | 1 | 315 | 398 | 327 | 20 | V.R. | " "  |
| " " " " " lifeboat winches aft.                 | 1 | 63  | 252 |     | 70 | V.R. | " "  |
| " " " " " a.c. power D.B. F.A. 313              | 1 | 100 | 97  | 109 | 40 | V.R. | " "  |
| " " " " " D.B. F.A. 307                         | 1 | 125 | 170 | 215 | 20 | V.C. | " "  |
| " " " " " cinema.                               | 1 | 25  | 44  | 44  | 20 | V.R. | " "  |
| " " " " " a.c. lighting D.B. LA 301-302-306     | 2 | 25  | 78  | 88  | 22 | V.R. | " "  |
| " " " " " D.B. LA 302-304-305                   | 3 | 10  | 70  | 81  | 20 | V.R. | " "  |
| From S.B.N°4 To d.c. lighting D.B. N°N.I. 401   | 1 | 6.3 | 20  | 30  | 40 | V.R. | " "  |
| " " " " " D.B. N°N.I. 402-403-405               | 1 | 63  | 121 | 116 | 90 | V.R. | " "  |
| " " " " " D.B. N°N.I. 404-406-408               | 1 | 20  | 60  | 54  | 90 | V.R. | " "  |
| " " " " " D.B. N°N.I. 407-409                   | 1 | 16  | 47  | 48  | 40 | V.R. | " "  |
| " " " " " D.B. N°N.E. 410                       | 1 | 40  | 17  | 38  | 26 | V.R. | " "  |
| " " " " " power D.B. N°F408                     | 1 | 63  | 166 | 116 | 44 | V.R. | " "  |
| " " " " " D.B. F.403                            | 1 | 125 | 410 | 307 | 16 | V.C. | " "  |
| " " " " " D.B. CARGO CRANES                     | 1 | 100 | 284 | 155 | 80 | V.R. | " "  |
| " " " " " D.B. CARGO CRANES                     | 1 | 100 | 284 | 155 | 90 | V.R. | " "  |
| " " " " " To a.c. power D.B. F.A. 407           | 1 | 16  | 50  | 34  | 44 | V.R. | " "  |
| " " " " " D.B. F.A. 404                         | 1 | 100 | 109 | 109 | 16 | V.R. | " "  |
| " " " " " a.c. lighting D.B. LA 401-405-406     | 1 | 63  | 72  | 140 | 25 | V.C. | " "  |
| " " " " " D.B. LA 402-403-404                   | 1 | 10  | 59  | 54  | 22 | V.R. | " "  |
| From S.B.N°5 To d.c. lighting D.B. N.I. 501-502 | 1 | 20  | 44  | 54  | 85 | V.R. | " "  |
| " " " " " D.B. N.I. 503-504-505                 | 1 | 25  | 54  | 61  | 50 | V.R. | " "  |
| " " " " " D.B. N.E. 506                         | 1 | 6.3 | 17  | 30  | 20 | V.R. | " "  |
| " " " " " To d.c. power D.B. F.505              | 1 | 10  | 47  | 38  | 40 | V.R. | " "  |
| " " " " " charging batteries.                   | 1 | 32  | 70  | 73  | 46 | V.R. | " "  |
| " " " " " To a.c. power D.B. F.501              | 1 | 10  | 35  | 27  | 8  | V.R. | " "  |
| " " " " " D.B. F.504                            | 1 | 25  | 59  | 44  | 20 | V.R. | " "  |
| " " " " " To a.c. lighting D.B. LA 501-504-505  | 1 | 100 | 51  | 109 | 18 | V.R. | " "  |
| " " " " " D.B. LA 502-503                       | 3 | 6.3 | 64  | 65  | 35 | V.R. | " "  |
| FINAL LIGHTING SUB-CIRCUITS.                    | 1 | 1.2 | 3   | 5   |    | V.R. | LEAD COVERED.                                  |

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Port of **GENOA**

Continuation of Report No. **19132** dated

**31-12-52**

on the

**SS ANDREA DORIA**

ATTACHED SHEET N° 4

# **MOTOR CABLES**

|   |    |      |   |     |      |     |     |      |   |
|---|----|------|---|-----|------|-----|-----|------|---|
| VENT. FANS FOR AUX. E. and GENER.               | 5  | 11   | 1 | 10  | 42   | 62  | 90  | V.C. | LEAD COVERED -<br>ARMORED OR<br>STEEL WIRE BRAIDED. |
| LUBR. OIL & O.F. TRANSFER PUMPS<br>IN AUX. E.R. | 4  | 6    | 1 | 10  | 23.5 | 38  | 23  | V.R. | " "   |
| PURIFIERS IN AUX. E.R.                          | 2  | 3.8  | 1 | 4   | 16   | 21  | 30  | V.R. | " "   |
| ditto   | 2  | 2    | 1 | 2.5 | 9    | 13  | 25  | V.R. | " "   |
| BALLAST & BILGE PUMP IN AUX. E.R.               | 1  | 21   | 1 | 20  | 78   | 94  | 48  | V.C. | " "   |
| TURNING GEAR for oil engines                    | 5  | 4    | 1 | 4   | 16   | 21  | 35  | V.R. | " "   |
| WINBLASS  | 2  | 108  | 1 | 200 | 400  | 416 | 220 | V.C. | " "   |
| WARPING WINCHES                                 | 4  | 86   | 1 | 160 | 326  | 360 | 300 | V.C. | " "   |
| CARGO WINCHES                                   | 4  | 25.8 | 1 | 63  | 130  | 139 | 20  | V.R. | " "   |
| ditto   | 4  | 50   | 1 | 100 | 190  | 196 | 20  | V.R. | " "   |
| LIFE BOAT WINCHES                               | 8  | 15   | 1 | 25  | 58   | 67  | 120 | V.R. | " "   |
| CARGO CRANES                                    | 4  | 22   | 1 | 40  | 85   | 94  | 6   | V.R. | " "   |
| ditto   | 8  | 6.8  | 1 | 10  | 28   | 39  | 6   | V.R. | " "   |
| STEERING GEAR                                   | 2  | 170  | 2 | 250 | 625  | 962 | 10  | V.C. | " "   |
| VENTILATING MACHINES ON DECK                    | 26 | 4.2  | 1 | 4   | 17.8 | 21  | 90  | V.R. | " "   |
| ditto   | 31 | 5    | 1 | 7   | 21   | 30  | 90  | V.R. | " "   |
| ditto   | 36 | 6.8  | 1 | 10  | 28.5 | 38  | 90  | V.R. | " "   |
| ditto   | 18 | 5.4  | 1 | 7   | 22.7 | 38  | 90  | V.R. | " "   |
| ditto   | 12 | 7.6  | 1 | 10  | 30.4 | 38  | 90  | V.R. | " "   |
| Circul. pump for EMERG. GENER.<br>SET.          | 1  | 4    | 1 | 6.3 | 17   | 30  | 60  | V.R. | " "   |
| REF. COMPRESSORS for CARGO PLANT.               | 2  | 85   | 1 | 160 | 310  | 360 | 24  | V.C. | " "   |
| WATER COOLING PUMPS for ditto                   | 2  | 8.5  | 1 | 10  | 34   | 38  | 28  | V.R. | " "   |
| BRINE PUMPS for ditto                           | 3  | 10   | 1 | 10  | 40   | 62  | 14  | V.C. | " "   |
| REF. COMPRESSORS for AIR COND. PLANT.           | 4  | 250  | 2 | 250 | 900  | 962 | 57  | V.C. | " "   |
| COOLING WATER PUMPS for ditto                   | 4  | 18   | 1 | 16  | 71   | 84  | 43  | V.C. | " "   |
| BRINE PUMPS for ditto                           | 4  | 42   | 1 | 63  | 157  | 199 | 98  | V.C. | " "   |
| AIR CIRC. FANS for CARGO CHAMBERS               | 4  | 2    | 1 | 2.5 | 9.3  | 13  | 30  | V.R. | " "   |
| ditto   | 2  | 0.75 | 1 | 1.2 | 3.8  | 5   | 30  | V.R. | " "   |
| AIR CIRC. FANS for PROVISION CHAMB.             | 3  | 1.5  | 1 | 2.5 | 7.2  | 13  | 30  | V.R. | " "   |
| ditto   | 5  | 0.75 | 1 | 1.2 | 3.8  | 5   | 30  | V.R. | " "   |
| REFRESHING AIR FANS for REFRIG.<br>CHAMBERS.    | 3  | 0.25 | 1 | 1.2 | 1.5  | 5   | 40  | V.R. | " "   |

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LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

| DESCRIPTION.   | CONDUCTORS.               |  | MAXIMUM CURRENT IN AMPERES. |       | APPROX. LENGTH (load plus return feet). | INSULATION. | PROTECTIVE COVERING.                        |
|--|---------------------------|--|-----------------------------|-------|---|-------------|---|
|  | No. in Parallel per Pole. | Sectional Area or No. and Dia. of Strands. Sq.-ins. or sq. mm. | In the Circuit.             | Rule. |   |             |   |
| S.B.N <sup>o</sup> 1 To d.c. lighting D.B.N <sup>o</sup> 1.101-N.1.103 | 1                         | 20   | 52                          | 54    | 110                                     | V.R.        | LEAD COVERED-ARMORED OR STEEL WIRE BRAIDED. |
| " " " " D.B.N <sup>o</sup> 1.102-N.1.104                               | 1                         | 20   | 33                          | 54    | 20                                      | V.R.        | " "   |
| " " " " D.B.N <sup>o</sup> 1.106-N.1.108                               | 1                         | 16   | 36                          | 48    | 70                                      | V.R.        | " "   |
| " " " " D.B.N <sup>o</sup> 1.107-N.1.109                               | 1                         | 20   | 39                          | 54    | 70                                      | V.R.        | " "   |
| " " " " D.B.N.E. 110   | 1                         | 16   | 25                          | 48    | 40                                      | V.R.        | " "   |
| " " To a.c. power D.B.N <sup>o</sup> F.A. 100                          | 1                         | 10   | 27                          | 27    | 40                                      | V.R.        | " "   |
| " " " " D.B.N <sup>o</sup> F.A. 102                                    | 1                         | 4  | 15.5                        | 16    | 20                                      | V.R.        | " "   |
| S.B.N <sup>o</sup> 2 To d.c. lighting D.B.N <sup>o</sup> 1.201-N.1.204 | 1                         | 40   | 65                          | 85    | 70                                      | V.R.        | " "   |
| " " " " D.B.N <sup>o</sup> 1.202                                       | 1                         | 16   | 42                          | 48    | 45                                      | V.R.        | " "   |
| " " " " D.B.N <sup>o</sup> 1.203                                       | 1                         | 25   | 25                          | 62    | 50                                      | V.R.        | " "   |
| " " " " D.B.N <sup>o</sup> 1.205-N.1.207-N.1.208                       | 1                         | 32   | 41                          | 73    | 90                                      | V.R.        | " "   |
| " " " " D.B.N <sup>o</sup> 1.209                                       | 1                         | 6.3  | 19                          | 30    | 35                                      | V.R.        | " "   |
| " " " " D.B.N <sup>o</sup> 1.210-N.1.211                               | 1                         | 20   | 54                          | 54    | 100                                     | V.R.        | " "   |
| " " " " D.B.N <sup>o</sup> N.E. 212                                    | 1                         | 6.3  | 8                           | 30    | 35                                      | V.R.        | " "   |
| " " To a.c. power D.B.F.A. 203   | 1                         | 63   | 82                          | 82    | 8                                       | V.R.        | " "   |
| " " " " D.B.F.A. 204   | 1                         | 63   | 82                          | 82    | 30                                      | V.R.        | " "   |
| " " To a.c. lighting D.B.L.A. 201-L.A. 205                             | 1                         | 10   | 76                          | 81    | 20                                      | V.R.        | " "   |
| " " " " D.B.L.A. 202-203-204   | 1                         | 10   | 66                          | 81    | 26                                      | V.R.        | " "   |
| " " To d.c. power A.B.F. 202   | 2                         | 125  | 573                         | 614   | 15                                      | V.C.        | " "   |
| " " " " D.B.F. 205   | 1                         | 125  | 294                         | 180   | 60                                      | V.R.        | " "   |
| " " " " D.B. lifeboat winches  | 1                         | 63   | 252                         | 116   | 70                                      | V.R.        | " "   |
| S.B.N <sup>o</sup> 3 To d.c. lighting D.B.N <sup>o</sup> 1.301-302-303 | 1                         | 40   | 73                          | 80    | 40                                      | V.R.        | " "   |
| " " " " D.B.N <sup>o</sup> 1.304                                       | 1                         | 10   | 30                          | 38    | 8                                       | V.R.        | " "   |
| " " " " D.B.N <sup>o</sup> 1.305-309                                   | 1                         | 16   | 36                          | 48    | 70                                      | V.R.        | " "   |
| " " " " D.B.N <sup>o</sup> 1.306-307-308                               | 1                         | 40   | 36                          | 85    | 60                                      | V.R.        | " "   |
| " " " " D.B.N <sup>o</sup> N.E. 310                                    | 1                         | 6.3  | 9.5                         | 30    | 30                                      | V.R.        | " "   |
| SEE SEPARATE SHEET N <sup>o</sup> 3                                    |                           |  |                             |       |   |             |   |

MOTOR CABLES.

| ALL IMPORTANT MOTORS TO BE ENUMERATED. | No. | B.H.P. |   |     |          |     |     |      |   |
|--|-----|--------|---|-----|----------|-----|-----|------|---|
| CIRCULATING PUMPS                      | 2   | 260    | 2 | 250 | 470/1010 | 962 | 100 | V.C. | LEAD COVERED-ARMORED OR STEEL WIRE BRAIDED. |
| EXTRACTION PUMPS                       | 4   | 22.5   | 1 | 25  | 92       | 108 | 80  | V.C. | " "   |
| RICATING OIL CRE. PUMPS                | 3   | 55     | 1 | 80  | 222      | 229 | 16  | V.C. | " "   |
| EN BALLAST PUMP IN E.R.                | 1   | 80     | 1 | 160 | 294      | 360 | 42  | V.C. | " "   |
| ITARY & FIRE PUMPS                     | 3   | 38     | 1 | 50  | 142      | 169 | 60  | V.C. | " "   |
| ILATING FANS FOR E.R. & B.R.           | 8   | 23     | 1 | 25  | 86       | 108 | 74  | V.C. | " "   |
| HAUST FANS FOR E.R.                    | 4   | 11     | 1 | 10  | 42       | 62  | 82  | V.C. | " "   |
| RICATING OIL PURIFIERS IN E.R.         | 2   | 2      | 1 | 2.5 | 9        | 13  | 23  | V.R. | " "   |
| ENING GEAR IN E.R.                     | 2   | 12     | 1 | 10  | 50       | 62  | 50  | V.C. | " "   |
| EXTRACTION PUMP for PORT TURBO-GEN.    | 1   | 41     | 1 | 50  | 152      | 169 | 86  | V.C. | " "   |
| V. SERVICE PUMPS                       | 2   | 38     | 1 | 50  | 142      | 169 | 48  | V.C. | " "   |
| I. TRANSFER PUMPS                      | 2   | 16     | 1 | 16  | 62       | 84  | 48  | V.C. | " "   |
| T F.W. PUMPS                           | 2   | 3.5    | 1 | 4   | 14       | 21  | 15  | V.R. | " "   |
| INKING WATER PUMPS                     | 2   | 8      | 1 | 10  | 31       | 38  | 10  | V.R. | " "   |
| PRINKLER PUMP                          | 1   | 56     | 1 | 80  | 214      | 229 | 10  | V.C. | " "   |
| T. DOOR PLANT PUMPS                    | 2   | 7      | 1 | 10  | 29       | 38  | 10  | V.R. | " "   |
| WAGE PLANT PUMPS                       | 9   | 18     | 1 | 16  | 67       | 84  | 90  | V.C. | " "   |
| CEA DRAUGHT FANS for Main BOILERS      | 4   | 62     | 1 | 100 | 245      | 265 | 24  | V.C. | " "   |
| CEA DRAUGHT FANS for Main BOILERS      | 4   | 235    | 2 | 250 | 914      | 962 | 80  | V.C. | " "   |
| EA DRAUGHT FANS for DONKEY BOILERS     | 2   | 5      | 1 | 63  | 22       | 30  | 8   | V.R. | " "   |
| ICED DRAUGHT FANS for DONKEY BOILERS   | 2   | 26     | 1 | 25  | 109      | 108 | 16  | V.C. | " "   |
| E TRANSFER PUMP N <sup>o</sup> 1       | 1   | 50     | 1 | 63  | 187      | 199 | 30  | V.C. | " "   |
| E TRANSFER PUMP N <sup>o</sup> 2       | 1   | 28     | 1 | 32  | 105      | 126 | 80  | V.C. | " "   |
| E PRESSURE PUMPS for Main BOILERS      | 3   | 20     | 1 | 20  | 85       | 94  | 54  | V.C. | " "   |
| E PRESSURE PUMPS for DONKEY BOILERS    | 2   | 3.5    | 1 | 4   | 15       | 21  | 27  | V.R. | " "   |
| LAST & BILGE PUMP in B.R.              | 1   | 26     | 1 | 25  | 90       | 108 | 36  | V.C. | " "   |
| WATER TRANSFER PUMP                    | 1   | 16     | 1 | 16  | 60       | 84  | 46  | V.C. | " "   |
| UL. PUMP for AMX. CONDENSER            | 1   | 22     | 1 | 20  | 85       | 94  | 30  | V.C. | " "   |
| OPORATOR-DISTILLER PLANT-              | 2   | 8.5    | 1 | 10  | 33       | 62  | 76  | V.C. | " "   |
| ditto                                  | 2   | 15     | 1 | 16  | 57       | 84  | 76  | V.C. | " "   |
| ditto                                  | 2   | 2      | 1 | 2.5 | 9        | 13  | 38  | V.R. | " "   |
| ULAS WATER TRANSFER PUMP               | 1   | 2      | 1 | 2.5 | 9        | 13  | 38  | V.R. | " "   |
| ERGENCY BILGE & FIRE PUMP              | 1   | 60     | 1 | 80  | 220      | 229 | 80  | V.C. | " "   |
| S.W. CIRC. PUMPS for oil-engines       | 3   | 35     | 1 | 40  | 133      | 146 | 22  | V.C. | " "   |
| COMPRESSORS                            | 2   | 33     | 1 | 40  | 129      | 146 | 68  | V.C. | " "   |
| SEE ATTACHED SHEETS N <sup>o</sup> 4   |     |        |   |     |          |     |     |      |   |



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.

ANSAALDO S. A.  
CANTIERI NAVALI  
11 Direttore

Electrical Contractors. Date 31-12-52

*Y. M. Lauer*

# COMPASSES.

Have the compasses been adjusted under working conditions. YES

ANSAALDO S. A.  
CANTIERI NAVALI  
11 Direttore

Builder's Signature. Date 31-12-52

*Y. M. Lauer*

Have the foregoing descriptions and schedules been verified and found correct. YES

Is this installation a duplicate of a previous case. No If so, state name of vessel. ✓

Plans. Are approved plans forwarded herewith. No If not, state date of approval. 3/10/51 - 1/11/51 - 29/1/52 - 5/5/52

Certificates. Are certificates of test for motors engaged on essential sea services and generators forwarded herewith. YES

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

THE ELECTRICAL EQUIPMENT HAS BEEN CONSTRUCTED AND FITTED UNDER SPECIAL SURVEY AND IS IN ACCORDANCE WITH THE APPROVED PLANS, SECRETARY'S LETTERS AND RULE REQUIREMENTS. THE MATERIALS AND WORKMANSHIP ARE GOOD. UPON COMPLETION, THE GENERATING SETS, MOTORS, SWITCHGEARS AND CONTROL GEARS, APPARATUS HAVE BEEN EXAMINED RUNNING AT FULL LOAD AND UNDER SERVICE CONDITIONS, THE INSTALLATION TESTED IN ACCORDANCE WITH THE RULES AND FOUND SATISFACTORY.

Total Capacity of Generators 5900 Kilowatts.

FEE FEE 4x 898.500:

for 25% The amount of Fee ... 4x 673.875:

CAR FUND --- 4x 20.215:

Travelling Expenses (if any) 4x 80.910:

REV. TAX. --- 4x 23.250:

When applied for,

3/2/1953

When received,

19

Surveyor to Lloyd's Register of Shipping.

*Amfelli*

Committee's Minute

TUES. 24 FEB 1953

Assigned

*Su F.E. mehy. rpt.*