

Southern California Edison Company



P. O. BOX 800
2244 WALNUT GROVE AVENUE
ROSEMEAD, CALIFORNIA 91770

March 14, 1979

Director of Nuclear Reactor Regulation
ATTENTION: D. L. Ziemann, Chief
Operating Reactors Branch #2
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Gentlemen:

Subject: Docket No. 50-206
Systematic Evaluation Program
San Onofre Nuclear Generating Station
Unit 1

RECEIVED
MAR 20 1979
NUCLEAR DIVISION

By letter dated July 5, 1978, we provided to you General Arrangement, Piping and Instrumentation and Electrical One-Line diagrams of San Onofre Unit 1. Subsequently, you requested additional drawings in your October 26, 1978 letter. Provided as an enclosure to this letter are one set of 35 mm microfilm cards and three prints each of schematic diagrams showing control of all automatic and manual electrical load transfers between redundant safety buses, drawings showing battery and charger alarms and indication and schematic diagrams for AC and DC MOVs. Enclosure I to this letter is a listing of the drawings provided. As noted in our July 5, 1978 letter, such drawings and diagrams are in a constant state of revision as a result of ongoing plant engineering and modifications.

Enclosure II to this letter is the Index Drawing List for the electrical drawings at San Onofre Unit 1. This is being provided as requested in your October 26, 1978 letter.

A Request For Additional Information on three SEP Topics, VI-7.B, VII-1.A and VII-2, was also transmitted by your October 26, 1978 letter. With regard to Topic VI-7.B, ESF Switchover From Injection to Recirculation Mode (Automatic ECCS Realignment), the information requested is not applicable to San Onofre Unit 1. In addition, as you may be aware, this topic has been the subject of recent discussions with members of your staff. With regard to Topics VII-1.A, Isolation of Reactor Protection System From Non-Safety Systems Including Qualification of Isolation Devices, and VII-2, Engineered Safety Features (ESF) System Logic and Design, the requested information will be provided within two weeks.

7903270458

Handwritten notes: 1/1, RES FILE w/ INDEX SHEET & DRAW, D. McDONALD w/2 DEVS

Mr. D. L. Ziemann - NRC

-2-

March 14, 1979

If you have any questions concerning these matters, please let me know.

Very truly yours,

A handwritten signature in cursive script that reads "JG Haynes". The signature is written in dark ink and is positioned above the typed name.

J. G. Haynes
Chief of Nuclear Engineering

Enclosures

ENCLOSURE I

SONGS 1 ELEMENTARY DIAGRAMS AC AND DC MOVS

| | | |
|---------|--------|--|
| 455368 | Rev. 5 | MOV 850 A & B Safety Injection to Loops A & B |
| 455369 | Rev. 2 | MOV/LCV 1100 B & D Recirc. to Charging Pumps |
| 455371 | Rev. 2 | MOV 866 A, B, 880, 356, 357, 358, 18 & 19 |
| 455372 | Rev. 6 | HV 853 A & B Safety Injection Valves |
| 455373 | Rev. 5 | HV 851 A & B Safety Injection Valves |
| 455374 | Rev. 5 | HV 854 A & B Safety Injection Valves |
| 455375 | Rev. 5 | HV 852 A & B Feedwater Discharge Valves |
| 455378 | Rev. 2 | MOV 720 A & B Component Cooling Discharge |
| 455379 | Rev. 2 | MOV 20, 21 & 22 Feedwater Block Valves |
| 455500 | Rev. 2 | MOV 14, 15, 16 & 17 Reheater Block Valves |
| 455513 | Rev. 4 | MOV 9, 11 & 12 Intake & Outfall Gates |
| 455514 | Rev. 2 | MOV 10 Outfall Gate |
| 455516 | Rev. 7 | MOV 850C Safety Injection to Loop C |
| 5130098 | Rev. 7 | Reheater Steam Dump Isolation Valves |
| 5151028 | Rev. 5 | MOV/LCV 1100C Volume Control Tank Discharge |
| 5151796 | Rev. 1 | MOV 813, 814, 822 A & B, 833, 834 Residual Heat Removal MOVs |
| 64374 | Rev. 4 | MOV 883 |

SONGS 1 ELEMENTARY DIAGRAMS ELECTRICAL LOAD TRANSFERS

| | | |
|----------|---------|---|
| 5102174* | Rev. 30 | One Line Diagram 120V AC System |
| 455377 | Rev. 5 | Emergency Siren |
| 456016 | Rev. 1 | Power Supply to 120V Communication Distribution Panel |

SONGS 1 DRAWINGS BATTERY AND CHARGER ALARMS

| | | |
|---------|--------|--|
| 5149185 | Rev. 7 | Annunciator Window Engraving MCR/SPG Control Panel |
| 5149269 | Rev. 6 | Annunciator Engraving Local Control Panel |
| 5149800 | Rev. 4 | E.D. D.G. No. 1 Annunciator System SH. 1 |
| 5149801 | Rev. 2 | E.D. D.G. No. 1 Annunciator System SH. 2 |
| 5149802 | Rev. 6 | E.D. D.G. No. 2 Annunciator System SH. 1 |
| 5149803 | Rev. 3 | E.D. D.G. No. 2 Annunciator System SH. 2 |
| 5151358 | Rev. 8 | E.D. Annunciator System D.G. No. 1 SH. 3 |
| 5151359 | Rev. 5 | E.D. Annunciator System D.G. No. 2 SH. 3 |

*35 mm microfilm and three copies of this drawing were provided to you by letter dated July 5, 1978.

ENCLOSURE II

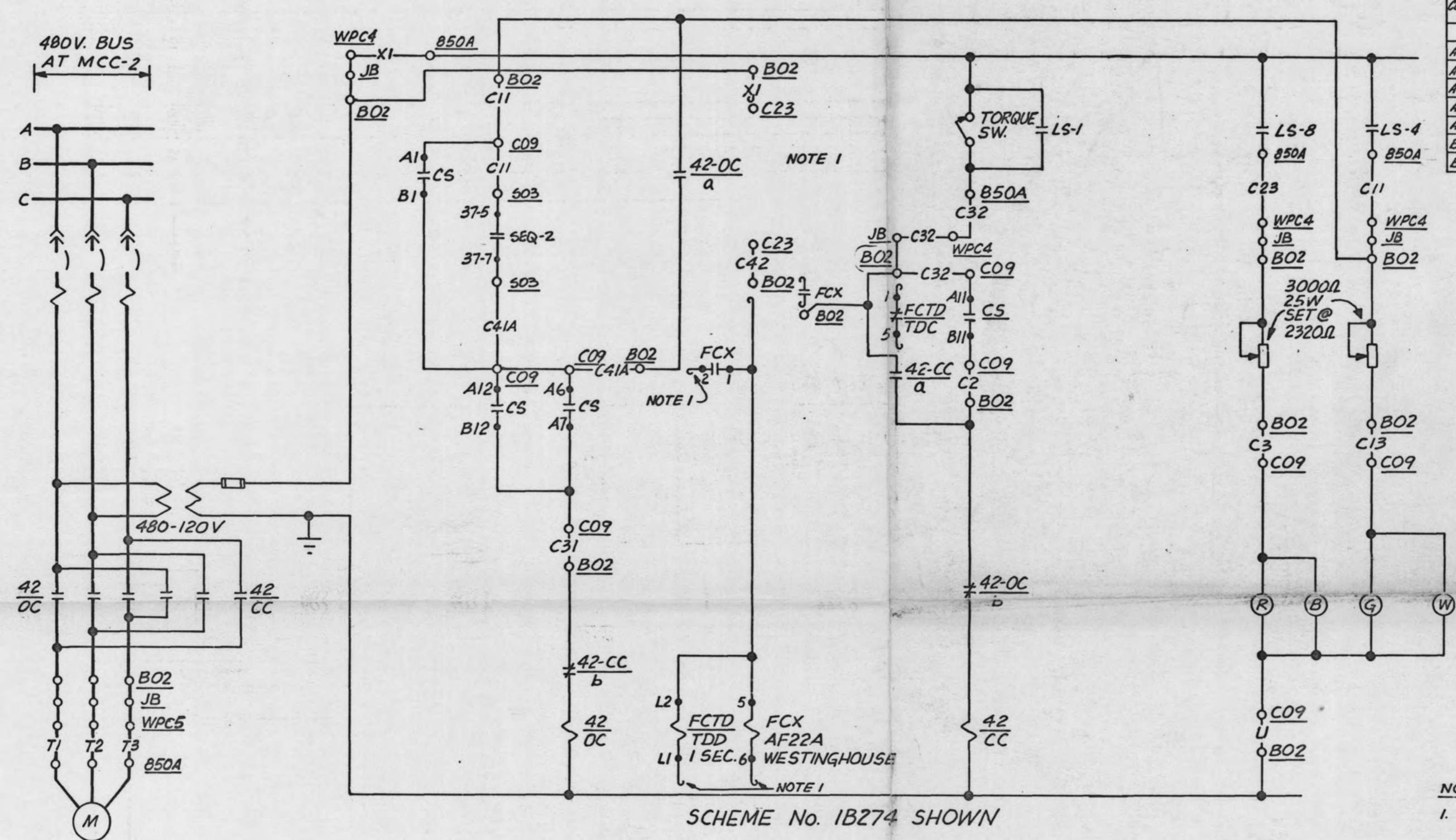
SAN ONOFRE NUCLEAR GENERATING STATION

UNIT 1

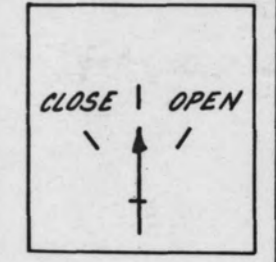
INDEX DRAWING LIST

ELECTRICAL

- This voluminous
listing is in docket
files and with
D. McDonald, SEPR.
HS



| CONTACT | POSITION | | | |
|---------|----------|-------------|------------|------|
| | CLOSE | AFTER CLOSE | AFTER OPEN | OPEN |
| A1-B1 | X | | | |
| A2-B2 | | X | X | |
| A1-B1 | | | | X |
| A5-A6 | X | X | | |
| A6-A7 | | | X | X |
| B5-B6 | X | X | | |
| B6-B7 | | | X | X |

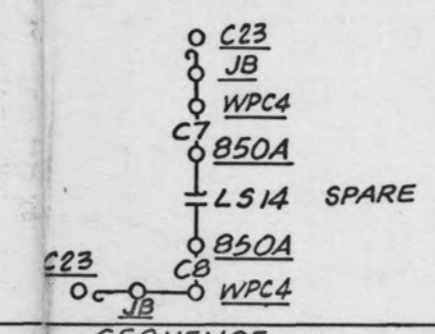
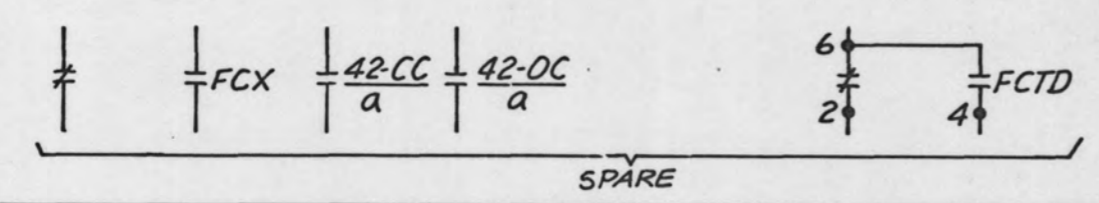


CONTROL SWITCH CS
WEST TYPE "W-2" SPRING RETURN
GREEN OVAL FIXED HANDLE

| CONTACT | CONTACT DEVELOPMENT | | |
|---------|---------------------|--------------|-------|
| | OPEN | INTERMEDIATE | CLOSE |
| LS-1 | | | |
| LS-2 | | | |
| LS-3 | | | |
| LS-4 | | | |
| LS-5 | | | |
| LS-6 | | | |
| LS-7 | | | |
| LS-8 | | | |
| LS-9 | | | |
| LS-10 | | | |
| LS-11 | | | |
| LS-12 | | | |
| LS-13 | | | |
| LS-14 | | | |
| LS-15 | | | |
| LS-16 | | | |

LIMIT SWITCH
LIMITORQUE

NOTE:
1. DISCONNECT FLOW COMPARATOR INITIATING CIRCUIT FROM MOV CONTROL CIRCUIT AND AUXILIARY RELAYS TO REMAIN FOR FUTURE USE.



| EQUIPMENT | SCHEME NO. | STARTER NO. | LOCATION | INTERLOCKS | SEQUENCE | | | | WIRE NO. | JUNCTION BOX NO. | |
|--------------------------------|------------|-------------|----------|------------|----------|---------|------|-----------|----------|------------------|-------|
| | | | | | NO. | TB STUD | TIME | DWG. NO. | | | |
| SAFETY INJEC. TO LOOP "A" B50A | 1B274 | 42-1274 | B50A BO2 | | 2 | 37 | 5, 7 | 10 + SEC. | 5150875 | C41A | 921-G |
| SAFETY INJEC. TO LOOP "B" B50B | 1B180 | 42-1180 | B50B BO1 | | 1 | 37 | 5, 7 | 10 + SEC. | 5150874 | C41B | |

| | |
|---------|-----------------------------|
| 455516 | E.D. MOV-850C |
| 5149669 | DEVICE FUNC. NO. & SYMBOLS |
| 5149964 | EQUIP. LOCATION INDEX |
| 5102165 | MOTOR CONTROL CENTER 1 |
| 5102167 | MOTOR CONTROL CENTER 2 |
| 232833 | LOGIC DIAGRAM |
| 63715 | SAFETY INJECTION SYS. SH. 2 |

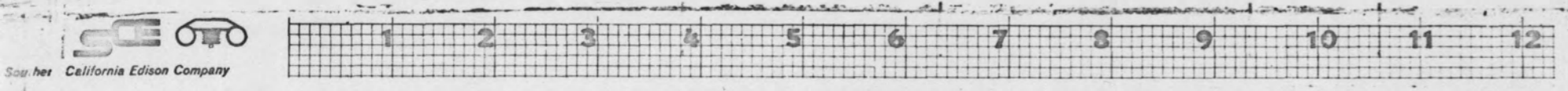
| No. | Revisions | Date | Approved | O.K. | O.K. | Ch'd. | Made | J.O. No. | Scale | None |
|-----|--|----------|----------|------|------|-------|------|----------|-------|------|
| 2 | INCORP CCN 2 - EFF DATE 10-1-76 | 12-4-76 | | | | | | | | |
| 1 | INCORP CCN 1 - EFF DATE 10-15-76 | 12-27-76 | | | | | | | | |
| 0 | ISSUED FOR CONST, REMOVED UNDER U/LTALL TRANSFER SCHEME & W/L RELAYS CONTACTS ADDED SEQ CONTACTS | 2-17-76 | | | | | | | | |

SONGS I
SAFETY RELATED
REACTOR AUXILIARIES
REDRAWN FROM N-1542 SH.6
Location SAN ONOFRE NUCLEAR GEN. STA.
ELEMENTARY DIAGRAM
MOV-850A & B
SAFETY INJECTION TO LOOP 'A' & 'B'

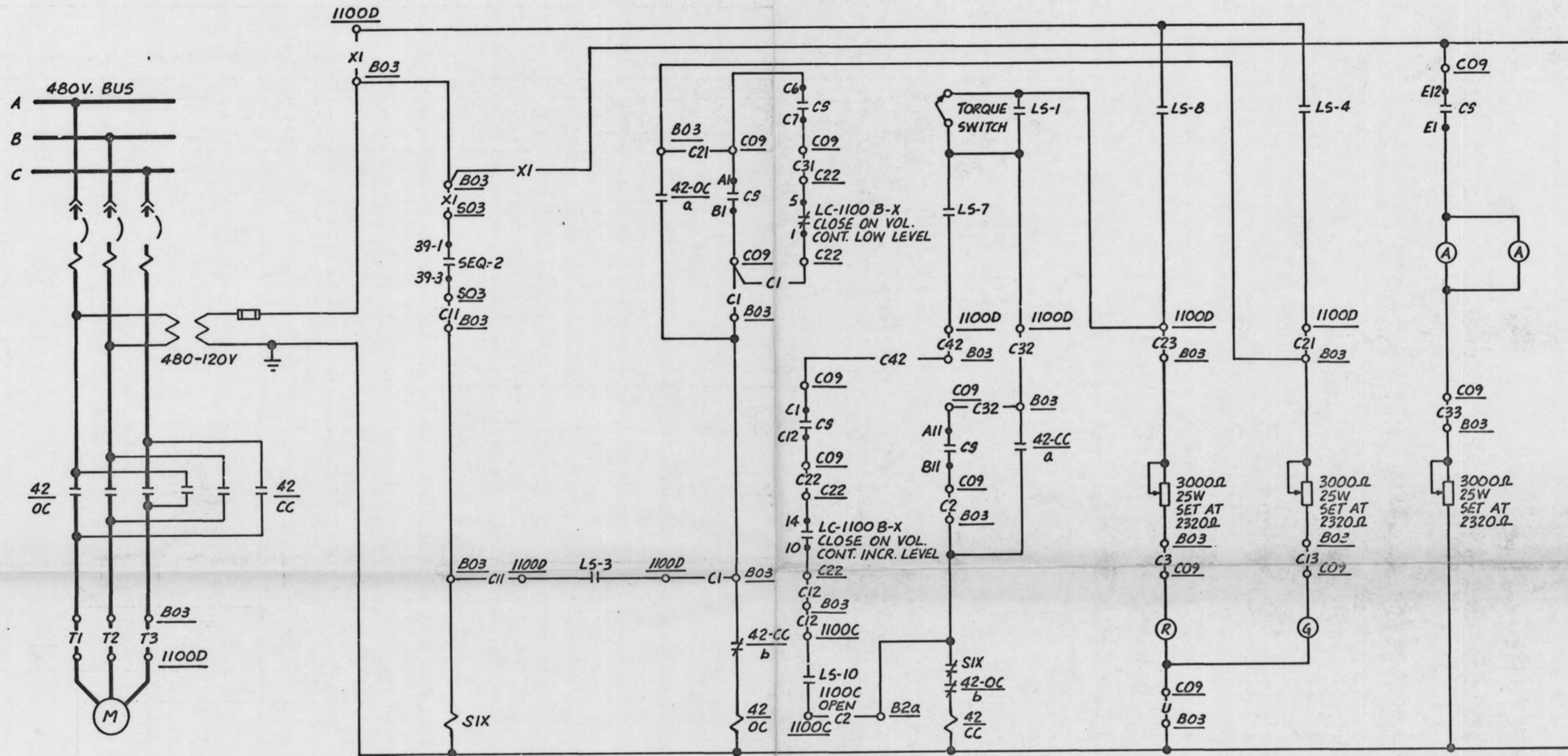
455368-5

REV. 11/11/76 30460 SH. 119

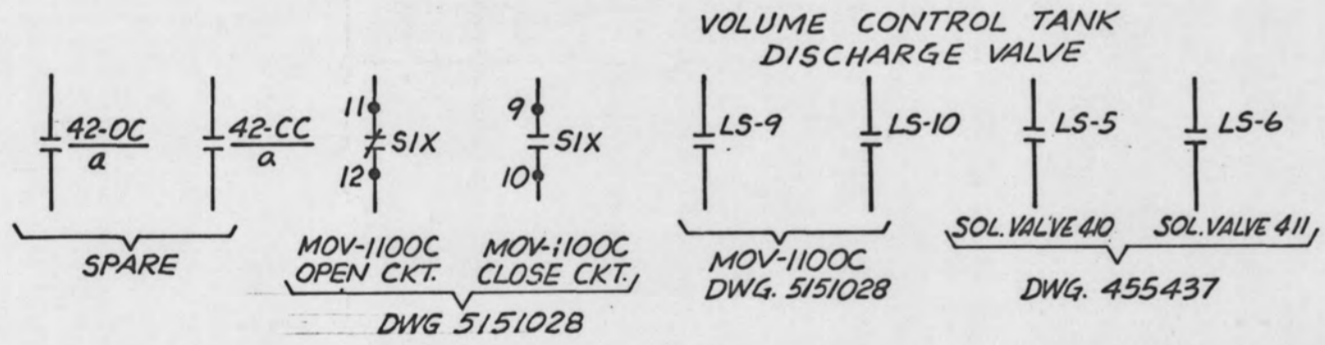
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Doc't # 7903270458
Date 3/14/79 of Document:
REGULATORY DOCKET FILE



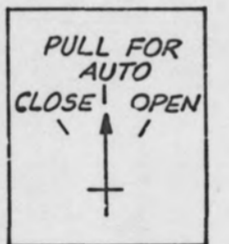
21X



SCHEME NO. 1B378 SHOWN



| CONTACT | POSITION | | | |
|---------|----------|-----|------|------|
| | CLOSE | OFF | AUTO | OPEN |
| A11-B11 | X | | | |
| A12-B12 | | X | X | |
| A1-B1 | | | | X |
| A5-B5 | X | | | |
| A6-B6 | | X | X | |
| A7-B7 | | | | X |
| C12-C1 | | | X | |
| D12-D1 | X | X | | X |
| C6-C7 | | | X | |
| D6-D7 | X | X | | X |
| E12-E1 | | | X | |
| F12-F1 | X | X | | X |
| E6-E7 | | | X | |
| F6-F7 | X | X | | X |



CONTROL SWITCH CS
WEST TYPE "W-2" SPRING RETURN
GREEN OVAL FIXED HANDLE

| CONTACT | CONTACT DEVELOPMENT | | |
|---------|---------------------|--------------|-------|
| | OPEN | INTERMEDIATE | CLOSE |
| LS-1 | | | |
| LS-2 | | | |
| LS-3 | | | |
| LS-4 | | | |
| LS-5 | | | |
| LS-6 | | | |
| LS-7 | | | |
| LS-8 | | | |
| LS-9 | | | |
| LS-10 | | | |
| LS-11 | | | |
| LS-12 | | | |
| LS-13 | | | |
| LS-14 | | | |
| LS-15 | | | |
| LS-16 | | | |

LIMIT SWITCH

SONGS I
SAFETY RELATED
REACTOR AUXILIARIES
REDRAWN FROM N-1542 SH.8

| EQUIPMENT | SCHEME NO. | STARTER NO. | INTERLOCKS | LOC | SEQUENCE | | | DWG. No. | |
|------------------------------------|------------|-------------|---------------|-----|----------|------------|------|----------|---------|
| | | | | | NO. | T. B. STUD | TIME | | |
| RECIR. TO CHG. PUMPS-MOV-LCV-1100D | 1B378 | 42-1378 | LS-10 (1100C) | B03 | SEQ. 2 | 39 | 1, 3 | 10+ SEC | 5150875 |
| RECIR. TO CHG. PUMPS-MOV-LCV-1100B | 1B147 | 42-1147 | LS-9 (1100C) | B01 | SEQ. 1 | 39 | 1, 3 | 10+ SEC | 5150874 |

| No. | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | J.O. No. | Scale | No. | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | J.O. No. | |
|---------|-------------------------------|------|----------|------|------|-------|------|----------|-------|-----|-----------|------|----------|------|------|-------|------|----------|--|
| 5102165 | MOTOR CONTROL CENTER 1 | | | | | | | | | | | | | | | | | | |
| 5102171 | MOTOR CONTROL CENTER 3 | | | | | | | | | | | | | | | | | | |
| 63715 | SAFETY INJECTION SYSTEM, SH.2 | | | | | | | | | | | | | | | | | | |

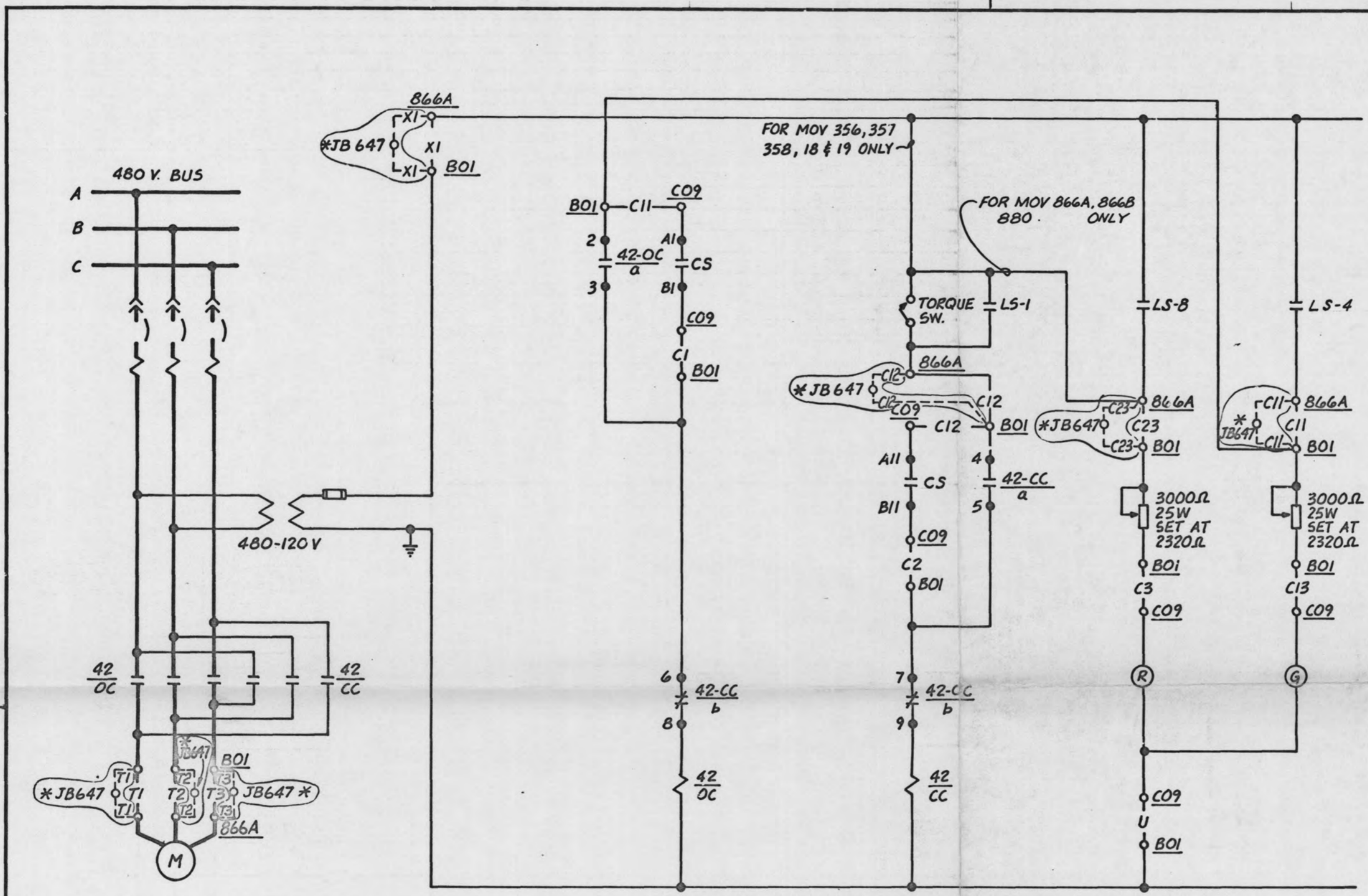
Location SAN ONOFRE NUCLEAR GEN. STA.
ELEMENTARY DIAGRAM
MOV-LCV-1100B & D
RECIR. TO CHARGING PUMPS

Southern California Edison Company **SCE**

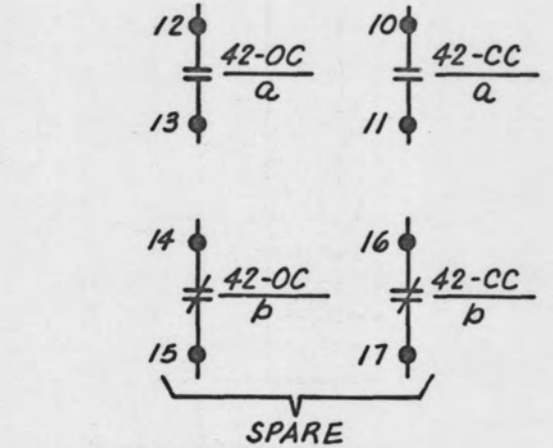
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21X



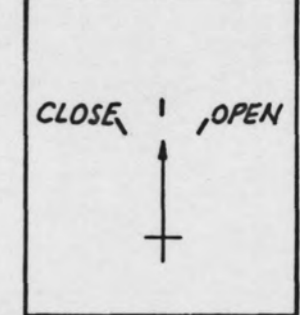
SCHEME NO. 1B182 SHOWN



| EQUIPMENT | SCHEME NO. | STARTER NO. | LOCATION | * J.B. |
|--|------------|-------------|----------|---------|
| SAFETY INJECTION RECIRCULATION MOV-866A | 1B182 | 42-1182 | 866A BO1 | CO9 647 |
| RC PUMP INJECTION FILTER MOV-18 | 1B294 | 42-1294 | 18 BO2 | CO9 |
| RC PUMP INJECTION FILTER MOV-19 | 1B146 | 42-1146 | 19 BO1 | CO9 |
| SAFETY INJECTION RECIRCULATION MOV-866B | 1B278 | 42-1278 | 866B BO2 | CO9 648 |
| S.I. RECIRCULATION TO LOOP A MOV-356 | 1B158 | 42-1158 | 356 BO1 | CO9 |
| S.I. RECIRCULATION TO LOOP B MOV-357 | 1B243 | 42-1243 | 357 BO2 | CO9 |
| S.I. RECIRCULATION TO LOOP C MOV-358 | 1B385 | 42-1385 | 358 BO3 | CO9 |
| CROSS-TIE FROM REFUELING WTR. PUMP MOV-880 | 1B262 | 42-1262 | 880 BO2 | CO9 |

* FOR MOV'S 866A & 866B ONLY, WIRE TO VALVES THRU JB'S 647 & 648 (DASH LINES) AND NOT DIRECTLY (SOLID LINES)

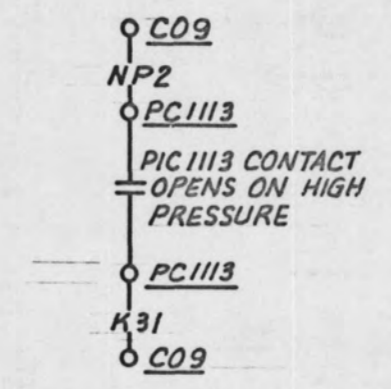
| CONTACT | POSITION | | |
|-----------|----------|-------------|------------|
| | CLOSE | AFTER CLOSE | AFTER OPEN |
| A11 - B11 | X | | |
| A12 - B12 | | X | X |
| A1 - B1 | | | X |
| A5 - A6 | X | X | |
| A6 - A7 | | | X |
| B5 - B6 | X | X | |
| B6 - B7 | | | X |



CONTROL SWITCH
WEST TYPE "W-2" SPRING RETURN
GREEN OVAL FIXED HANDLE

| CONTACT | CONTACT DEVELOPMENT | | |
|---------|---------------------|--------------|-------|
| | OPEN | INTERMEDIATE | CLOSE |
| LS-1 | | | |
| LS-2 | | | |
| LS-3 | | | |
| LS-4 | | | |
| LS-5 | | | |
| LS-6 | | | |
| LS-7 | | | |
| LS-8 | | | |
| LS-9 | | | |
| LS-10 | | | |
| LS-11 | | | |
| LS-12 | | | |
| LS-13 | | | |
| LS-14 | | | |
| LS-15 | | | |
| LS-16 | | | |

LIMIT SWITCH



FOR MOV 18 & 19 ONLY
REACTOR PLANT ANN NO.1
DWG 5112392

SONGS I
SAFETY RELATED (MOV'S 866A, 866B, 356, 357, 358, 18, 19 ONLY)
REACTOR AUXILIARIES

REDRAWN FROM N-1542 SH.31

| | |
|---------|--------------------------------|
| 5149454 | ED. SAFETY INJECTION CIRCUITRY |
| 5149629 | DEVICE FUNC. NOS & SYMBOLS |
| 5149964 | EQUIP. LOCATION INDEX |
| 5102165 | MOTOR CONTROL CENTER 1 |
| 5102167 | MOTOR CONTROL CENTER 2 |
| 5102170 | MOTOR CONTROL CENTER 3 |
| 64374 | E.D. MOV 883 |
| 63715 | SAFETY INJECTION SYSTEM, 5HZ |

Reference Drawings

| No. | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | J.O.No. | Scale | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | J.O.No. |
|-----|--|------|----------|------|------|-------|------|---------|-------|-----------|------|----------|------|------|-------|------|---------|
| 2 | INCORP DCN 3 EFF DATE 10-1-76 | | | | | | | | NONE | | | | | | | | |
| 1 | INCORP DCN 1 & CCN 2 EFF DATE 11-1-76, 10-1-76 | | | | | | | | NONE | | | | | | | | |
| 0 | REVISED FOR CONSISTENCY, REV'D W/ RELAY CONTACTS, REV'D MOV 883 TO MCC 3 | | | | | | | | NONE | | | | | | | | |

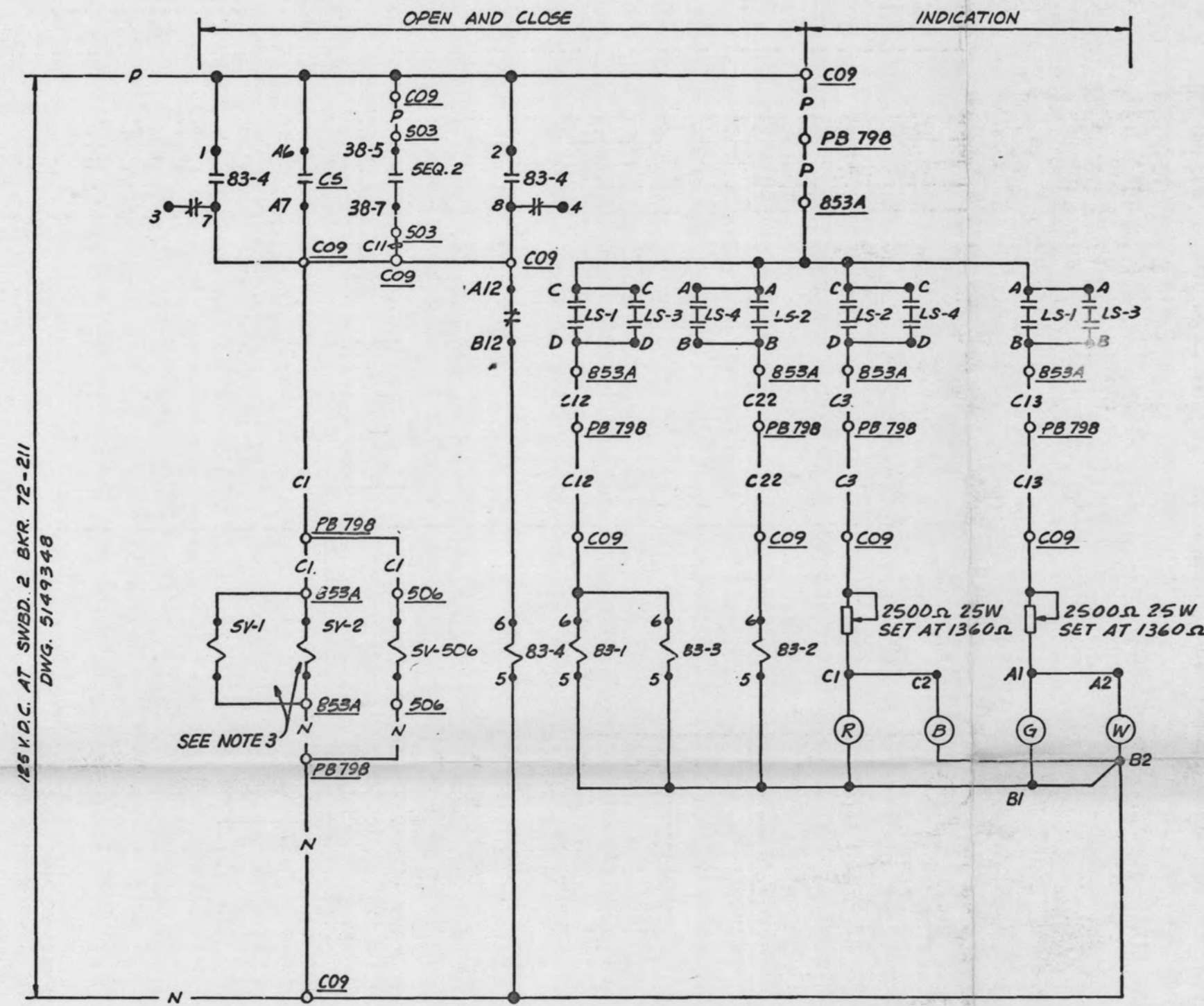
Location SAN ONOFRE NUCLEAR GEN. STA.
ELEMENTARY DIAGRAM
MOV-866A, B, 880,
356, 357, 358, 18 & 19
Southern California Edison Company

DWG LIST M-211/0 SH. 119

Doc# 50-206
Control # 7903270458
Date 3/14/79 of Document
REGULATORY DOCKET FILE

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20X



| CONTACT | POSITION | | |
|---------|----------|-------------|------------|
| | CLOSE | AFTER CLOSE | AFTER OPEN |
| A11-B11 | X | | |
| A12-B12 | | X | X |
| A1-B1 | | | X |
| A5-A6 | X | X | |
| A6-A7 | | | X |
| B5-B6 | X | X | |
| B6-B7 | | | X |

CONTROL SWITCH CS
WEST TYPE W-2, SPRING RETURN,
GREEN OVAL, FIXED HANDLE

| CONTACT | CONTACT DEVELOPMENT | | |
|---------|---------------------|--------------|-------|
| | OPEN | INTERMEDIATE | CLOSE |
| A-B | | | |
| C-D | | | |
| E-F | | | |
| G-H | | | |

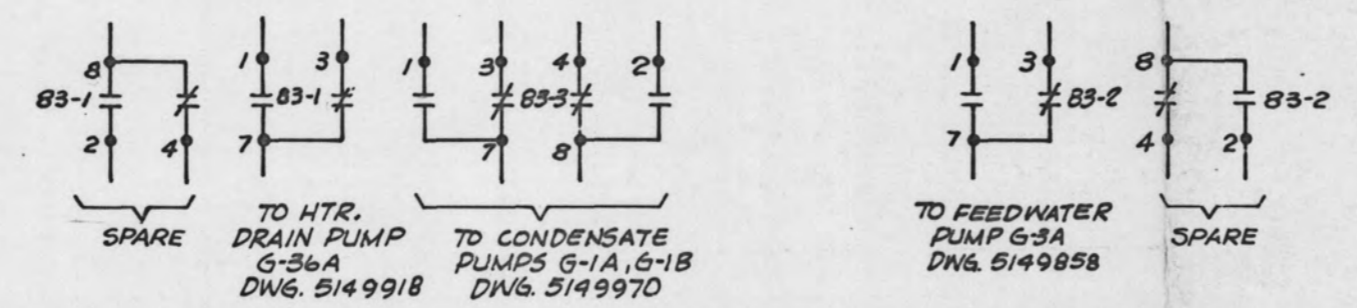
LIMIT SWITCH 2 AND 4 CW

| CONTACT | CONTACT DEVELOPMENT | | |
|---------|---------------------|--------------|-------|
| | OPEN | INTERMEDIATE | CLOSE |
| A-B | | | |
| C-D | | | |
| E-F | | | |
| G-H | | | |

LIMIT SWITCH 1 AND 3 CCW

| DEVICE TABLE | | |
|---------------|--------------------------------|-----------------------------|
| DEVICE | TYPE | DESCRIPTION |
| 85-1, 2, 3, 4 | G.E. HGA SIM TO M-6379 SH-G-14 | 125 V. D.C. AUXILIARY RELAY |

SCHEME NO. 1GDO253A SHOWN



- NOTES:
- ALARM CIRCUIT COMMON TO VALVES HV-851A, HV-852A, HV-853A, & HV-854A. SEE DWG. 5151800
 - FOR NITROGEN/AIR CHARGING SYSTEM SEE DWG. 455373
 - ENERGIZATION OF SV-1, SV-2 AND SV-506 WILL OPEN HV 853A, HV853 A & B ARE NORMALLY CLOSED.

| DESCRIPTION | DEVICE | | | | | SEQUENCE | | | | D.C. DIST. SWBD BKR. NO. | CONDENSATE PUMPS | | HEATER DRAIN PUMP | FEEDWATER PUMP | PULL BOX | |
|--|--------|------|------|------|--------|----------|------|------|---------------------|--------------------------|------------------|------|-------------------|----------------|----------|------|
| | 83-1 | 83-2 | 83-3 | 83-4 | SV-506 | NO. | T.B. | STUD | TIME | | DWG. NO. | G-1A | | | | G-1B |
| SAFETY INJECTION SUCTION VALVE HV-853A | SV-506 | W404 | W405 | W406 | W410 | 2 | 38 | 5.7 | 10 ⁺ SEC | 5150875 | 72-211 | G-1A | G-1B | G-36A | G3A | 798 |
| SAFETY INJECTION SUCTION VALVE HV-853B | SV-510 | W407 | W408 | W409 | W411 | 1 | 38 | 5.7 | 10 ⁺ SEC | 5150874 | 72-130 | G-1C | G-1D | G-36B | G3B | 799 |

SONGS I
SAFETY RELATED

1542 SH. 33

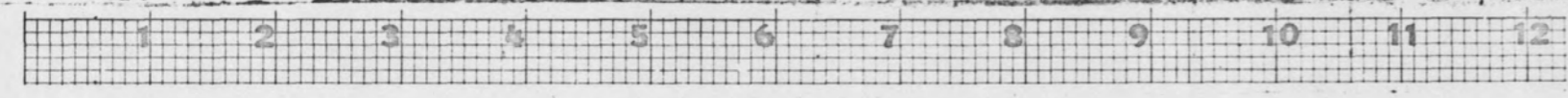
| No. | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | J.O. No. | Scale | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | J.O. No. |
|---------|---|------|---------------------------------|----------|------|-------|------|----------|-------|-----------|---|----------|------|------|-------|------|----------|
| 5102173 | 125V D.C. NO. 1, ONE-LINE DIAG. | | | | | | | | | 4 | INCORP. CCN 8 EFF. DATE IMMED | | | | | | |
| 5149255 | REVISED FOR RECHARGING S.T. RELIEF VALVES | | | | | | | | | 3 | INCORP. CCN 5, 6 & 7 EFF. DATE IMMED. | | | | | | |
| 252835 | LOGIC DIAGRAM | | | | | | | | | 2 | INCORP. CCN 3 & 4 EFFECT DATE IMMEDIATELY | | | | | | |
| 5149029 | DEVICE FUNCTION NOS & SYMBOLS | 6 | REC. REV. - REVISED TITLE | 11-10-77 | | | | | | 1 | INCORP. CCN 1 & 2 EFFECT DATE 10-1-76 | | | | | | |
| 5149964 | EQUIP. LOCATION INDEX | 5 | REC. REV. - ADDED STA. FILE NO. | 7-15-77 | | | | | | 0 | ISSUED FOR CONSTRUCTION | | | | | | |

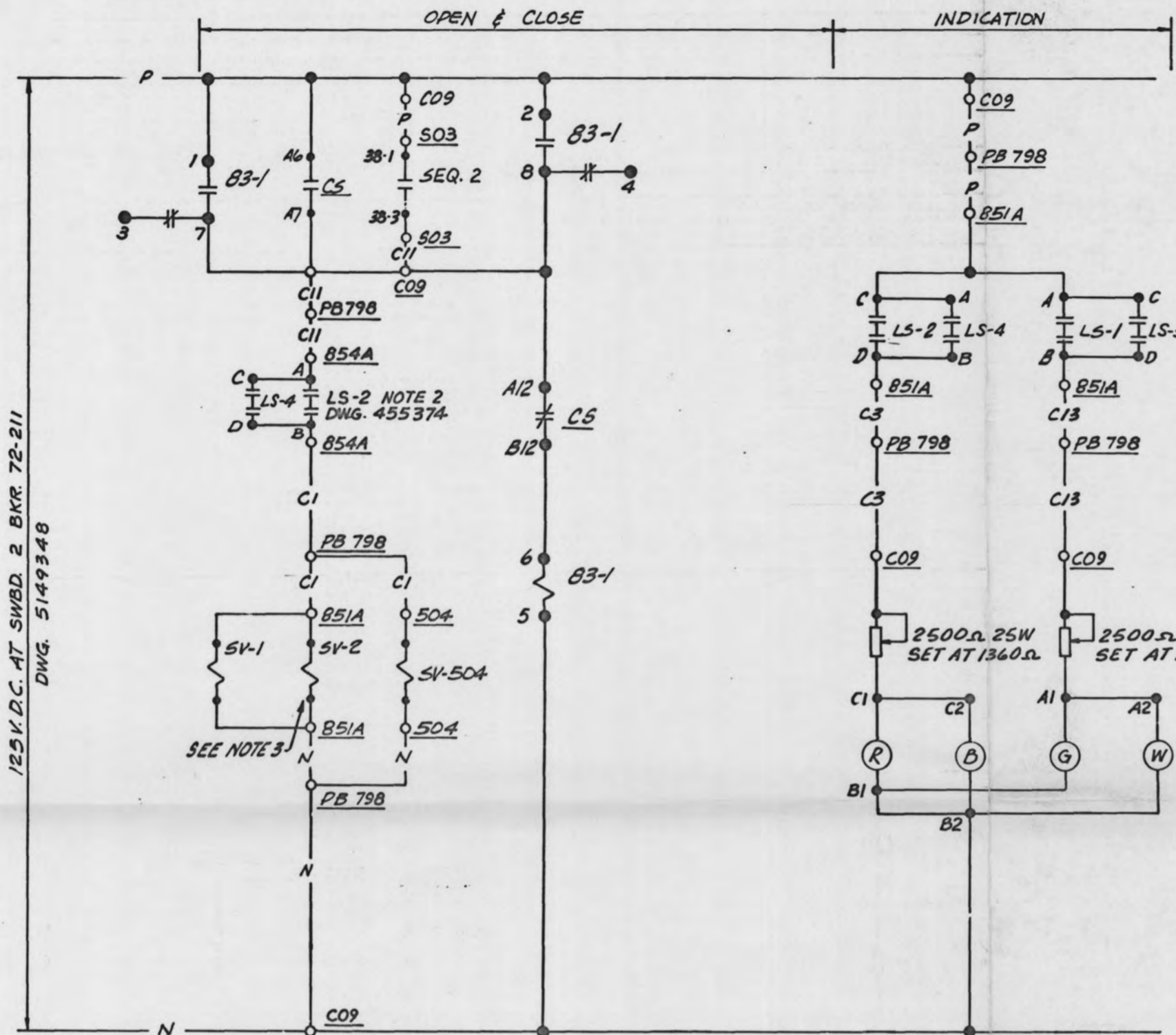
Location SAN ONOFRE NUCLEAR GEN. STA.
ELEMENTARY DIAGRAM
HV-853 A & B
SAFETY INJECTION VALVES

Southern California Edison Company

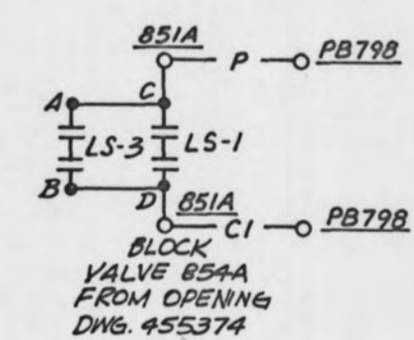
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Docket # 50-206
Control # 790327045B
Date 3/14/79 of Document
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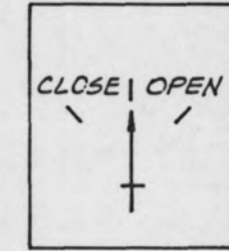


SCHEME NO IGDO251A SHOWN



BLOCK VALVE 854A FROM OPENING DWG. 455374

| CONTACT | POSITION | | | |
|---------|----------|-------------|------------|------|
| | CLOSE | AFTER CLOSE | AFTER OPEN | OPEN |
| A11-B11 | X | | | |
| A12-B12 | | X | X | |
| A1-B1 | | | | X |
| A5-A6 | X | X | | |
| A6-A7 | | | X | X |
| B5-B6 | X | X | | |
| B6-B7 | | | X | X |



| CONTACT | CONTACT DEVELOPMENT | | |
|---------|---------------------|--------------|-------|
| | OPEN | INTERMEDIATE | CLOSE |
| A-B | | | |
| C-D | | | |
| E-F | | | |
| G-H | | | |

LIMIT SWITCH 2 CW

| CONTACT | CONTACT DEVELOPMENT | | |
|---------|---------------------|--------------|-------|
| | OPEN | INTERMEDIATE | CLOSE |
| A-B | | | |
| C-D | | | |
| E-F | | | |
| G-H | | | |

LIMIT SWITCH 1 CCW

CONTROL SWITCH CS
WEST TYPE 'W-2' SPRING RETURN
GREEN OVAL FIXED HANDLE

| CONTACT | CONTACT DEVELOPMENT | | |
|---------|---------------------|--------------|-------|
| | OPEN | INTERMEDIATE | CLOSE |
| A-B | | | |
| C-D | | | |
| E-F | | | |
| G-H | | | |

LIMIT SWITCH 3 CW

| CONTACT | CONTACT DEVELOPMENT | | |
|---------|---------------------|--------------|-------|
| | OPEN | INTERMEDIATE | CLOSE |
| A-B | | | |
| C-D | | | |
| E-F | | | |
| G-H | | | |

LIMIT SWITCH 4 CCW

| CONTACT | CONTACT DEVELOPMENT | | |
|---------|---------------------|--------------|-------|
| | OPEN | INTERMEDIATE | CLOSE |
| A-B | | | |
| C-D | | | |
| E-F | | | |
| G-H | | | |

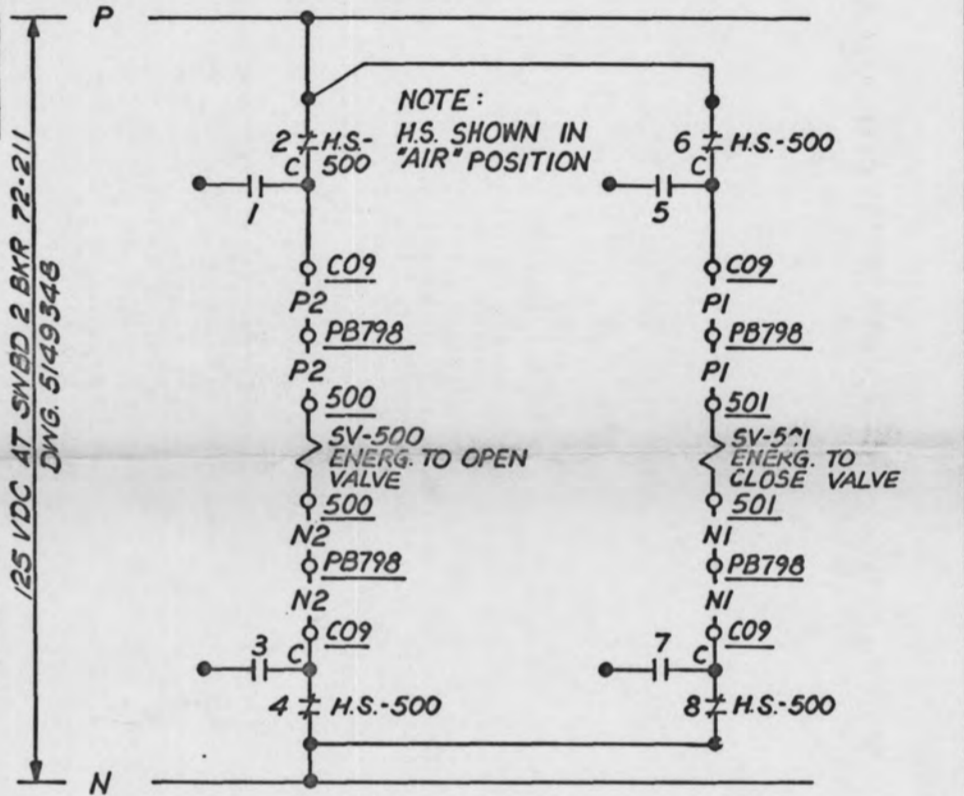
H.S. - 500

| CONTACT | POSITION | |
|---------|----------------|-----|
| | N ₂ | AIR |
| 1-C | X | |
| 2-C | | X |
| 3-C | X | |
| 4-C | | X |
| 5-C | X | |
| 6-C | | X |
| 7-C | X | |
| 8-C | | X |

HAND SWITCH SELECTOR H.S.
MAINTAINED
BLACK LEVER FIXED HANDLE

DEVICE TABLE

| DEVICE | TYPE | DESCRIPTION |
|--------|------------------------------|----------------------------|
| 83-1 | GE. HGA M 6379 SH. 614 | 125V. D.C. AUXILIARY RELAY |



SCHEME IGDO251A SHOWN

| DESCRIPTION | SCHEME | NITROGEN | AIR | HAND SW | DIST. SW | PULL BOX |
|--------------------------|----------|----------|-------|------------|----------|----------|
| H.V. "A" CHARGING SYSTEM | IGDO251A | SV501 | SV500 | H.S. - 500 | DO8 | 798 |
| H.V. "B" CHARGING SYSTEM | IFDO151B | SV503 | SV502 | H.S. - 502 | DO1 | 799 |

- NOTES:
- ALARM CIRCUIT COMMON TO VALVES HV-851A, HV-852A, HV-853A & HV-854A. SEE DWG. 5151800
 - CONTACT CLOSED WHEN HV 854A OR HV854B RESPECTIVELY IS CLOSED.
 - ENERGIZATION OF SV-1, SV-2 AND SV-504 WILL OPEN HV851A HV851A & B ARE NORMALLY CLOSED.

| DESCRIPTION | SCHEME | DEVICE | SEQUENCE | | | | DC. DIST. SWBD BKR. NO. | INTERLOCKS | PULL BOX | | |
|--|----------|--------|----------|------|------|------|-------------------------|------------|----------|---------|-----|
| | | | NO. | T.B. | STUD | TIME | | | | | |
| SAFETY INJECTION DISCHARGE VALVE HV-851A | IGDO251A | SV-504 | WS1A | 2 | 38 | 1,3 | 10*SEC | 5150875 | 72-211 | HV-854A | 798 |
| SAFETY INJECTION DISCHARGE VALVE HV-851B | IFDO151B | SV-508 | WS1B | 1 | 38 | 1,3 | 10*SEC | 5150874 | 72-130 | HV-854B | 799 |

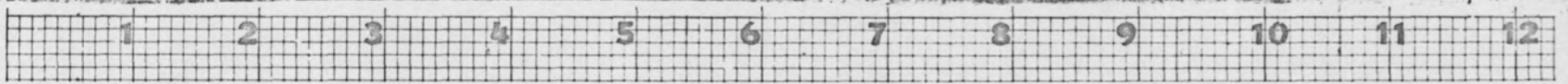
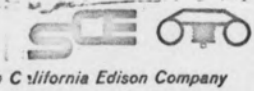
SONGS I
SAFETY RELATED
N1542 SH34

| No. | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | J.O. No. | Scale | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | J.O. No. |
|---------|--|------|----------|------|------|-------|------|----------|-------|-----------|---|----------|------|------|-------|------|----------|
| 5102173 | 125V. D.C. NO. 1 - ONE LINE DIAG. | | | | | | | | | 4 | REC. REV-ADDED STATION FILE NO. | 10/14/74 | YD | KT | | | |
| 5149265 | #1 ID FOR RECHARGING S.I. RELATED VALVES | | | | | | | | | 3 | INCCORP CON 745 EFF. DATE IMMED. | 5/11/77 | | | | | |
| 232834 | LOGIC DIAGRAM | | | | | | | | | 2 | INCCORP CON 4,5,6 EFF. DATE IMMEDIATELY | 2/18/77 | | | | | |
| 5149629 | DEVICE FUNC. NOS & SYMBOLS | | | | | | | | | 1 | INCCORP 1,2,3 EFFECT DATE 10-1-76 | 12/18/76 | | | | | |
| 5149964 | EQUIP. LOCATION INDEX | | | | | | | | | 0 | ISSUED FOR CONSTRUCTION | 3-24-76 | | | | | |

ELEMENTARY DIAGRAM
HV-851 A & B
SAFETY INJECTION VALVES

Southern California Edison Company SCE

455373-5

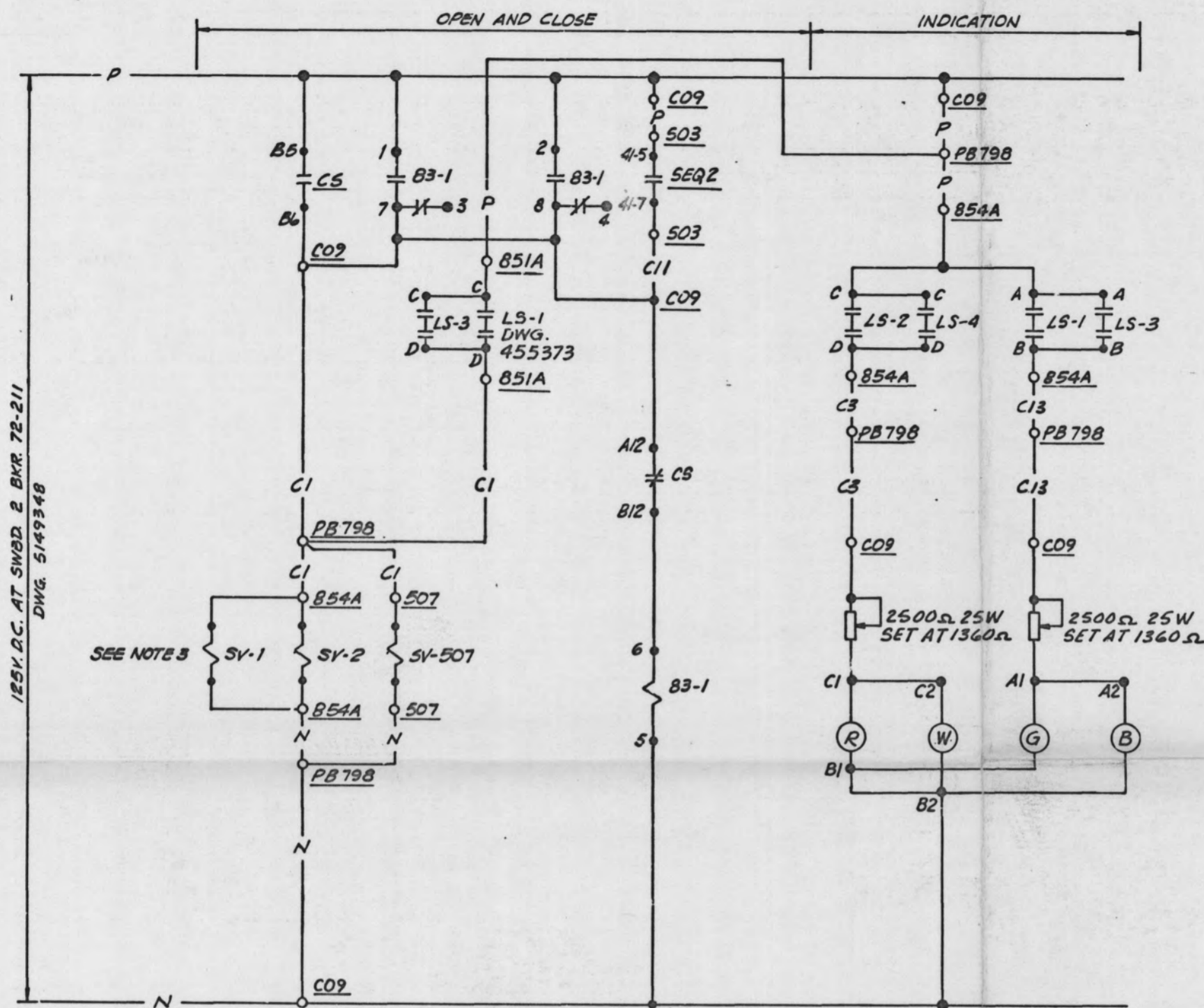


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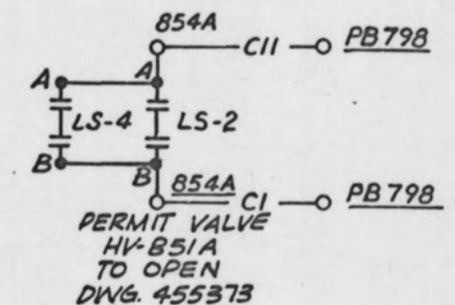
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BEST AVAILABLE COPY

Doc# 50-206
Cont# 1# 7903270848
Date 3/14/79 Document:
REGULATORY DOCKET FILE

125V D.C. AT SWBD 2 BKR 72-211 DWG. 5149348

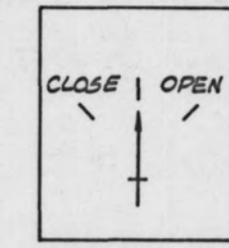


SCHEME NO. 1GDO254A SHOWN



| CONTACT | POSITION | | | |
|---------|----------|-------------|------------|------|
| | CLOSE | AFTER CLOSE | AFTER OPEN | OPEN |
| A11-B11 | X | | | |
| A12-B12 | | X | X | |
| A1-B1 | | | | X |
| A5-A6 | X | X | | |
| A6-A7 | | | X | X |
| B5-B6 | X | X | | |
| B6-B7 | | | X | X |

CONTROL SWITCH CS
WEST. TYPE 'W-2', SPRING RETURN
GREEN OVAL FIXED HANDLE



| CONTACT | CONTACT DEVELOPMENT | | |
|---------|---------------------|--------------|-------|
| | OPEN | INTERMEDIATE | CLOSE |
| A-B | | | |
| C-D | | | |
| E-F | | | |
| G-H | | | |

LIMIT SWITCH 2 AND 4 CW

| CONTACT | CONTACT DEVELOPMENT | | |
|---------|---------------------|--------------|-------|
| | OPEN | INTERMEDIATE | CLOSE |
| A-B | | | |
| C-D | | | |
| E-F | | | |
| G-H | | | |

LIMIT SWITCH 1 AND 3 CCW

| DEVICE TABLE | | |
|--------------|------------------------------|-------------------------|
| DEVICE | TYPE | DESCRIPTION |
| B3-1 | G.E. HGA M6379 SH. 614 | 125V DC AUXILIARY RELAY |

- NOTES:
- ALARM CIRCUIT COMMON TO VALVES HV-851A, HV-852A, HV-853A & HV-854A. SEE DWG. 5151800
 - FOR NITROGEN/AIR CHARGING SYSTEM SEE DWG. 455373
 - ENERGIZATION OF SV-1, SV-2 AND SV-507 WILL CLOSE HV-854A. HV-854A AND HV-854B ARE NORMALLY OPEN.

| DESCRIPTION | SCHEME | DEVICE | SEQUENCE | D.C. DIST. SWBD | | INTERLOCKS | PULL BOX | | | |
|---------------------------------|----------|--------|----------|-----------------|----------|------------|------------------------------|--------|---------|-----|
| | | | | BKR. NO. | BKR. NO. | | | | | |
| FEEDWATER SUCTION VALVE HV-854A | 1GDO254A | SV-507 | W54A | 2 | 41 | 5.7 | 10 ⁺ SEC. 5150875 | 72-211 | HV-851A | 798 |
| FEEDWATER SUCTION VALVE HV-854B | 1FDO154B | SV-511 | W54B | 1 | 41 | 5.7 | 10 ⁺ SEC. 5150874 | 72-130 | HV-851B | 799 |

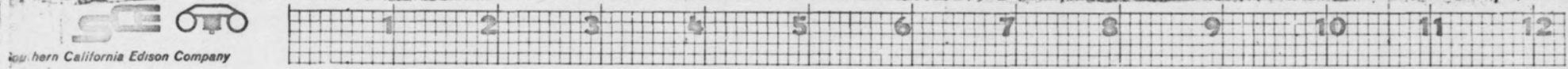
SONGS I
SAFETY RELATED

| No. | Reference Drawings | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | J.D. No. | Scale | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | J.O. No. |
|---------|--|-----------|------|----------|------|------|-------|------|----------|-------|-----------|--------------------------------------|----------|------|------|-------|------|----------|
| 5102173 | 125V DC NO. 1, ONE-LINE DIAG. | | | | | | | | | | 4 | INCORP CCN 5 & 6 EFF. DATE IMMED. | 3/21/77 | | | | | 0736 |
| 5149265 | FIELD FOR RECHARGING S.T. RELATED VALVES | | | | | | | | | | 3 | INCORP CCN 4, EFF. DATE IMMEDIATELY | 3/21/77 | | | | | 0736 |
| 232838 | LOGIC DIAGRAM | | | | | | | | | | 2 | INCORP CCN 3, EFFECT DATE IMMED | 3-5-77 | | | | | 0736 |
| 5149629 | DEVICE FUNC. NO'S & SYMBOLS | | | | | | | | | | 1 | INCORP CCN 1 & 2 EFFECT DATE 10-1-76 | 12/5/76 | | | | | 0736 |
| 5149964 | EQUIP. LOCATION INDEX | | | | | | | | | | 0 | ISSUED FOR CONSTRUCTION | 3/29/76 | | | | | 0736 |

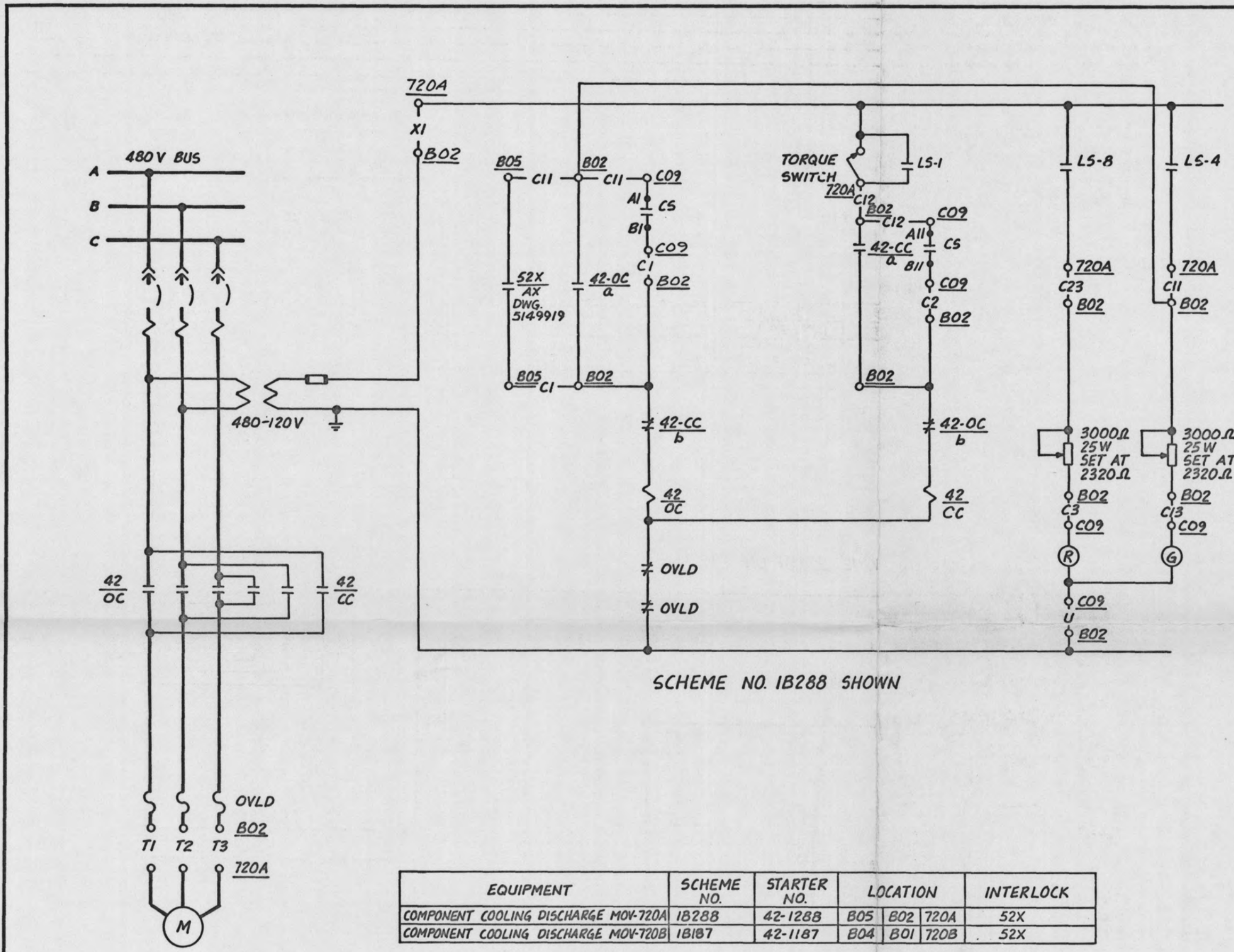
Location SAN ONOFRE NUCLEAR GEN. STA.
ELEMENTARY DIAGRAM
HV-854 A & B
SAFETY INJECTION VALVES
Southern California Edison Company SCE

455374-5

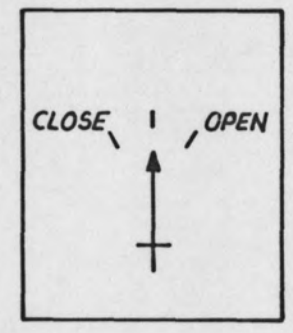
Docket # 50-206
Control # 7903270458
Date 3/14/79 of Document
REGULATORY DOCKET FILE



21X



| CONTACT | POSITION | | | |
|---------|----------|-------------|------------|------|
| | CLOSE | AFTER CLOSE | AFTER OPEN | OPEN |
| A11-B11 | X | | | |
| A12-B12 | | X | X | |
| A1-B1 | | | | X |
| A5-A6 | X | X | | |
| A6-A7 | | | X | X |
| B5-B6 | X | X | | |
| B6-B7 | | | X | X |



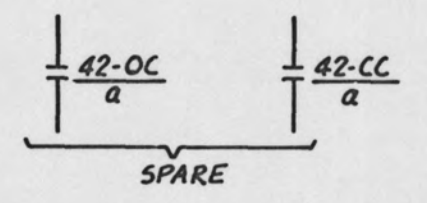
CONTROL SWITCH - CS
WEST TYPE "W-2" SPRING RETURN
GREEN OVAL FIXED HANDLE

| CONTACT | CONTACT DEVELOPMENT | | |
|---------|---------------------|--------------|-------|
| | OPEN | INTERMEDIATE | CLOSE |
| LS-1 | | | |
| LS-2 | | | |
| LS-3 | | | |
| LS-4 | | | |
| LS-5 | | | |
| LS-6 | | | |
| LS-7 | | | |
| LS-8 | | | |
| LS-9 | | | |
| LS-10 | | | |
| LS-11 | | | |
| LS-12 | | | |
| LS-13 | | | |
| LS-14 | | | |
| LS-15 | | | |
| LS-16 | | | |

LIMIT SWITCH

SCHEME NO. 1B288 SHOWN

| EQUIPMENT | SCHEME NO. | STARTER NO. | LOCATION | INTERLOCK |
|--------------------------------------|------------|-------------|--------------|-----------|
| COMPONENT COOLING DISCHARGE MOV-720A | 1B288 | 42-1288 | B05 B02 720A | 52X |
| COMPONENT COOLING DISCHARGE MOV-720B | 1B187 | 42-1187 | B04 B01 720B | 52X |



SONGS I
SAFETY RELATED
REACTOR AUXILIARIES

REDRAWN FROM N-1542- SH.5.

| No. | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | I.O. No. | Scale | No. | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | I.O. No. |
|---------|----------------------------|------|----------|------|------|-------|------|----------|-------|-----|-----------------------------------|----------|----------|------|------|-------|------|----------|
| 5149629 | DEVICE FUNC. NO. & SYMBOLS | | | | | | | | | 2 | REC. REV. REVISED TITLE | 11-10-77 | | | | | | |
| 5149964 | EQUIP. LOCATION INDEX | | | | | | | | | 1 | INCORP. CCN 1 EFFECT DATE 10-1-76 | 10/1/76 | | | | | | |
| 5102167 | I-LINE-MCC 2 | | | | | | | | | 0 | RECORD REVISION-PLANT REQ. | 2/1/76 | | | | | | |
| 5102165 | I-LINE-MCC 1 | | | | | | | | | | | | | | | | | |

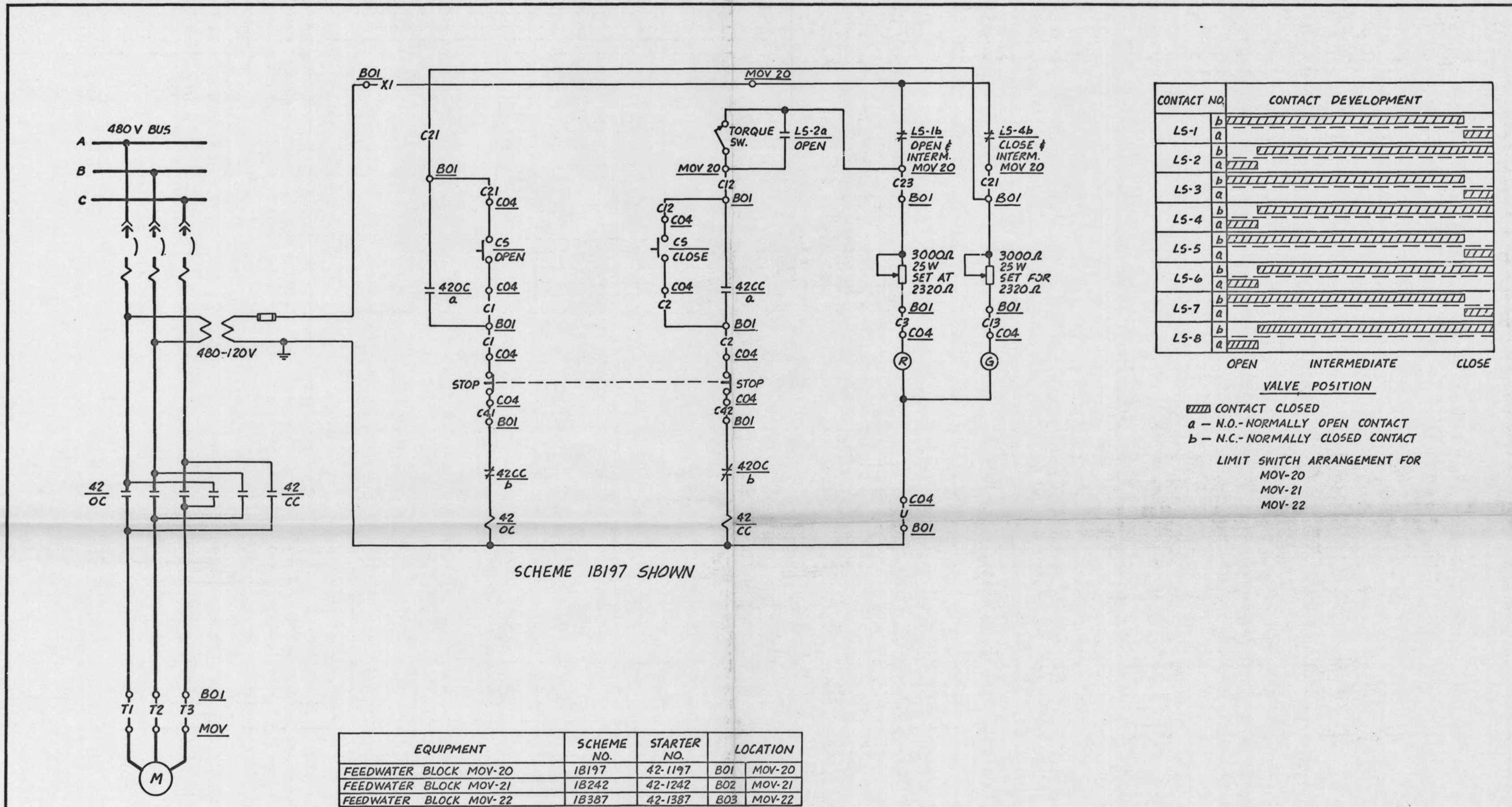
Location SAN ONOFRE NUCLEAR GEN. STA.
ELEMENTARY DIAGRAM
MOV-720 A & B
COMPONENT COOLING DISCHARGE

Southern California Edison Company

Docket # 50206
Control # 7903270458
Date 3/14/79 of Document
REGULATORY DOCKET FILE

455378-2

21X



| CONTACT NO. | CONTACT DEVELOPMENT |
|-------------|---------------------|
| LS-1 | b |
| | a |
| LS-2 | b |
| | a |
| LS-3 | b |
| | a |
| LS-4 | b |
| | a |
| LS-5 | b |
| | a |
| LS-6 | b |
| | a |
| LS-7 | b |
| | a |
| LS-8 | b |
| | a |

OPEN INTERMEDIATE CLOSE
 VALVE POSITION
 CONTACT CLOSED
 a - N.O.-NORMALLY OPEN CONTACT
 b - N.C.-NORMALLY CLOSED CONTACT
 LIMIT SWITCH ARRANGEMENT FOR
 MOV-20
 MOV-21
 MOV-22

| EQUIPMENT | SCHEME NO. | STARTER NO. | LOCATION |
|------------------------|------------|-------------|------------|
| FEEDWATER BLOCK MOV-20 | 18197 | 42-1197 | B01 MOV-20 |
| FEEDWATER BLOCK MOV-21 | 18242 | 42-1242 | B02 MOV-21 |
| FEEDWATER BLOCK MOV-22 | 18387 | 42-1387 | B03 MOV-22 |

| | |
|---------|----------------------------|
| 5149629 | DEVICE FUNC. NO. & SYMBOLS |
| 5149964 | EQUIPMENT LOCATION INDEX |
| 5102170 | I-LINE - MCC#3 |
| 5102167 | I-LINE - MCC#2 |
| 5102165 | I-LINE - MCC#1 |

| Reference Drawings | No. | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | I.O.No. | Scale | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | I.O.No. |
|--------------------|-----|-----------|------|----------|------|------|-------|------|---------|-------|-----------|------|----------|------|------|-------|------|---------|
| | | | | | | | | | | NONE | | | | | | | | |

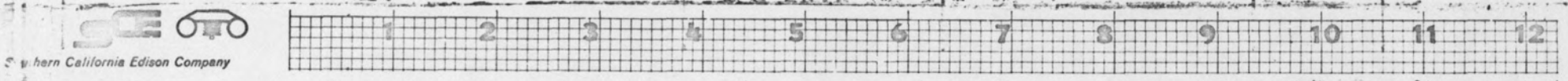
SONGS I
 SAFETY RELATED
 FEEDWATER & CONDENSATE
 REDRAWN FROM N-1543 SH20

Location SAN ONOFRE NUCLEAR GEN. STA.
 ELEMENTARY DIAGRAM
 FEEDWATER MOV-20, 21 & 22
 FEEDWATER BLOCK VALVES
 Southern California Edison Company

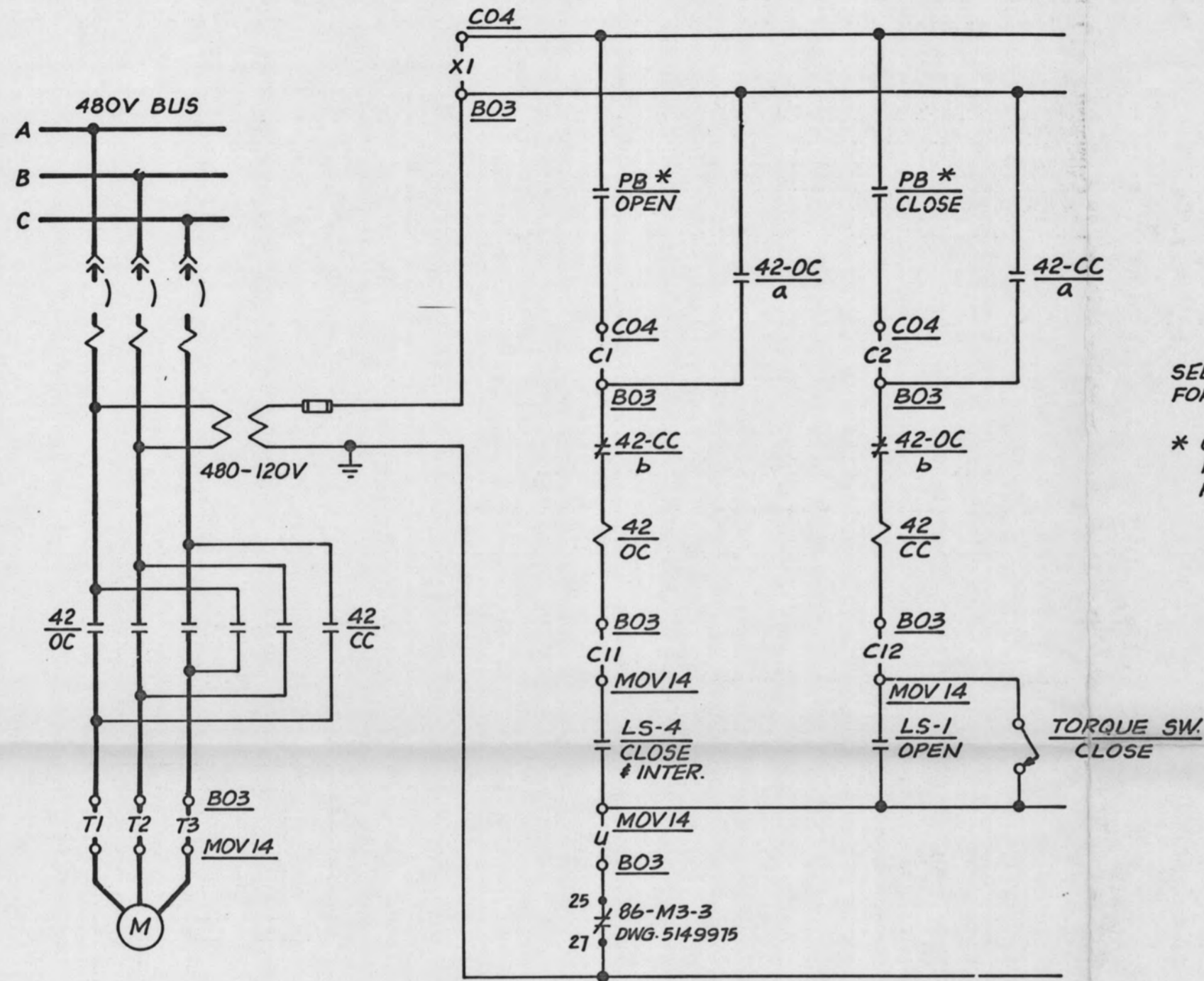
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 Control # 7903270458
 Date 3/14/79 of Document
 REGULATORY DOCKET FILE

FWS LPT M. 25534 SH 44C

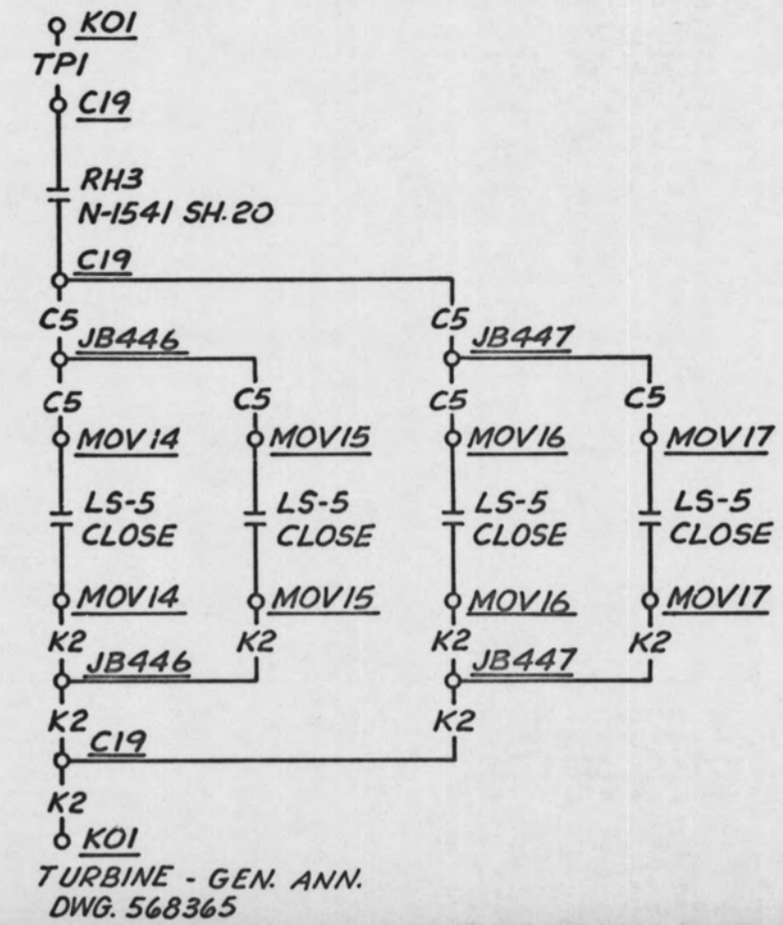
455379-2



21X



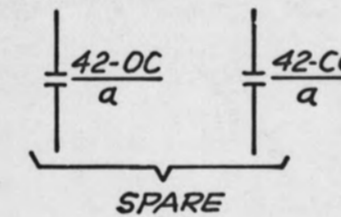
SEE N-1541 SH. 20
FOR IND. LIGHTS
* OPEN AND CLOSE
P.B.'S COMMON FOR
FOUR VALVES



REHEATER STEAM SUPPLY BLOCK VALVES

TURBINE - GEN. ANN.
DWG. 568365

SONGS I
TURBINE



SCHEME NO. IB364 SHOWN

| EQUIPMENT | SCHEME NO. | STARTER NO. | LOCATION | INTLK. |
|---|------------|-------------|-----------|----------------|
| STM. SUP. BLK. VLV. TO REHEATER E25-A (MOV14) | 1B364 | 42-1364 | BO3 MOV14 | 86-M3-3, 25-27 |
| STM. SUP. BLK. VLV. TO REHEATER E25-B (MOV15) | 1B372 | 42-1372 | BO3 MOV15 | 86-M3-3, 65-67 |
| STM. SUP. BLK. VLV. TO REHEATER E25-C (MOV16) | 1B375 | 42-1375 | BO3 MOV16 | 86-M3-4, 11-13 |
| STM. SUP. BLK. VLV. TO REHEATER E25-D (MOV17) | 1B379 | 42-1379 | BO3 MOV17 | 86-M3-4, 25-27 |

REDRAWN FROM N-1541 SH. 25

| Reference Drawings | | No. | Revisions | Date | Approved | O.K. | O.K. | Ck'd. | Made | J.O.No. | Scale | Location SAN ONOFRE NUCLEAR GEN. STA. | |
|--------------------|-------------------------------|-----|-----------|------|----------|------|------|-------|------|---------|---|---------------------------------------|--|
| 5149629 | DEVICE FUNCT. NO'S. & SYMBOLS | | | | | | | | | | | ELEMNTARY DIAGRAM | |
| 5102170 | ONE LINE MCC 3 | | | | | | | | | | | REHEATER BLOCK VALVES | |
| 5149964 | EQUIP. LOCATION INDEX | | | | | | | | | | | MOV'S 14,15,16 & 17 | |
| | | | | | | | | | | | Southern California Edison Company SCE | | |

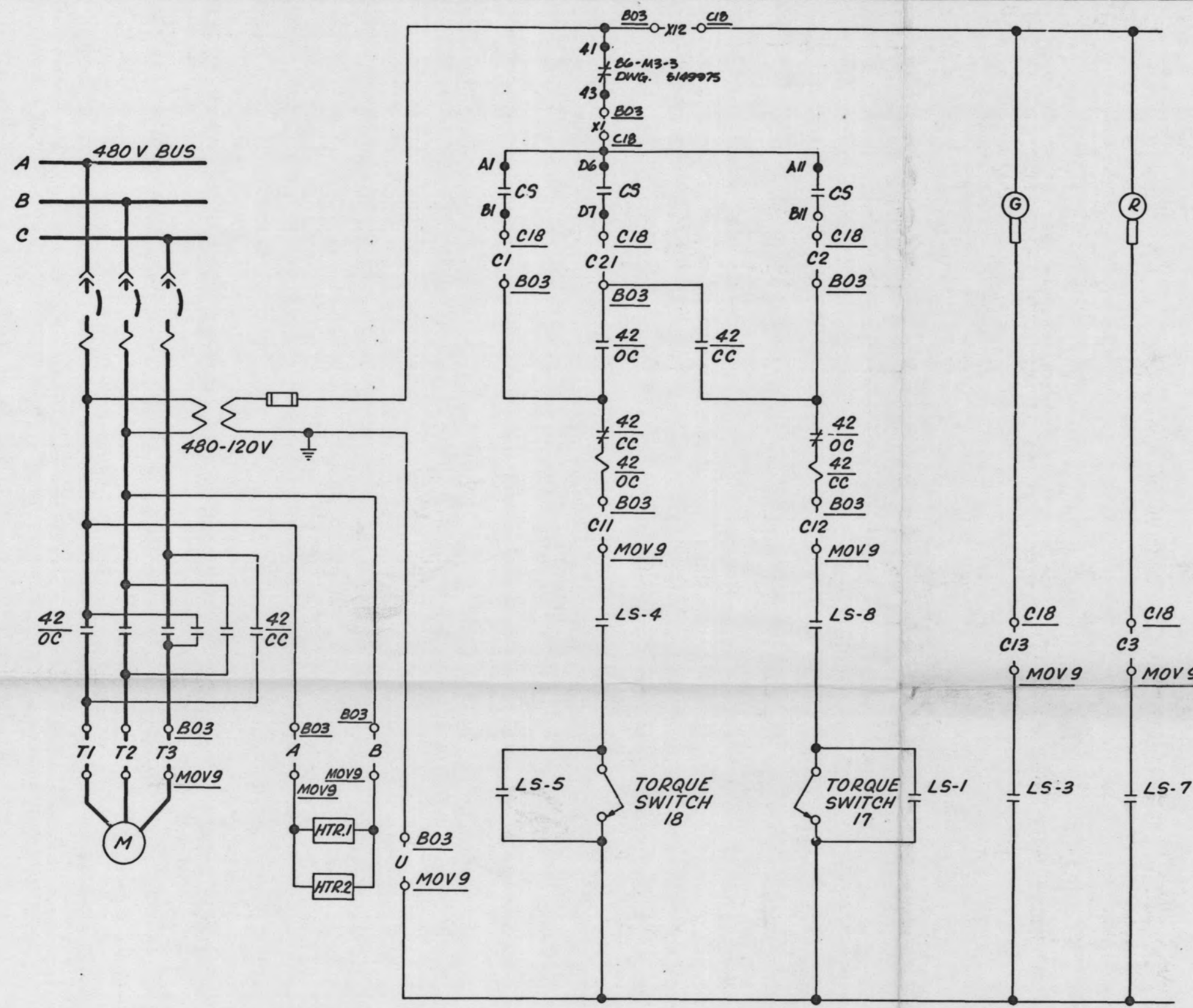
GENRING FORM NO. ENG. 89

455500 - 2

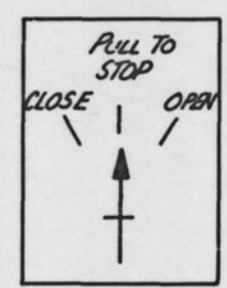
DWG. LIST W-25537 SH. 44C

Docket # 50206
Control # 1903270 458
Date 3/14/79 of Document
REGULATORY DOCKET FILE

21X



| CONTACT | POSITION | | | |
|---------|----------|-----|--------------|------|
| | CLOSE | OFF | PULL TO STOP | OPEN |
| A11-B11 | X | | | |
| A12-B12 | | X | X | |
| A1-B1 | | | | X |
| A5-B5 | X | | | |
| A6-B6 | | X | X | |
| A7-B7 | | | | X |
| C12-C1 | | | X | |
| D12-D1 | X | X | | X |
| C6-C7 | | | X | |
| D6-D7 | X | X | | X |



CONTROL SWITCH- CS
WEST TYPE 'W2' SPRING RETURN
GREEN OVAL FIXED HANDLE

| LIMIT TORQUE CONTACT NO. | CONTACT DEVELOPMENT | | |
|--------------------------|---------------------|--------------|-------|
| | OPEN | INTERMEDIATE | CLOSE |
| LS-1 | | | |
| LS-2 | | | |
| LS-3 | | | |
| LS-4 | | | |
| LS-5 | | | |
| LS-6 | | | |
| LS-7 | | | |
| LS-8 | | | |
| LS-9 | | | |
| LS-10 | | | |
| LS-11 | | | |
| LS-12 | | | |
| LS-13 | | | |
| LS-14 | | | |
| LS-15 | | | |
| LS-16 | | | |

VALVE POSITION
LIMIT SWITCH ARRANGEMENT

SCHEME NO 1B367 SHOWN

| EQUIPMENT | SCHEME NO | STARTER NO | LOCATION | INTLK. |
|-----------------------------|-----------|------------|------------|---------------|
| INTAKE GATE MOV-9 | 1B367 | 42-1367 | MOV-9 B03 | 86-M3-3,41-43 |
| INTAKE RECIRC. GATE MOV-11 | 1B373 | 42-1373 | MOV-11 B03 | 86-M3-3,71-73 |
| OUTFALL RECIRC. GATE MOV-12 | 1B376 | 42-1376 | MOV-12 B03 | 86-M3-4,15-17 |

MOV-12
LS-2
TO MOV-10
DWG. 455514

SONGS I
MECHANICAL AUXILIARIES
REDRAWN FROM N-1544 SH. 8

| Reference Drawings | No. | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | J.O.No. | Scale | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | J.O.No. | |
|--------------------|-----|-----------------------------|------|----------|------|------|-------|------|---------|-------|-----------|-----------------------------------|----------|------|------|-------|------|---------|--|
| 5149629 | | DEVICE FUNCTIONS NOS & SYMB | | | | | | | | | 4 | RECORD REVISION - REVISED TITLE | 1/10/77 | | | | | | |
| 5149964 | | EQUIP. LOCATION INDEX | | | | | | | | | 3 | INCCP CCN 4 - EFF. DATE IMMED | 4/2/77 | | | | | | |
| 5102170 | | 1-LINE MCC 3 | | | | | | | | | 2 | INCCP CCN 1 - EFFECT DATE 10-1-76 | 1-3-77 | | | | | | |
| | | | | | | | | | | | 1 | INCCP CCN 3 - EFFECT DATE 6-14-76 | 7/17/76 | | | | | | |
| | | | | | | | | | | | 0 | ISSUED FOR CONST. ADDED LOCKOUT | | | | | | | |

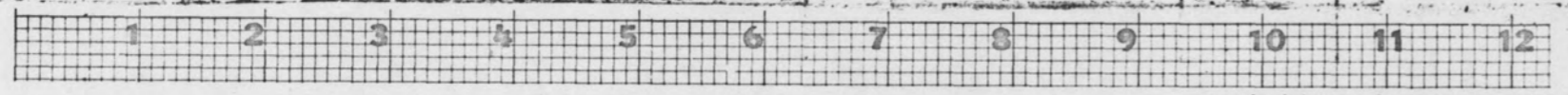
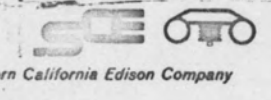
Location SAN ONOFRE NUCLEAR GEN. STA.
ELEMENTARY DIAGRAM
MOV'S 9, 11 & 12
INTAKE & OUTFALL GATES

Southern California Edison Company

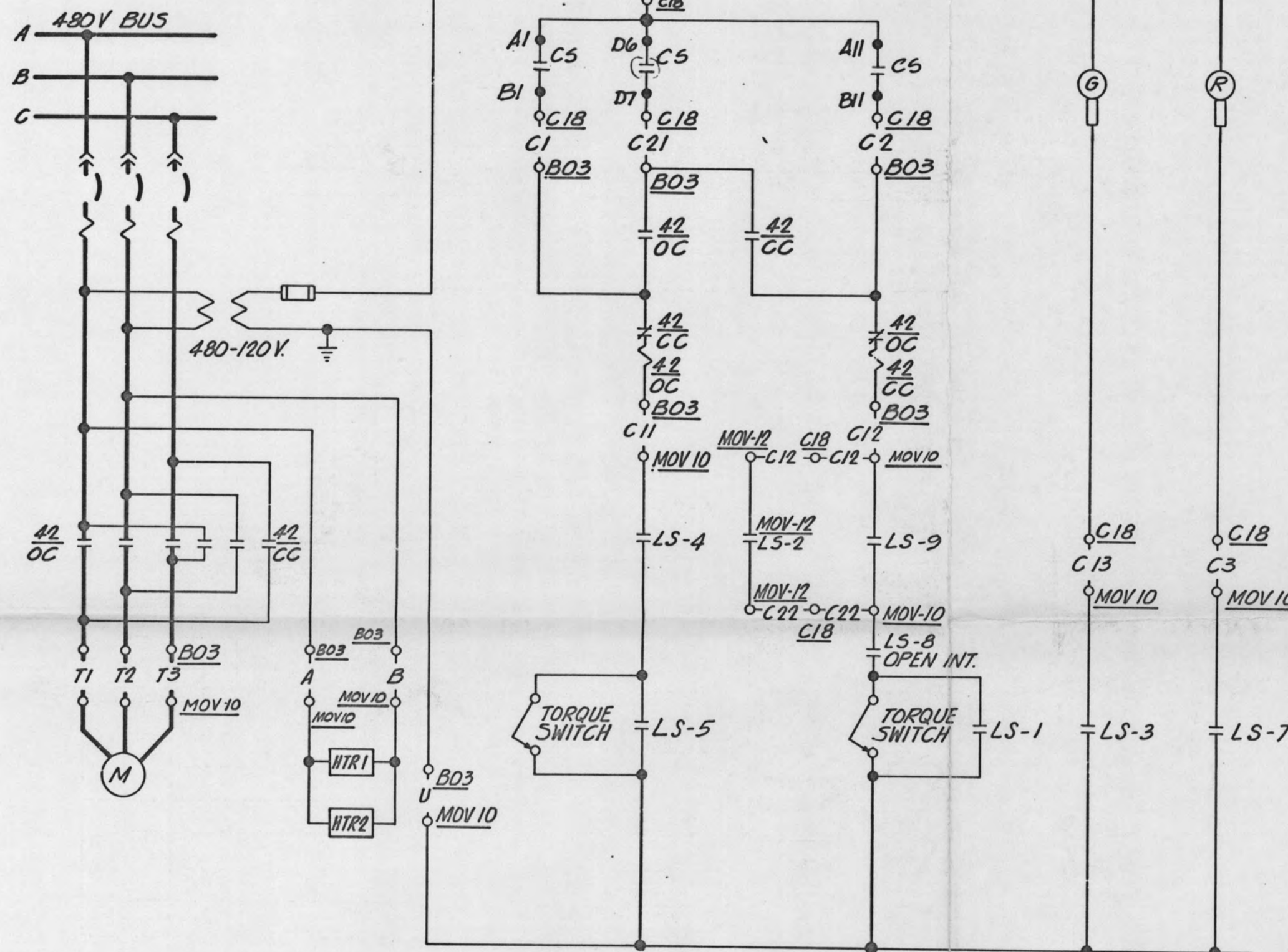
455513-4

Docket # 50-206
Case # 7903270458
Date 3/14/79 of Document
REGULATORY DOCKET FILE

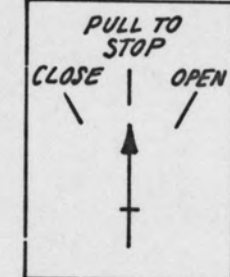
DWG LIST M. 50660 SH. 17 1/2



21X



| CONTACT | POSITION | | | |
|---------|----------|-----|--------------|------|
| | CLOSE | OFF | PULL TO STOP | OPEN |
| A11-B11 | X | | | |
| A12-B12 | | X | X | |
| A1-B1 | | | | X |
| A5-B5 | X | | | |
| A6-B6 | | X | X | |
| A7-B7 | | | | X |
| C12-C1 | | | X | |
| D12-D1 | X | X | | X |
| C6-C7 | | | X | |
| D6-D7 | X | X | | X |



CONTROL SWITCH CS
WEST TYPE 'W-2' SPRING RETURN
GREEN OVAL FIXED HANDLE

| LIMITORQUE CONTACT NO. | CONTACT DEVELOPMENT | | |
|------------------------|---------------------|--------------|-------|
| | OPEN | INTERMEDIATE | CLOSE |
| LS-1 | /// | | |
| LS-2 | /// | | |
| LS-3 | | /// | |
| LS-4 | | /// | |
| LS-5 | | | /// |
| LS-6 | | | /// |
| LS-7 | /// | | |
| LS-8 | /// | | |
| LS-9 | /// | | |
| LS-10 | /// | | |
| LS-11 | | | /// |
| LS-12 | | | /// |
| LS-13 | | | /// |
| LS-14 | | | /// |
| LS-15 | /// | | |
| LS-16 | /// | | |

VALVE POSITION
LIMIT SWITCH ARRANGEMENT

20%

SCHEME NO. 1B370

| EQUIPMENT | SCHEME N ^o | STARTER N ^o | INTERLOCKS |
|---------------------|-----------------------|------------------------|----------------|
| OUTFALL GATE MOV-10 | 1B370 | 42-1370 | 86-M3-3, 55-57 |

Docket # 50-206
Case # 1903270458
Date 3/14/79 of Document
REGULATORY DOCKET FILE

SONGS I
MECHANICAL AUXILIARIES

REDRAWN FROM N-1544 SH. 9

Location SAN ONOFRE NUCLEAR GEN. STA.

ELEMENTARY DIAGRAM
OUTFALL GATE MOV-10

| Reference Drawings | No. | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | J.O. No. | Scale | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | J.O. No. | |
|--------------------|-----|--|------|----------|------|------|-------|------|----------|-------|-----------|------|----------|------|------|-------|------|----------|--|
| 5149629 | | DEVICE FUNCTION N ^o & SYMBOLS | | | | | | | | | | | | | | | | | |
| 5149964 | | EQUIP. LOCATION INDEX | | | | | | | | | | | | | | | | | |
| 5102170 | | 1 LINE MCC 3 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

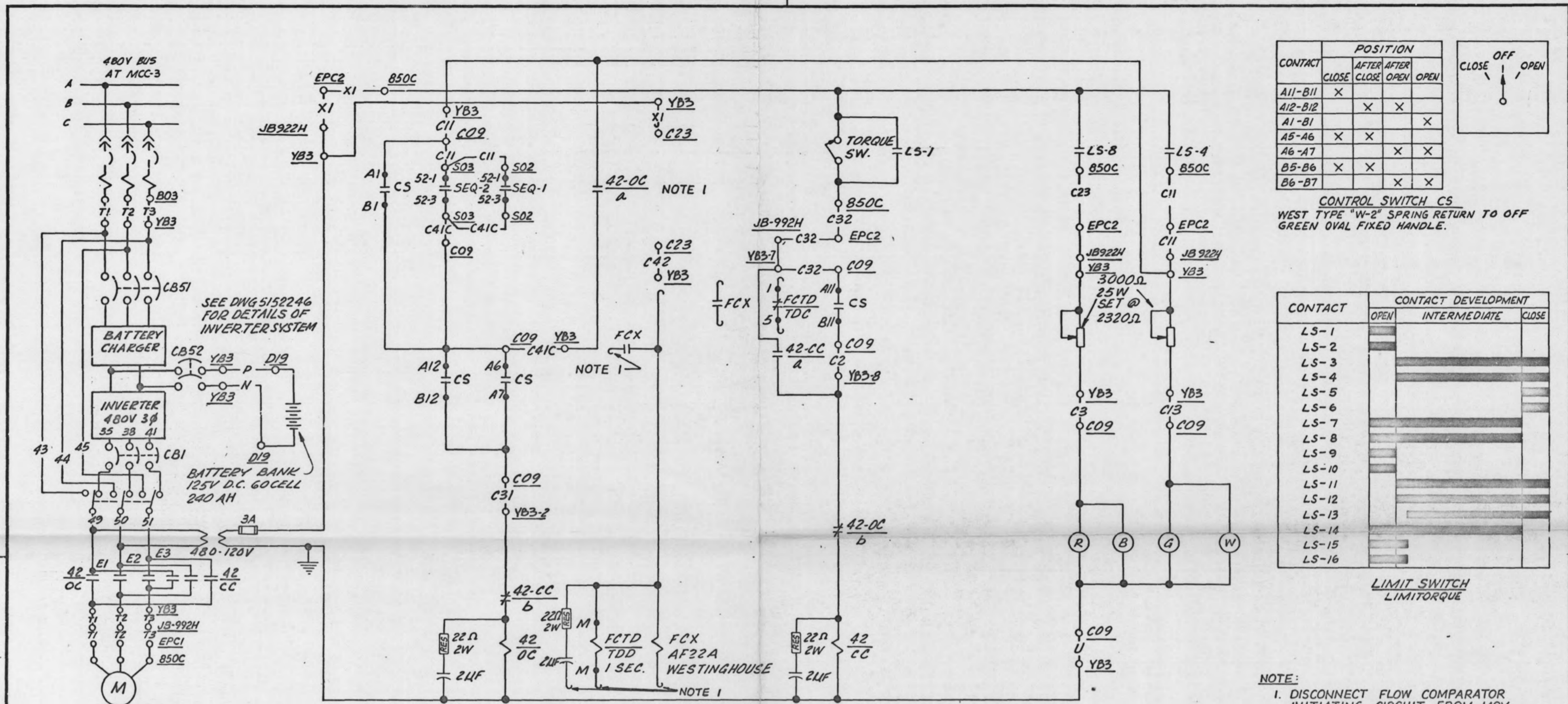
FORM NO. ENG. 89

Southern California Edison Company

455514-2

DWG. LIST M-504608H-21/2

20X



| CONTACT | POSITION | | | |
|---------|----------|-------------|------------|------|
| | CLOSE | AFTER CLOSE | AFTER OPEN | OPEN |
| A11-B11 | X | | | |
| A12-B12 | | X | X | |
| A1-B1 | | | | X |
| A5-A6 | X | X | | |
| A6-A7 | | | X | X |
| B5-B6 | X | X | | |
| B6-B7 | | | X | X |

CONTROL SWITCH CS
WEST TYPE "W-2" SPRING RETURN TO OFF
GREEN OVAL FIXED HANDLE.

| CONTACT | CONTACT DEVELOPMENT | | |
|---------|---------------------|--------------|-------|
| | OPEN | INTERMEDIATE | CLOSE |
| LS-1 | | | |
| LS-2 | | | |
| LS-3 | | | |
| LS-4 | | | |
| LS-5 | | | |
| LS-6 | | | |
| LS-7 | | | |
| LS-8 | | | |
| LS-9 | | | |
| LS-10 | | | |
| LS-11 | | | |
| LS-12 | | | |
| LS-13 | | | |
| LS-14 | | | |
| LS-15 | | | |
| LS-16 | | | |

LIMIT SWITCH
LIMITORQUE

- NOTE:
- DISCONNECT FLOW COMPARATOR INITIATING CIRCUIT FROM MOV CIRCUIT AND AUXILIARY RELAYS TO REMAIN FOR FUTURE USE.
 - 74 IS U.S. SUMMARY ALARM RELAY (K105) SEE VENDOR DWGS. FOR ALARM LOGIC.

SCHEME NO. 1HB0391

| EQUIPMENT | SCHEME NO. | STARTER NO. | LOCATION | INTERLOCKS | SEQUENCER | | | | |
|--------------------------------|------------|-------------|----------|------------|-----------|------|-------|---------|----------|
| | | | | | NO. | T.B. | STUD. | TIME | DWG. NO. |
| SAFETY INJEC. TO LOOP "C" 850C | 1HB0391 | B-1391 | 850C YB3 | | 1 | 52 | 1,3 | 10+SEC. | 5150874 |
| | | | | | 2 | 52 | 1,3 | 10+SEC. | 5150875 |

| No. | Revisions | Date | Approved | O.K. | O.K. | Ck'd. | Made | J.O. No. | Scale | None | Date | Approved | O.K. | O.K. | Ck'd. | Made | J.O. No. |
|---------|-----------------------------|------|----------------------------------|------|------|-------|------|----------|-------|------|------|----------|------|------|-------|------|----------|
| 455368 | ED. MOV-850 A & B | | | | | | | | | | | | | | | | |
| 455807 | STARTER ASSY SCHEM. UPS | | | | | | | | | | | | | | | | |
| 514996A | EQUIP. LOCATION INDEX | 7 | REC. REV. - REVISED TITLE | | | | | | | | | | | | | | |
| 455812 | W.D. UPS FOR MOV 850C | 6 | REC. REV. - ADDED STA. FILE NO. | | | | | | | | | | | | | | |
| 5152247 | SCHEM. BATTERY CHARGER | 5 | INCORP. CCN 8 EFF. DATE IMMED. | | | | | | | | | | | | | | |
| 63715 | SAFETY INJECTION SYS. SH. 2 | 4 | INCORP. CCN 7 EFFECT DATE IMMED. | | | | | | | | | | | | | | |

SONGS 1
SAFETY RELATED
REACTOR AUXILIARIES

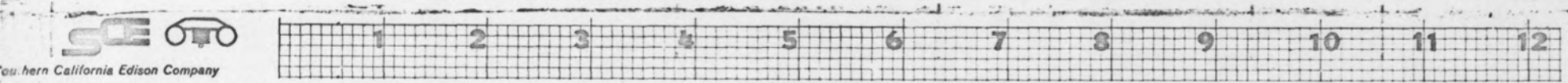
1542 SH. 6A

Location SAN ONOFRE NUCLEAR GEN. STA.
ELEMENTARY DIAGRAM
MOV-850C
SAFETY INJ. TO LOOP "C"

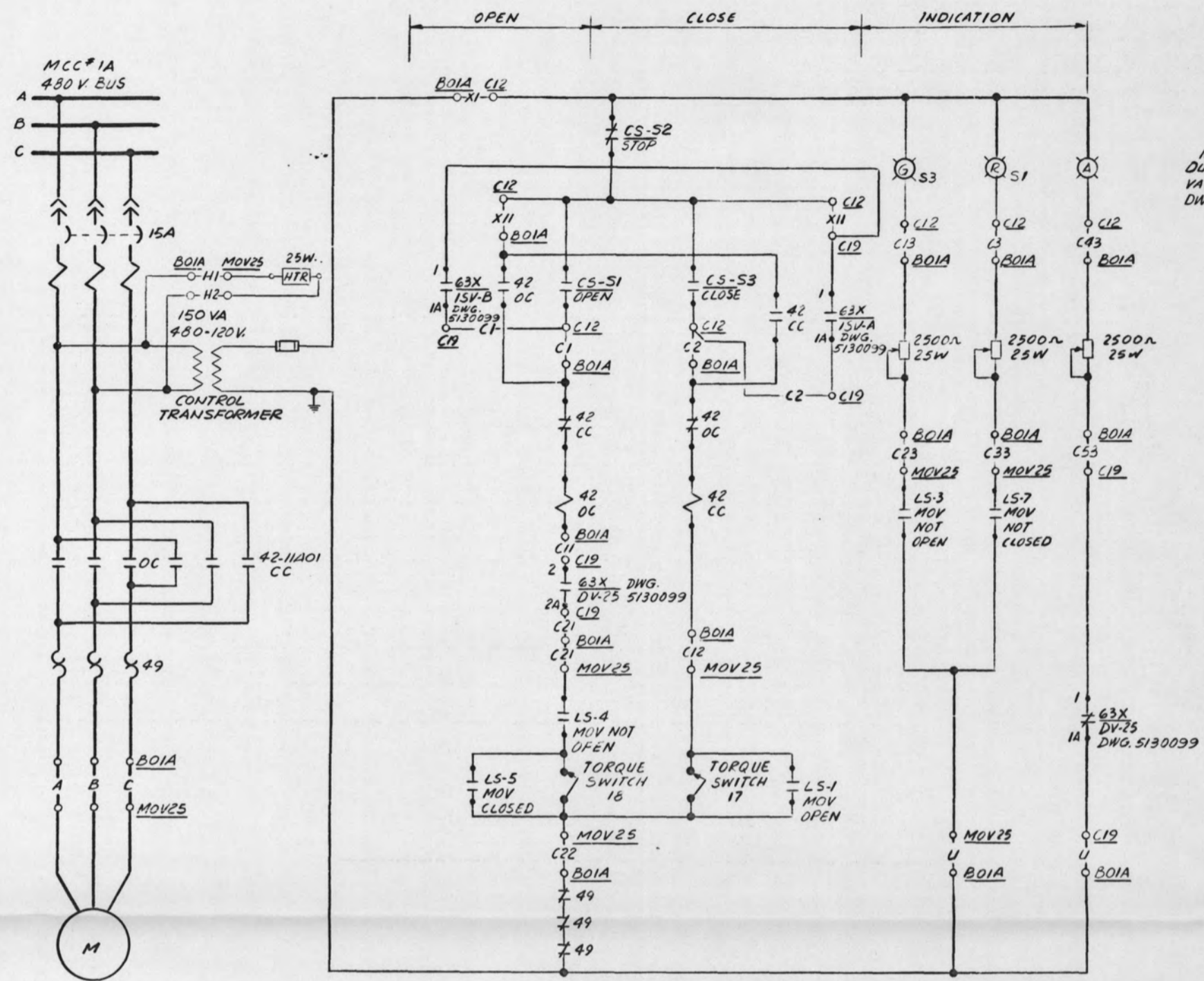
Southern California Edison Company

Doc# 50-206
Case# 790327045B
Date 11/14/79 of Document:
REGULATORY DOCKET FILE

455516 - 7



21X



LS-6 MOV CLOSED
 INTERLOCK DUMP SOLENOID VALVE CIRCUIT DWG. 5130099

| ROTOR | CONTACT | VALVE POSITION | | FUNCTION |
|-----------------------|---------|----------------|-------------|---|
| | | FULL OPEN | FULL CLOSED | |
| 1 | 1 | | | BY PASS |
| | 2 | | | SPARE |
| | 3 | | | GREEN LIGHT |
| | 4 | | | INTERLOCK |
| 2 | 5 | | | BY PASS |
| | 6 | | | INTERLOCK |
| | 7 | | | RED LIGHT |
| | 8 | | | SPARE |
| TORQUE LIMIT SWITCHES | 17 | | | OPERATOR MACH OVERLOAD ON 15% LOAD CYCLE |
| | 18 | | | OPERATOR MACH OVERLOAD ON 100% LOAD ON 15% LOAD CYCLE |

100% OPEN
 100% CLOSED
 LIMIT SWITCH DEVELOPMENT DENOTES CONTACT CLOSED (APPLICABLE FOR ALL MOV'S)

SCHEME 1B11A01 SHOWN (OTHER SCHEMES SIMILAR EXCEPT AS NOTED BELOW)

| EQUIPMENT DESCRIPTION | STARTER NO. | SCHEME NO. | INTERLOCK | LOCATION NO. |
|--|-------------|------------|-----------|--------------|
| STEAM DUMP ISOLATION VALVE EAST MOV-25 | 42-11A01 | 1B11A01 | 63X DV-26 | B01A MOV25 |
| STEAM DUMP ISOLATION VALVE EAST MOV-26 | 42-11A02 | 1B11A02 | 63X DV-27 | B01A MOV26 |
| STEAM DUMP ISOLATION VALVE EAST MOV-27 | 42-11A03 | 1B11A03 | 63X DV-28 | B01A MOV27 |
| STEAM DUMP ISOLATION VALVE EAST MOV-28 | 42-11A04 | 1B11A04 | 63X DV-29 | B01A MOV28 |
| STEAM DUMP ISOLATION VALVE EAST MOV-29 | 42-11A05 | 1B11A05 | 63X DV-30 | B01A MOV29 |
| STEAM DUMP ISOLATION VALVE WEST MOV-30 | 42-11A06 | 1B11A06 | 63X DV-31 | B01A MOV30 |
| STEAM DUMP ISOLATION VALVE WEST MOV-31 | 42-11A07 | 1B11A07 | 63X DV-32 | B01A MOV31 |
| STEAM DUMP ISOLATION VALVE WEST MOV-32 | 42-11A08 | 1B11A08 | 63X DV-33 | B01A MOV32 |
| STEAM DUMP ISOLATION VALVE WEST MOV-33 | 42-11A09 | 1B11A09 | 63X DV-34 | B01A MOV33 |
| STEAM DUMP ISOLATION VALVE WEST MOV-34 | 42-11A10 | 1B11A10 | 63X DV-35 | B01A MOV34 |

SONGS I TURBINE

SUPERSEDES DWG. N1541 SH 40

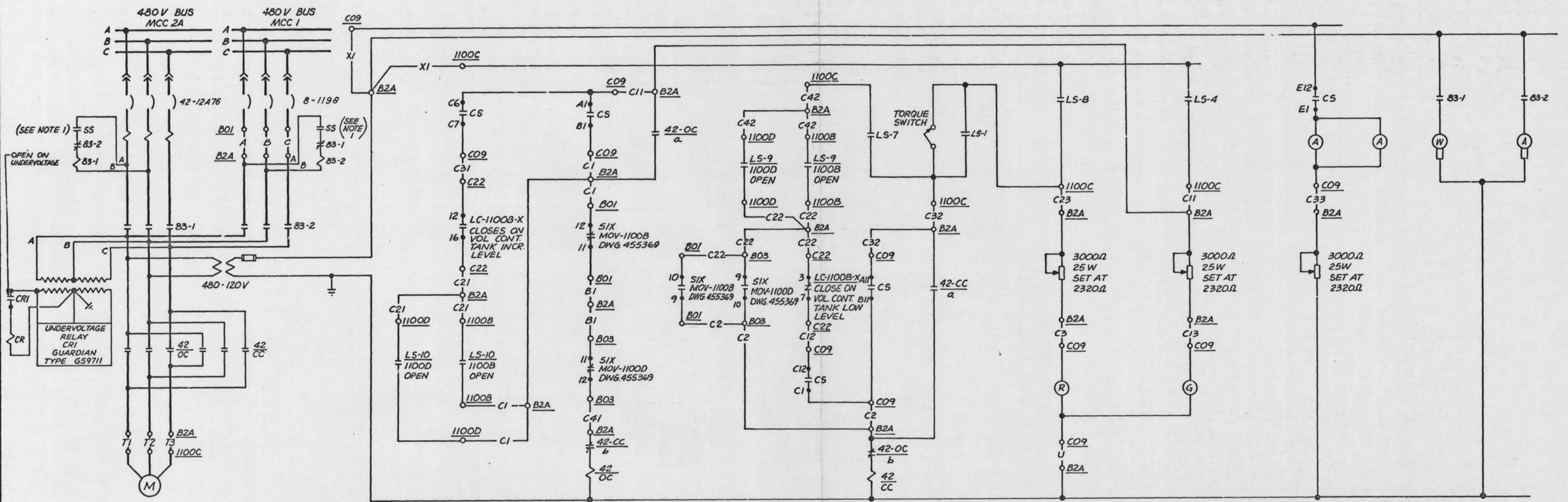
| Reference Drawings | No. | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | J.O. No. | Scale | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | J.O. No. | |
|--------------------|-------------------------------|-----------|----------------------------------|----------|------|------|-------|------|----------|-------|-----------|---|----------|--------|------|-------|------|----------|--|
| 5130099 | E.D. STEAM DUMP SOLV CONTROL | | | | | | | | | | 4 | CHANGED 63X DEVICE NOS. | 5-28-74 | Phil B | | | | | |
| N-541344 | ELEMENTARY DIAGRAM | | | | | | | | | | 3 | ADD 25W HTR & REV PER AS BUILT | 1-3-74 | Phil B | | | | | |
| N-2593 | CIRCUIT SCHEDULE | 7 | REC. REV. REVISED TITLE | 11-17-73 | | | | | | | 2 | INTER CHANGED CONTACTS LS-5 & LS-6 | 1-25-74 | Phil B | | | | | |
| 5118149 | WIR. DIAG. VERTICAL BOARD | 6 | INCORP CON 1 EFFECT DATE 6-14-76 | 7-23-76 | | | | | | | 1 | DESIGN REVISED PER WESTINGHOUSE DWG. 46430438-10-73 | 11-11-73 | Phil B | | | | | |
| 5118198 | WIR. DIAG. MCC1A-FRONT & REAR | 5 | ADDED DWG. NO. 5130098 | 1-15-74 | | | | | | | 0 | ISSUED FOR CONSTRUCTION | 2-10-73 | Phil B | | | | | |

Southern California Edison Company

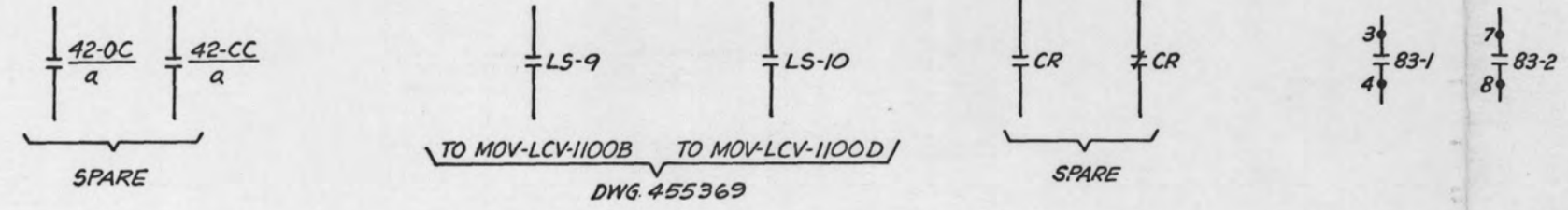
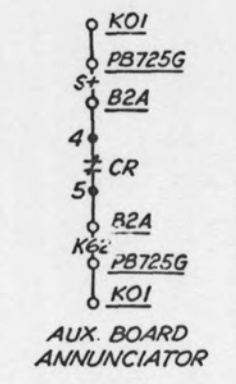
5130098-7

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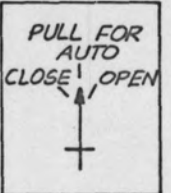
Doc # 50-206
 Control # 1903270458
 Date 3/14/79 of Document
 REGULATORY DOCKET FILE



SCHEME NO. 1B2A76



| CONTACT | POSITION | | | |
|---------|----------|-----|------|------|
| | CLOSE | OFF | AUTO | OPEN |
| A11-B11 | X | | | |
| A12-B12 | | X | X | |
| A1-B1 | | | | X |
| A5-B5 | X | | | |
| A6-B6 | | X | X | |
| A7-B7 | | | | X |
| C12-C1 | | | X | |
| D12-D1 | X | X | X | |
| C6-C7 | | | X | |
| D6-D7 | X | X | X | |
| E12-E1 | | | X | |
| F12-F1 | X | X | X | |
| E6-E7 | | | X | |
| F6-F7 | X | X | X | |



CONTROL SWITCH CS
WEST TYPE "W-2" SPRING RETURN
GREEN OVAL FIXED HANDLE

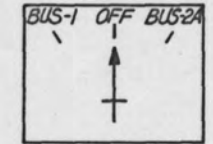
| CONTACT | CONTACT DEVELOPMENT | | |
|---------|---------------------|--------------|-------|
| | OPEN | INTERMEDIATE | CLOSE |
| LS-1 | | | |
| LS-2 | | | |
| LS-3 | | | |
| LS-4 | | | |
| LS-5 | | | |
| LS-6 | | | |
| LS-7 | | | |
| LS-8 | | | |
| LS-9 | | | |
| LS-10 | | | |
| LS-11 | | | |
| LS-12 | | | |
| LS-13 | | | |
| LS-14 | | | |
| LS-15 | | | |
| LS-16 | | | |

LIMIT SWITCH

NOTES:
1. SELECTOR SWITCH SS ALIGNS MOV-1100C TO EITHER MCC 1 OR MCC 2A IF BREAKERS B-1198 OR 42-12A76 RESPECTIVELY, ARE CLOSED. BREAKER NOT SUPPLYING MOV-1100C WILL BE MAINTAINED IN OPEN POSITION

| EQUIPMENT | SCHEME NO. | STARTER NO. | INTERLOCKS | LOCATION |
|---|------------|-------------|--|----------|
| VOLUME CONTROL TANK DISCHARGE MOV-LCV-1100C | 1B2A76 | 42-12A76 | LS-9, LS-10 (1100B); LS-9, LS-10 (1100D); SIX 9 # 10, 11 # 12 (1100B); SIX 9 # 10, 11 # 12 (1100D) | B2A |

| CONTACT | POSITION | | |
|---------|----------|-----|--------|
| | BUS-1 | OFF | BUS-2A |
| 1-2 | X | | |
| 3-4 | | | X |
| 5-6 | X | | |
| 7-8 | | | X |



SELECTOR SWITCH SS
SQUARE-D CAT. # 9001-KS-433
MANUAL RETURN CONTACTS
BLACK OVAL HANDLE

SONGS I
SAFETY RELATED
REACTOR AUXILIARIES

REDRAWN FROM DWG. 449403 (N-1342 SH. 32)

| No. | Revisions | Date | Approved | O.K. | O.K. | Ck'd. | Made | J.O. No. | Scale | Revisions | Date | Approved | O.K. | O.K. | Ck'd. | Made | J.O. No. |
|-----|--|----------|----------|------|------|-------|------|----------|-------|-----------|------|----------|------|------|-------|------|----------|
| 4 | INCCP. CEN. 7 EFF. DATE IMMED. | 11-11-71 | WJ | | | | | | | | | | | | | | |
| 3 | INCCP. CON. 5 & 6 EFF. DATE IMMED. | 10-13-71 | WJ | | | | | | | | | | | | | | |
| 2 | INCCP. CON. 2, 3 & 4 EFF. DATE IMMED. | 10-13-71 | WJ | | | | | | | | | | | | | | |
| 1 | INCCP. CON. 1 EFF. DATE IMMED. | 10-11-71 | WJ | | | | | | | | | | | | | | |
| 0 | ISSUED FOR CONSTRUCTION. REVISED & RECK. WVN | 10-11-71 | WJ | | | | | | | | | | | | | | |

Location SAN ONOFRE NUCLEAR GEN. STA.
ELEMENTARY DIAGRAM
MOV LCV 1100C
(VOLUME CONT. TANK DISCH.)

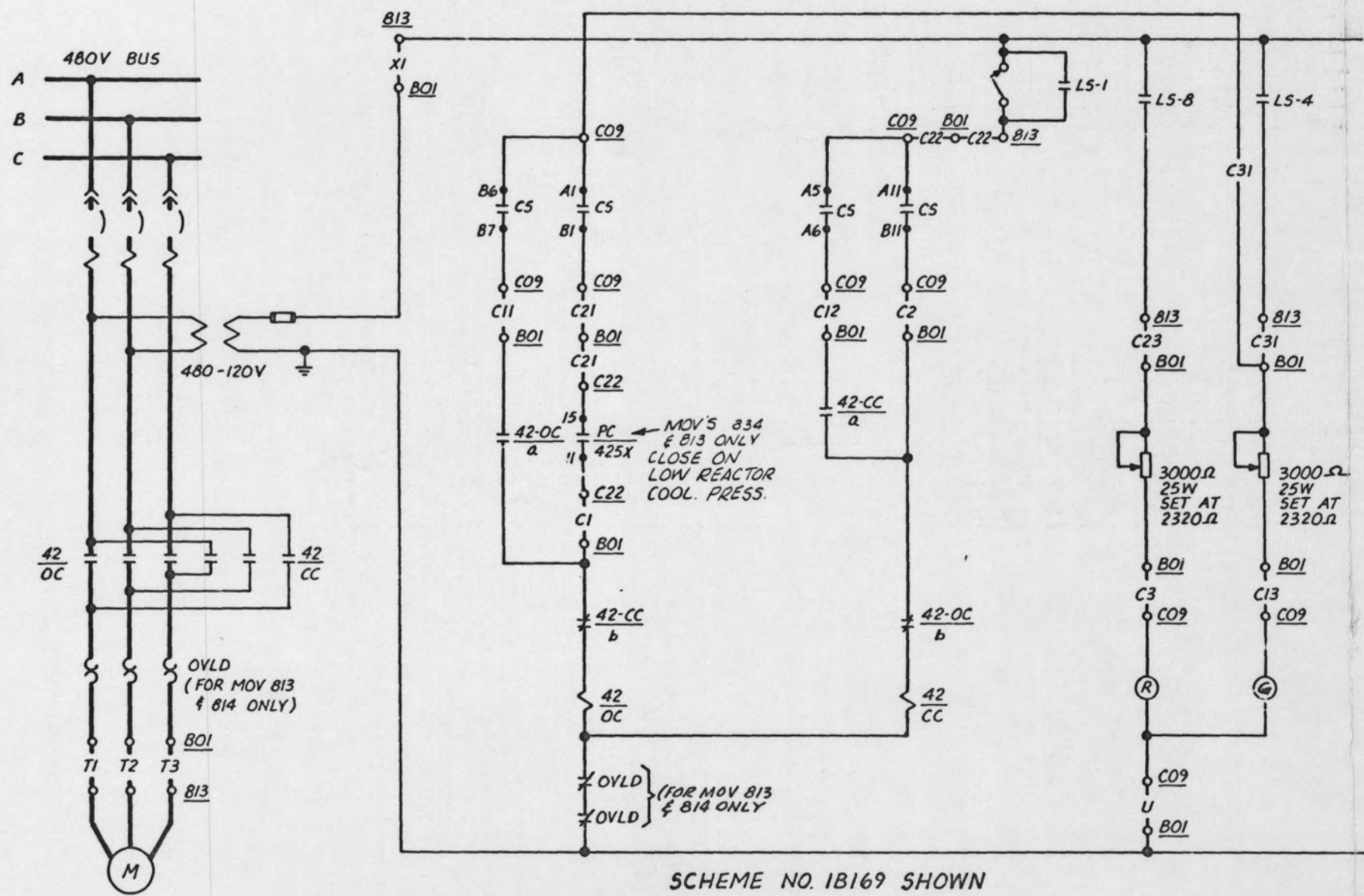
Southern California Edison Company

5151028-5

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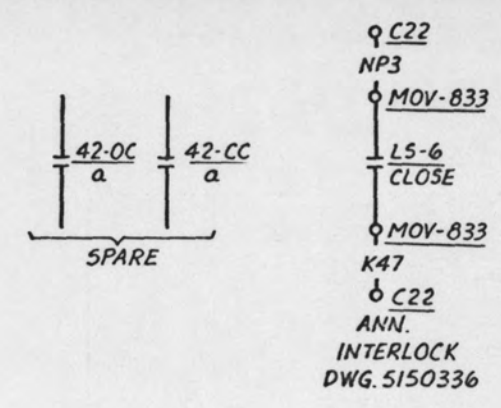


| CONTACT | POSITION | | | |
|---------|----------|-------------|------------|------|
| | CLOSE | AFTER CLOSE | AFTER OPEN | OPEN |
| A11-B11 | X | | | |
| A12-B12 | | X | X | |
| A1-B1 | | | | X |
| A5-A6 | X | X | | |
| A6-A7 | | | X | X |
| B5-B6 | X | X | | |
| B6-B7 | | | X | X |

CONTROL SWITCH-C5
WEST TYPE "W-2" SPRING RETURN
GREEN OVAL FIXED HANDLE

| CONTACT | CONTACT DEVELOPMENT | | |
|---------|---------------------|--------------|-------|
| | OPEN | INTERMEDIATE | CLOSE |
| LS-1 | | | |
| LS-2 | | | |
| LS-3 | | | |
| LS-4 | | | |
| LS-5 | | | |
| LS-6 | | | |
| LS-7 | | | |
| LS-8 | | | |
| LS-9 | | | |
| LS-10 | | | |
| LS-11 | | | |
| LS-12 | | | |
| LS-13 | | | |
| LS-14 | | | |
| LS-15 | | | |
| LS-16 | | | |

LIMIT SWITCH
LIMITORQUE



| EQUIPMENT | SCHEME NO. | STARTER NO. | LOCATION | PC-425X |
|---|------------|-------------|----------|---------|
| RESIDUAL HEAT REMOVAL LOOP "C" HOT LEG MOV-813 | 1B169 | 42-1169 | B01 813 | 11-15 |
| RESIDUAL HEAT REMOVAL LOOP "C" HOT LEG MOV-814 | 1B271 | 42-1271 | B02 814 | |
| RESIDUAL HEAT EXCHANGER INLET MOV-822A | 1B164 | 42-1164 | B01 822A | |
| RESIDUAL HEAT EXCHANGER INLET MOV-822B | 1B266 | 42-1266 | B02 822B | |
| RESIDUAL HEAT REMOVAL LOOP "A" COLD LEG MOV-833 | 1B170 | 42-1170 | B01 833 | 12-16 |
| RESIDUAL HEAT REMOVAL LOOP "A" COLD LEG MOV-834 | 1B272 | 42-1272 | B02 834 | 12-16 |

SONGS - I
SAFETY RELATED
REACTOR AUXILIARIES

REDRAWN FROM N-1542 SH.7

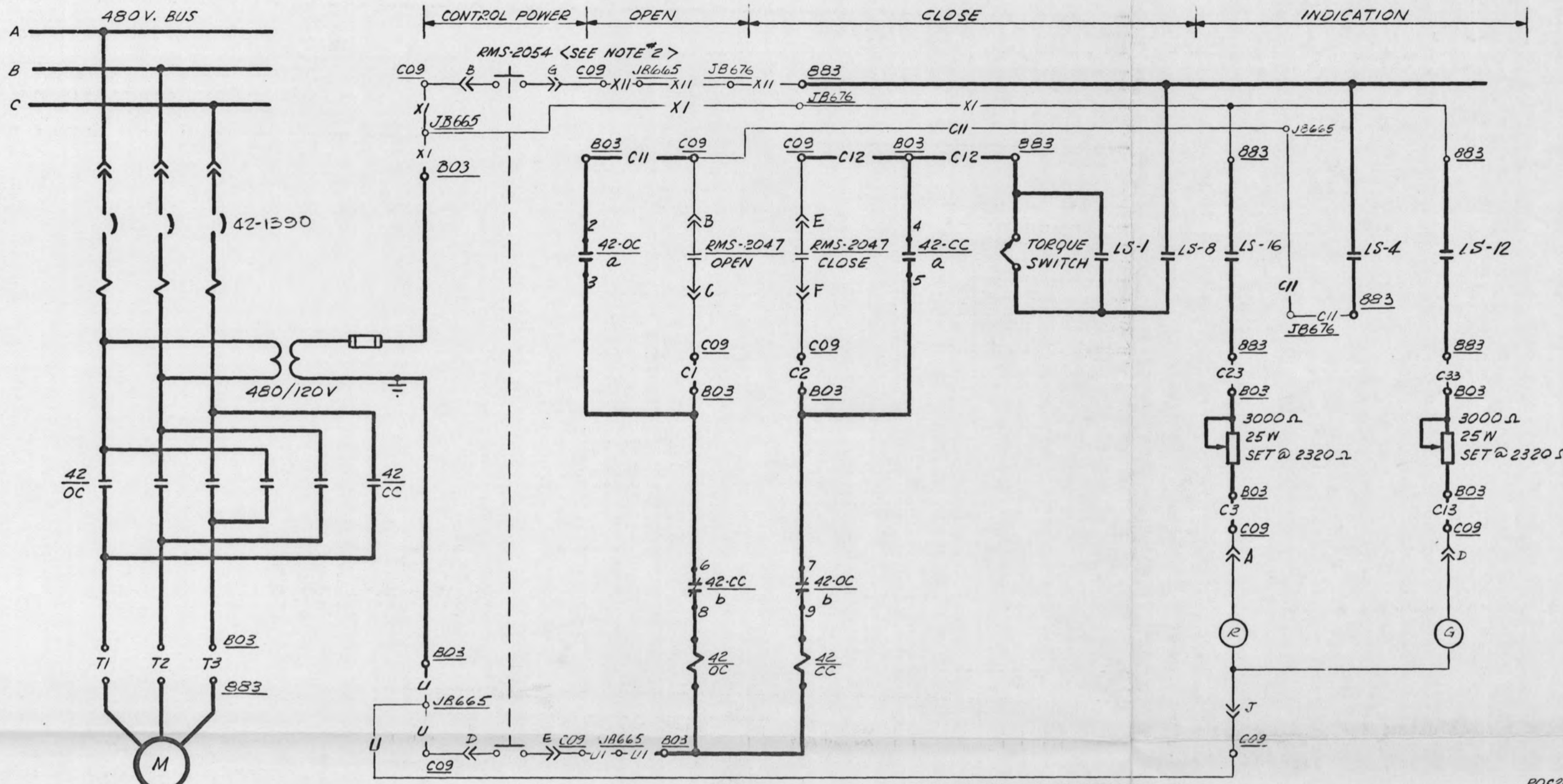
| No. | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | I.O. No. | Scale | NONE | Date | Approved | O.K. | O.K. | Cl'd. | Made | I.O. No. |
|---------|-----------------------------|------|----------|------|------|-------|------|----------|-------|------|------|----------|------|------|-------|------|----------|
| 5102166 | 1-LINE DIAGRAM MCC-1 REAR | | | | | | | | | | | | | | | | |
| 5102168 | 1-LINE DIAGRAM MCC-2 REAR | | | | | | | | | | | | | | | | |
| 5149964 | EQUIP LOCATION INDEX | | | | | | | | | | | | | | | | |
| 5149629 | DEVICE FUNC. NO'S & SYMBOLS | | | | | | | | | | | | | | | | |

Location SAN ONOFRE NUCLEAR GEN. STA.
ELEMENTARY DIAGRAM
MOV-813, 814, 822A & B, 833, 834
(RESIDUAL HEAT REMOVAL MOV'S)

Southern California Edison Company

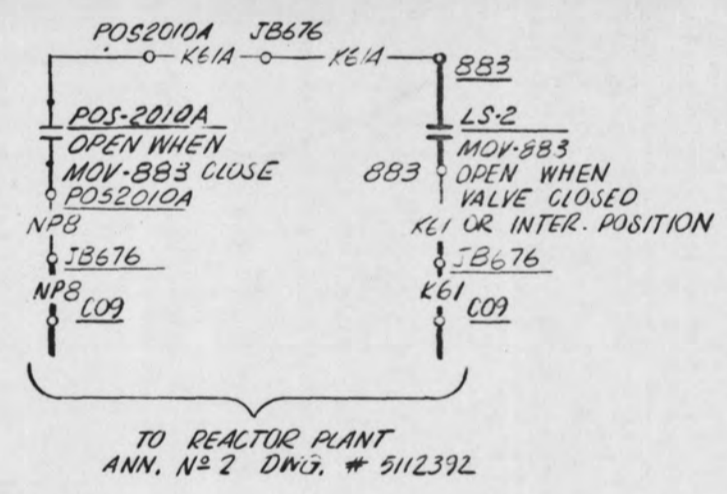
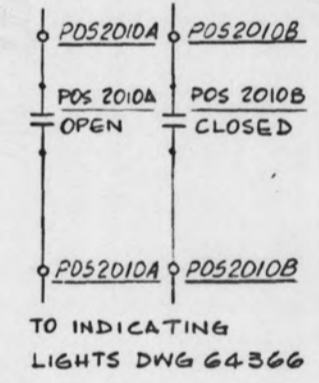
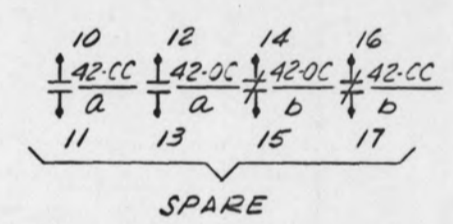
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Docket # 20206
Case # 790320458
Date 3/14/73 of Document
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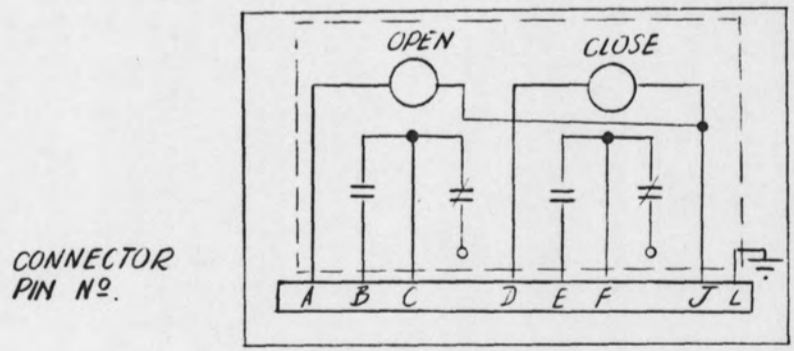


| CONTACT | CONTACT DEVELOPMENT | | |
|---------|---------------------|--------------|-------|
| | OPEN | INTERMEDIATE | CLOSE |
| LS-1 | | | |
| LS-2 | | | |
| LS-3 | | | |
| LS-4 | | | |
| LS-5 | | | |
| LS-6 | | | |
| LS-7 | | | |
| LS-8 | | | |
| LS-9 | | | |
| LS-10 | | | |
| LS-11 | | | |
| LS-12 | | | |
| LS-13 | | | |
| LS-14 | | | |
| LS-15 | | | |
| LS-16 | | | |

SCHEME NO. 1H80390



- NOTES:
1. THIS DWG. IS TO SUPERCEDE MOV-883 SHOWN ON DWG NO. 455371.
 2. RMS-2054 SHALL BE KEPT DEPRESSED DURING THE TRAVEL OF THE GATE IN THE MOV.
 3. HEAVY LINES DENOTE EXISTING COMPONENTS.



| CONNECTOR PIN NO. | CONTACT POSITION | BUTTON POSITION | | POSITION # |
|-------------------|------------------|-----------------|---------|------------|
| | | FREE | DEPRESS | |
| A, H | 1 | X | | #1 |
| B, G | 2 | | X | #2 |
| C, F | 3 | X | | #3 |
| D, E | 4 | | X | #4 |

NUCLEAR SAFETY RELATED
 REACTOR AUXILIARIES
 N 1542 SH. 96
 UNIT 1

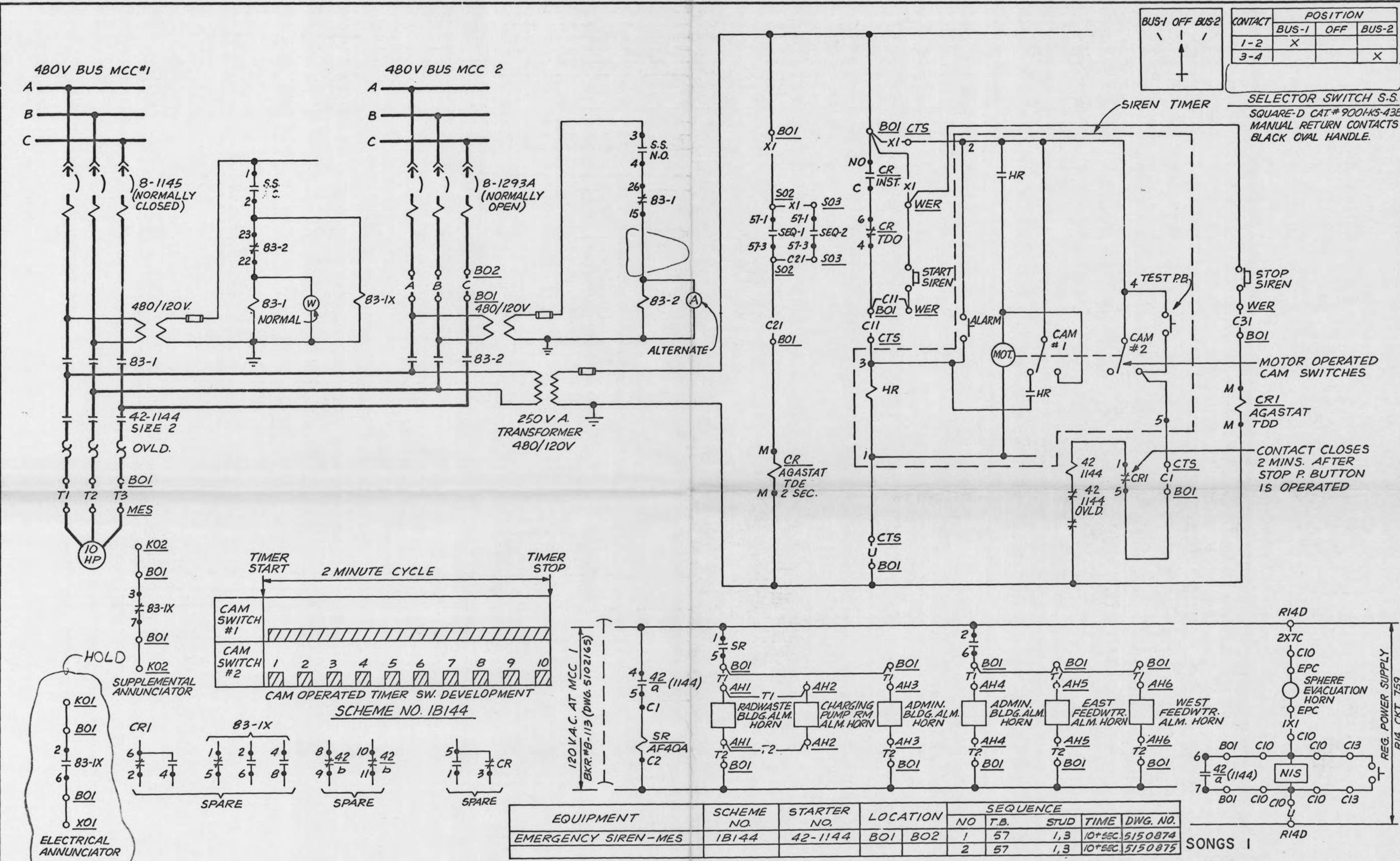
| | | | | | | | | | | | | | |
|---|------|----------|-----|--|------|-----|------|---|------|--------|---------|------|--------|
| BECHTEL CORPORATION ENGINEERS & CONSTRUCTORS LOS ANGELES, CALIF. | | | | 4 REC. REV. - ADDED STA. FILE NO. 12-23-77 MK 3 INCORP DCN # 5 EFF. DATE 1-31-1977 2-11-77 EL GA 2 INCORPORATED DCN SUB # 3 AND # 4 1-2-77 EWR HL CFA 1 INCORPORATED DCN SUB # 1 AND # 2 1-1-76 ER HL CFA 0 ISSUED FOR CONSTRUCTION 1-13-76 EWR HL CFA | | | | 7255 SAN ONOFRE NUCLEAR GENERATING STATION ELEMENTARY DIAGRAM MOV 883 SOUTHERN CALIFORNIA EDISON COMPANY SCALE NONE LOS ANGELES, CALIF. | | | | | |
| JOB NO. 11793 -001 | DATE | APPROVED | NO. | SCE P.E. | DATE | NO. | DATE | DR. | CHK. | E.G.S. | CH.F.E. | P.E. | Q.A.E. |



21X

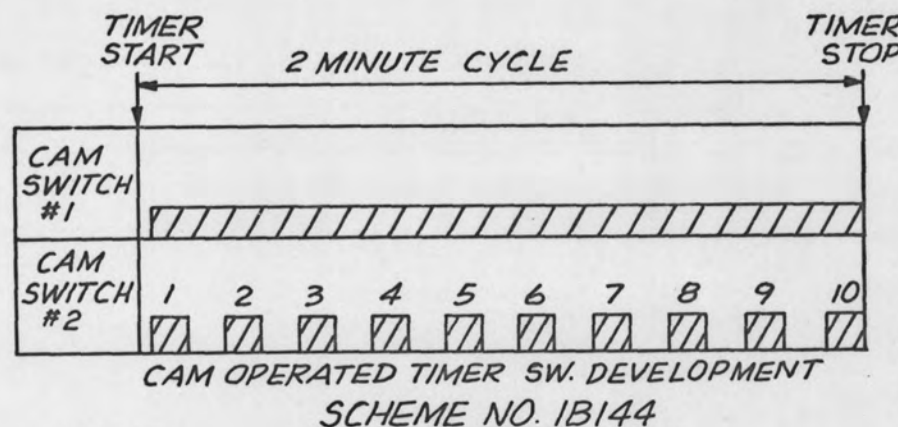
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Dwg # 5200
 Control # 7903870458
 Date 3/14/79 of Document
 REGULATORY DOCKET FILE



| CONTACT | POSITION | | |
|---------|----------|-----|-------|
| | BUS-1 | OFF | BUS-2 |
| 1-2 | X | | |
| 3-4 | | | X |

SELECTOR SWITCH S-5
 SQUARE-D CAT # 900HK5-43B
 MANUAL RETURN CONTACTS
 BLACK OVAL HANDLE.



| EQUIPMENT | SCHEME NO. | STARTER NO. | LOCATION | SEQUENCE | | | DWG. NO. |
|-----------------------|------------|-------------|----------|----------|------|-----------|-----------------|
| | | | | NO | T.B. | STUD TIME | |
| EMERGENCY SIREN - MES | 1B144 | 42-1144 | BO1 BO2 | 1 | 57 | 1,3 | 10*SEC. 5150874 |
| | | | | 2 | 57 | 1,3 | 10*SEC. 5150875 |

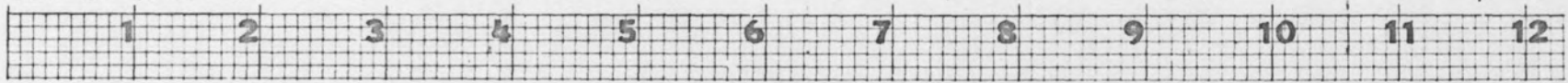
| | |
|---------|-----------------------------|
| 5149629 | DEVICE FUNC. NO'S & SYMBOLS |
| 5149964 | EQUIP. LOCATION INDEX |
| 5102168 | MOTOR CONTROL CENTER 2 |
| 5102165 | MOTOR CONTROL CENTER 1 |

| | | | | | | |
|-------|----------------------------|---|-------------------------------|--------|----|------|
| 63715 | SAFETY INJECTION SYS. 5H.2 | 5 | INCORP. CCN 6 EFF. DATE IMMED | 6/1/77 | AN | 0736 |
|-------|----------------------------|---|-------------------------------|--------|----|------|

| No. | Revisions | Date | Approved | O.K. | O.K. | Ck'd. | Made | J.O. No. | Scale | None |
|-----|--|---------|----------|------|------|-------|------|----------|-------|------|
| 4 | INCORP. CCN 4 & 5 EFF. DATE 2-5-77 IMMED | 4-3-77 | | | | | | | | |
| 3 | INCORP. CCN 3 - EFFECT DATE IMMED | 2-2-77 | | | | | | | | |
| 2 | INCORP. CCN 2 - EFFECT DATE 10-1-76 | 10-4-76 | | | | | | | | |
| 1 | INCORP. CCN 1 - EFFECT DATE 6-14-76 | 1-27-76 | | | | | | | | |
| 0 | REVISED DRAWING ON ALL BY DATE 4-14-76 | 4-14-76 | | | | | | | | |

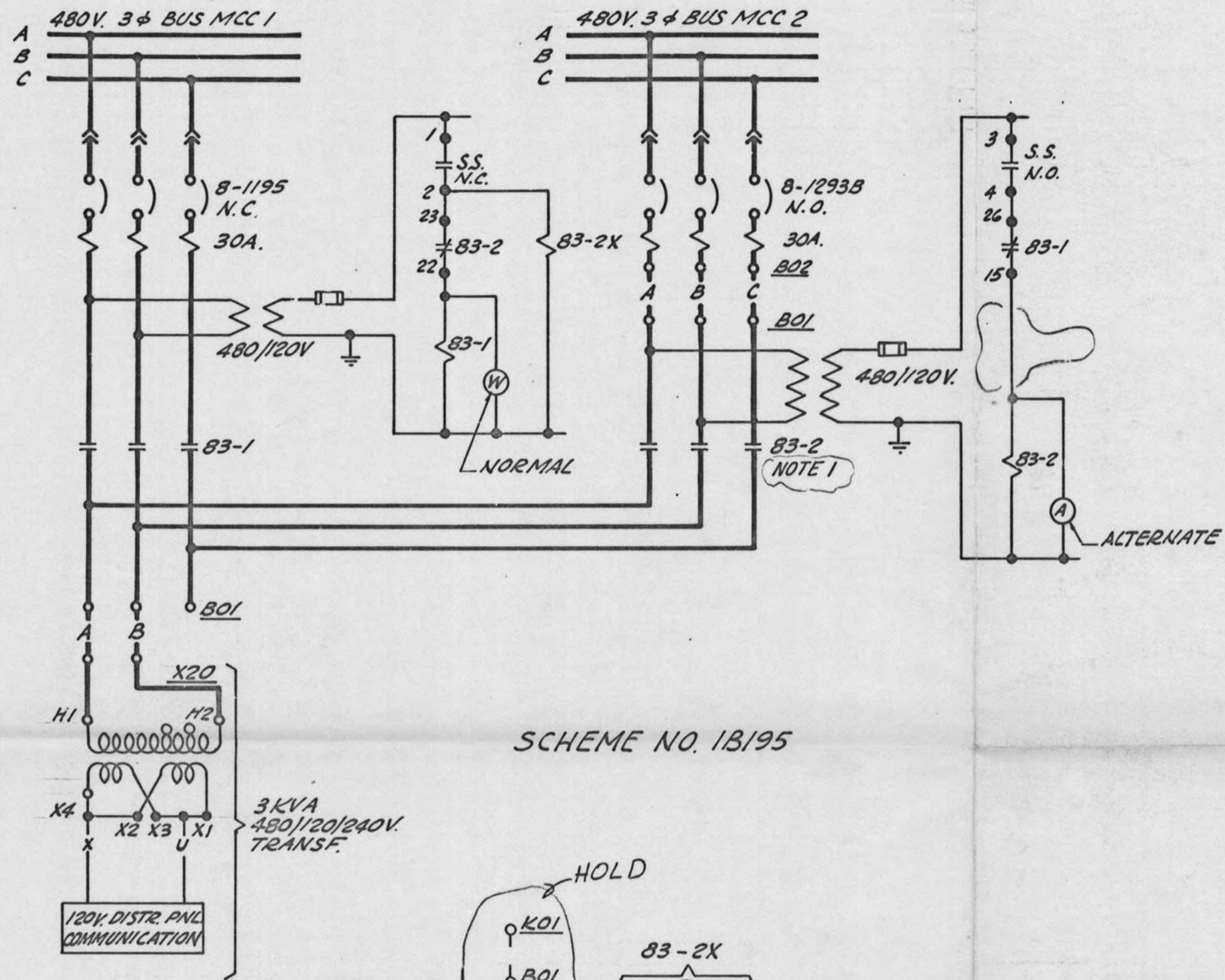
SONGS I
 ELECTRICAL AUXILIARIES
 REDRAWN FROM N-1546 5H.15
 Location SAN ONOFRE NUCLEAR GEN. STA.
 ELEMENTARY DIAGRAM
 EMERGENCY SIREN
 Southern California Edison Company SCE

455377-5

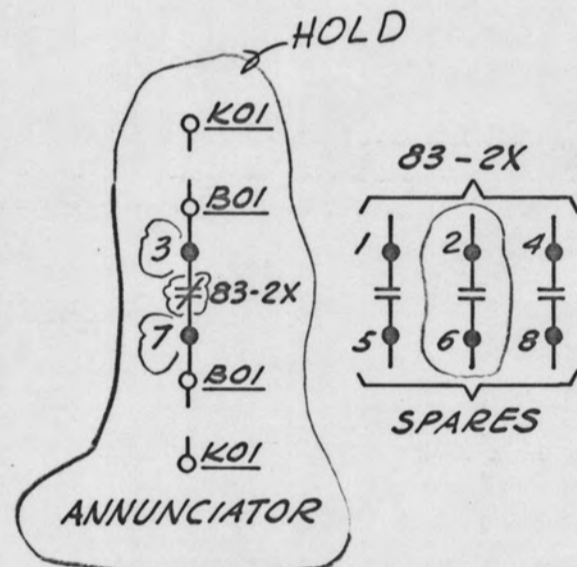


20X

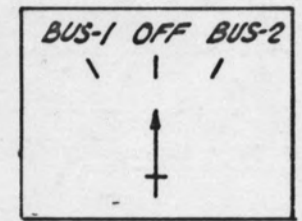
Doc # 50-206
 # 7903270458
 3/14/79 of Document
 REGULATORY DOCKET FILE



SCHEME NO. 1B195



| CONTACT | POSITION | | |
|---------|----------|-----|-------|
| | BUS-1 | OFF | BUS-2 |
| 1-2 | X | | |
| 3-4 | | | X |
| 5-6 | X | | |
| 7-8 | | | X |



SELECTOR SWITCH SS
 SQUARE-D CAT. # 9001-KS-438
 MANUAL RETURN CONTACTS,
 BLACK OVAL HANDLE

NOTES:
 1. MECHANICAL INTERLOCK. BOTH SETS OF CONTACTS CANNOT CLOSE AT ONE TIME.

SONGS I
 ELECTRICAL AUXILIARIES
 NON SAFETY RELATED

REDRAWN FROM N-1546-9

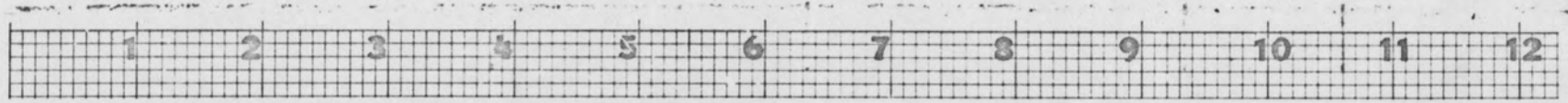
| Reference Drawings | No. | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | J.O. No. | Scale | Date | Approved | O.K. | O.K. | Cl'd. | Made | J.O. No. |
|--------------------|---------------------------|-----------|------|----------|------|------|-------|------|----------|-------|---------|----------|------|------|-------|------|----------|
| 5102168 | ONE LINE 480V. MCC-2 REAR | | | | | | | | | | 4-16-77 | JAL | | | | | 0736 |
| 5102165 | ONE LINE 480V. MCC-1 REAR | | | | | | | | | | 3-5-77 | JAL | | | | | 7345 |

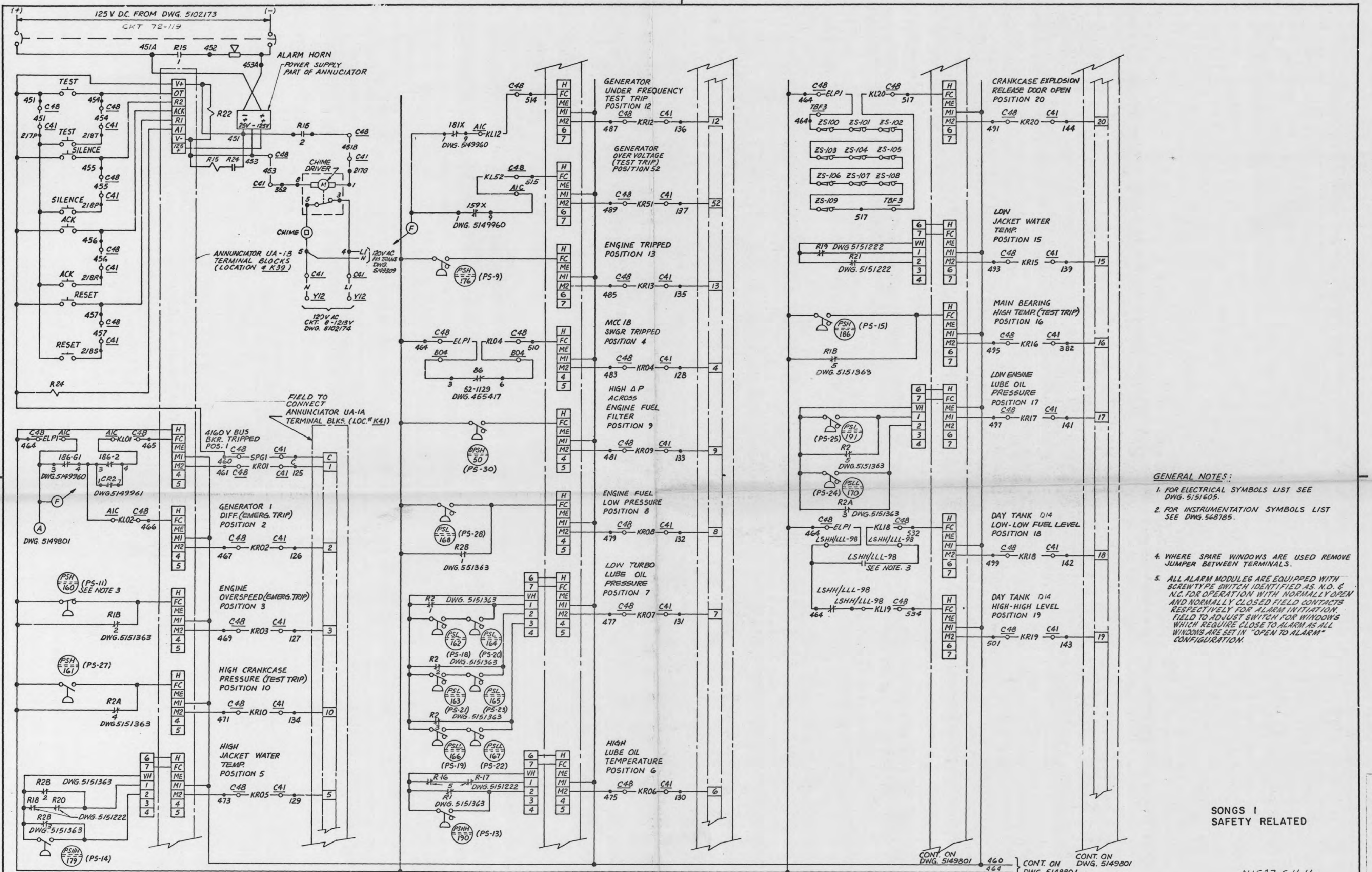
Location SAN ONOFRE NUCLEAR GEN. STA.
 ELEMENTARY DIAGRAM
 POWER SUPPLY TO 120V.
 COMMUNICATION DISTR. PANEL

Southern California Edison Company

456016-1

50-206
 # 7903270415
 3/14/78 of Document
 REGULATORY DOCKET FILE





- GENERAL NOTES:**
- FOR ELECTRICAL SYMBOLS LIST SEE DWG. 5151605.
 - FOR INSTRUMENTATION SYMBOLS LIST SEE DWG. 568185.
 - WHERE SPARE WINDOWS ARE USED REMOVE JUMPER BETWEEN TERMINALS.
 - ALL ALARM MODULES ARE EQUIPPED WITH SCREWTYPE SWITCH IDENTIFIED AS N.O. & N.C. FOR OPERATION WITH NORMALLY OPEN AND NORMALLY CLOSED FIELD CONTACTS RESPECTIVELY FOR ALARM INITIATION. FIELD TO ADJUST SWITCH FOR WINDOWS WHICH REQUIRE CLOSE TO ALARM AS ALL WINDOWS ARE SET IN "OPEN TO ALARM" CONFIGURATION.

SONGS I
SAFETY RELATED

SCHEME NO. IFK001 (PART)

| Reference Drawings | Reference Drawings | No. | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | I.O. No. | Scale | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made | I.O. No. |
|--------------------|------------------------------------|-----|--|------|----------|------|------|-------|------|----------|-------|-----------|------|----------|------|------|-------|------|----------|
| 5149960 | ED DIESEL GEN. 1 & 2 SH.1 | 4 | REV. REV. ADD'D STA FILE NO. | | | | | | | | | | | | | | | | |
| 5151363 | ED. D. G. 1 ENGINE CONT. SYS. SH.3 | 3 | INCDSP CON 5 EFF. DATE: IMMED | | | | | | | | | | | | | | | | |
| 5151222 | ED. DIESEL GEN. 1 TEMP. MEASURE | 2 | ACCRP CON 5 EFF. DATE: IMMED | | | | | | | | | | | | | | | | |
| 455417 | ED. MOTOR CONTROL CENTERS KCB | 1 | INCDSP CON 1 314 EFFECT DATE 2-15-71 IMMED | | | | | | | | | | | | | | | | |
| 5102173 | ONE LINE DIA. 125V. DC. SYS. 1 | 1 | 125V. DC. SYS. 1 314 EFFECT DATE 2-15-71 IMMED | | | | | | | | | | | | | | | | |
| 5149961 | ED. DIESEL GEN. 1 & 2 SH. 2 | 1 | 125V. DC. SYS. 1 314 EFFECT DATE 2-15-71 IMMED | | | | | | | | | | | | | | | | |

Southern California Edison Company

Location SAN ONO FRE NUCLEAR GEN. STA

ELEMENTARY DIAGRAM

DG. NO. 1 ANN. SYSTEM

SH. 1

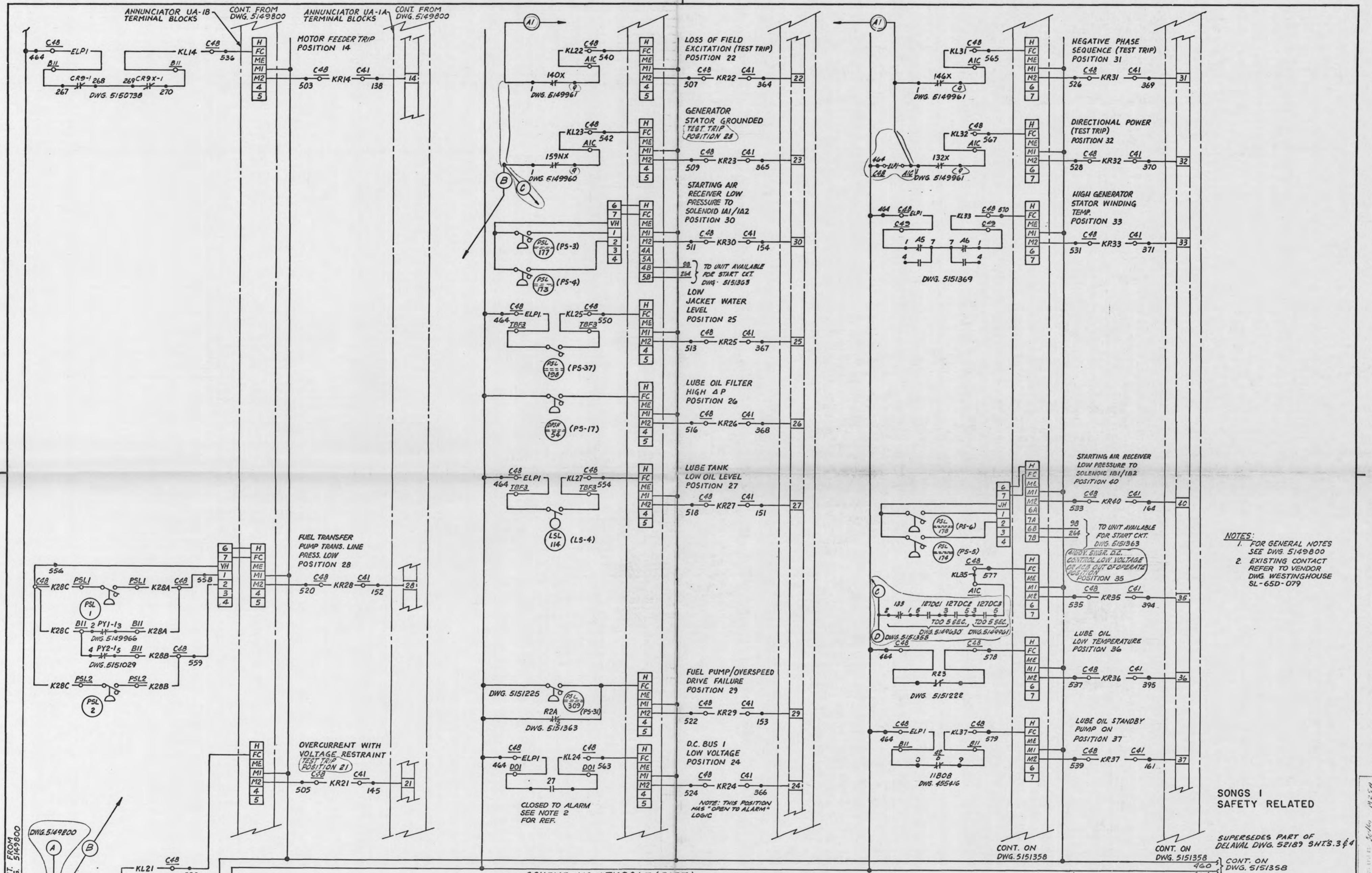
Southern California Edison Company

5149800-4

Docket # 50006
Contract # 7903270-458
Date 3/14/79 of Document
REGULATORY DOCKET FILE

26X

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- NOTES:**
- FOR GENERAL NOTES SEE DWG. 5149800
 - EXISTING CONTACT REFER TO VENDOR DWG. WESTINGHOUSE SL-65D-079

SONGS I SAFETY RELATED

SUPERSEDES PART OF DELAVAL DWG. 52189 SHTS. 3 & 4
CONT. ON DWG. 5151358
CONT. ON DWG. 5151358

SCHEME NO. 1FK001 (PART)

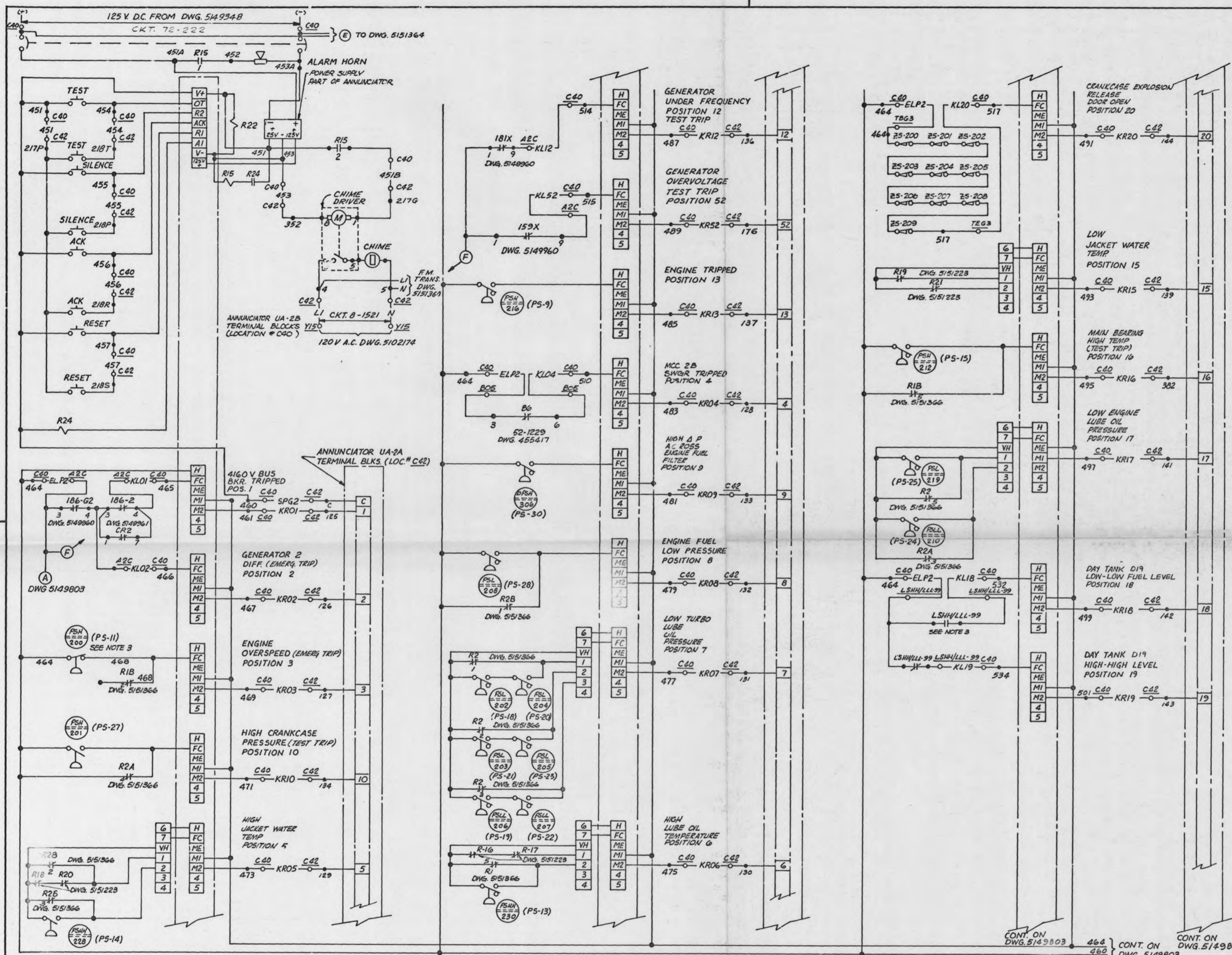
| No. | Reference Drawings | Revisions | Date | Approved | O.K. | O.K. | Cl'd | Made | J.O. No. | Scale |
|---------|-----------------------------------|-----------|------------------------------|----------|------|------|------|------|----------|-------|
| 5149185 | ANN WINDOW MOR/APS PNL | 5150738 | E.D. MISC. CONT. MCC 18 | | | | | | | |
| 5149269 | LOC. CONT. PNL ANN WINDOW | 5151906 | E.D. 480V. SHS2. 3, 125V. DC | | | | | | | |
| 5151029 | E.D. FO TRANSF PUMP | 5149961 | E.D. DIESEL GEN. 142 SH. 2 | | | | | | | |
| M30002 | INS. TREATMENT INLEX | 519960 | E.D. DIESEL GEN. 142 SH. 1 | | | | | | | |
| 5151363 | E.D. DIESEL GEN. CONT. SYS. SH. 9 | 5151358 | E.D. D.G. 1 ANN. SYS. SH. 3 | | | | | | | |
| 5149966 | E.D. FO. TRANSF. PUMPS | 5149800 | E.D. D.G. 1 ANN. SYS. SH. 1 | | | | | | | |

| No. | Revisions | Date | Approved | O.K. | O.K. | Cl'd | Made | J.O. No. |
|-----|---|------|----------|------|------|------|------|----------|
| 1 | INFO FOR CON 3 - EFF. DATE IMMED. | | | | | | | |
| 2 | INFO FOR CON 1 & 2 - EFFECT DATE 2-15-77 & IMMED. | | | | | | | |
| 3 | ISSUED FOR CONSTRUCTION | | | | | | | |

Location SAN ONOFRE NUCLEAR GEN. STA.
ELEMENTARY DIAGRAM
DG. NO. 1 ANN. SYSTEM
SH. 2

Southern California Edison Company

5149801-2



- GENERAL NOTES:
- FOR ELECTRICAL SYMBOLS LIST SEE DWG. 5151365.
 - FOR INSTRUMENTATION SYMBOLS LIST SEE DWG. 568785.
 - WHERE SPARE WINDOWS ARE USED REMOVE JUMPER BETWEEN TERMINALS.
 - ALL ALARM MODULES ARE EQUIPPED WITH SCREWTYPE SWITCH IDENTIFIED AS NO. & N.C. FOR OPERATION WITH NORMALLY OPEN AND NORMALLY CLOSED FIELD CONTACTS RESPECTIVELY FOR ALARM INITIATION. FIELD TO ADJUST SWITCH FOR WINDOWS WHICH REQUIRE CLOSE TO ALARM, AS ALL WINDOWS ARE SET IN "OPEN TO ALARM" CONFIGURATION.

SCHEME NO. 1GK001 (PART)

SONGS I SAFETY RELATED

| Reference Drawings | Reference Drawings | No. | Revisions | Date | Approved | O.K. | O.K. | Cl'd. | Made I.O.No. | Scale | None | Date | Approved | O.K. | O.K. | Cl'd. | Made I.O.No. |
|--------------------|----------------------------------|---------|---------------------------------|------|----------|------|------|-------|--------------|-------|------|------|----------|------|------|-------|--------------|
| 5149960 | E.D. DIESEL GEN. 1#2 SH.1 | | | | | | | | | | | | | | | | |
| 5151366 | E.D. D.G. 2 ENG. CONT. SYS. SH.3 | | | | | | | | | | | | | | | | |
| 5151223 | E.D. DIESEL GEN. 2 TEMP. MEASURE | | | | | | | | | | | | | | | | |
| 455417 | E.D. MOTOR CONTROL CENTRES ACB | 5149289 | ANNUN. ENGRAVING LOC. PANEL | | | | | | | | | | | | | | |
| 5149348 | ONE LINE DIA. 125V. D.C. SYS. 2 | 5151359 | E.D. D.G. #2 ANNUN. SYSTEM SH.3 | | | | | | | | | | | | | | |
| 5149961 | E.D. DIESEL GEN. 1#2 SH.2 | 5149803 | E.D. D.G. #2 ANNUN. SYSTEM SH.2 | | | | | | | | | | | | | | |

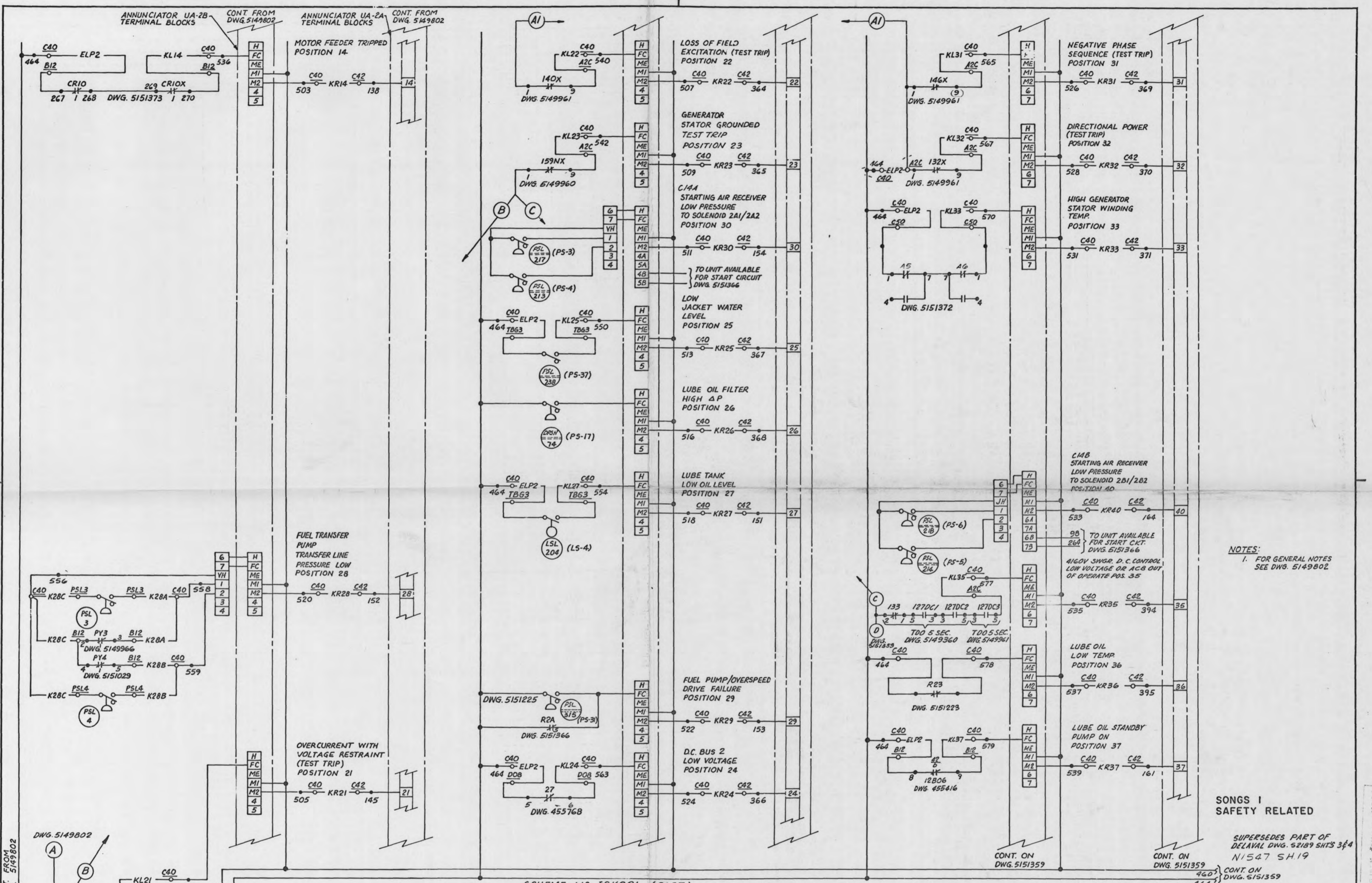
N/547 SH.18

5149802-6

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Date 3/14/79 of Document:
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NOTES:
1. FOR GENERAL NOTES SEE DWG. 5149802

SONGS I SAFETY RELATED

SUPERSEDES PART OF DELAVAL DWG. 52189 SHTS 3&4 N1547 SH.19

SCHEME NO. IGK001 (PART)

| Reference Drawings | Reference Drawings | No. | Revisions | Date | Approved | O.K. | O.K. | Cl'd | Made | I.O. No. | Scale | Revisions | Date | Approved | O.K. | O.K. | Cl'd | Made | I.O. No. |
|--------------------|--------------------|-------------------------------|---------------------|------|----------|------|------|------|------|----------|-------|-----------|------|----------|------|------|------|------|----------|
| 5149802 | 5151366 | E.D. D.G. 2 | ENG CONT. SIS. SH.3 | | | | | | | | NONE | | | | | | | | |
| 5149802 | 5151373 | E.D. MISC. CONT. MCC 2B | | | | | | | | | | | | | | | | | |
| 5149802 | 5149961 | E.D. DIESEL GEN. 1 & 2, SH. 2 | | | | | | | | | | | | | | | | | |
| 5149802 | 5149960 | E.D. DIESEL GEN. 1 & 2, SH. 1 | | | | | | | | | | | | | | | | | |
| 5149802 | 5151359 | E.D. D.G. 2 ANNUN. SIS. SH.3 | | | | | | | | | | | | | | | | | |
| 5149802 | 5149960 | E.D. D.G. 2 ANNUN. SIS. SH.1 | | | | | | | | | | | | | | | | | |

Location SAN ONOFRE NUCLEAR GEN. STA.
ELEMENTARY DIAGRAM
DG. NO.2 ANN. SYSTEM
SH. 2

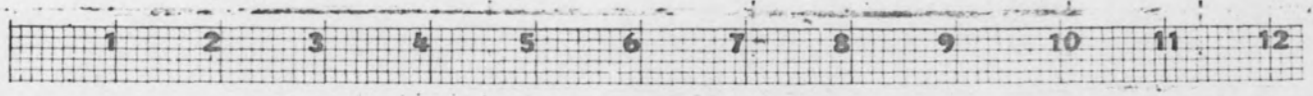
Southern California Edison Company

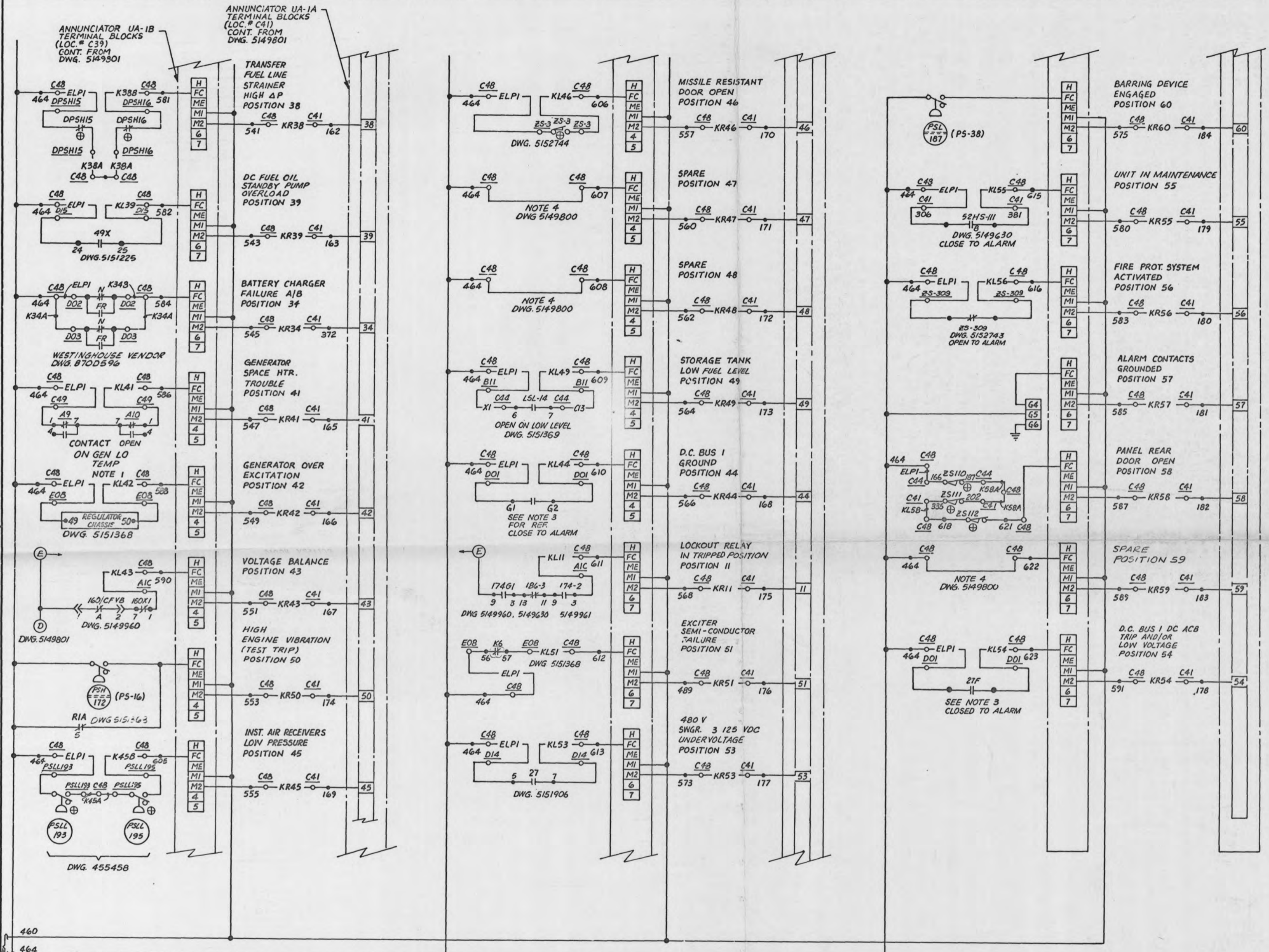
5149803-3

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Control # 7903270458
Date 3/1/78 of Document
REGULATORY DOCKET FILE

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- NOTE:
1. TSL-53 IS CONTROLLED BY GENERATOR SPACE RTD
 2. FOR GENERAL NOTES SEE DWG. 5149800
 3. EXISTING CONTACT REFER TO VENDOR DWG. WESTINGHOUSE SL-65D 079

SCHEME NO IF KOOI (PART)

SONGS I SAFETY RELATED (EXCEPT @)

N1547 SH 17A
SUPERSEDES PART OF DELAVAL DWG. 52189 SH.4

| Reference Drawings | Reference Drawings | Reference Drawings | No. | Revisions | Date | Approved | O.K. | O.K. | CLV | Made | J.O.No. | Scale | Revisions | Date | Approved | O.K. | O.K. | CLV | Made | J.O.No. | |
|--------------------|----------------------------------|--------------------|-----------------------------------|-----------|------|----------|------|------|-----|------|---------|-------|-----------|------|----------|------|------|-----|------|---------|--|
| 5151225 | E.D. FO. STBY. PP. G 62 & G 76 | 5149961 | E.D. DIESEL GEN. 1 & 2 SH. 2 | | | | | | | | | | | | | | | | | | |
| M-30060 | INSTRUMENT INDEX | 5149960 | E.D. DIESEL GEN. 1 & 2 SH. 1 | | | | | | | | | | | | | | | | | | |
| C-2-0334-02 | SQ. D. 125V DC SWGR. 3 | 5151368 | E.D. DG. 1 ENGR. CONT. SYS. SH. 3 | | | | | | | | | | | | | | | | | | |
| 5149630 | E.D. ELEC. AUX. 4.16KV D9 BCRS | 5149801 | E.D. DG. 1 ANNUN. SYS. SH. 2 | | | | | | | | | | | | | | | | | | |
| 568264 | W.D. 125 V DC CONT. F.DIST. SWGR | 5149800 | E.D. DG. 1 ANNUN. SYS. SH. 1 | | | | | | | | | | | | | | | | | | |
| 568247 | HOLD | 5150738 | E.D. MSC. CONTROLS MCC-1B | | | | | | | | | | | | | | | | | | |

Location SAN ONOFRE NUCLEAR GEN. STA.
ELEMENTARY DIAGRAM
ANNUNCIATOR SYSTEM
DIESEL GEN. NO. 1 SH. 3

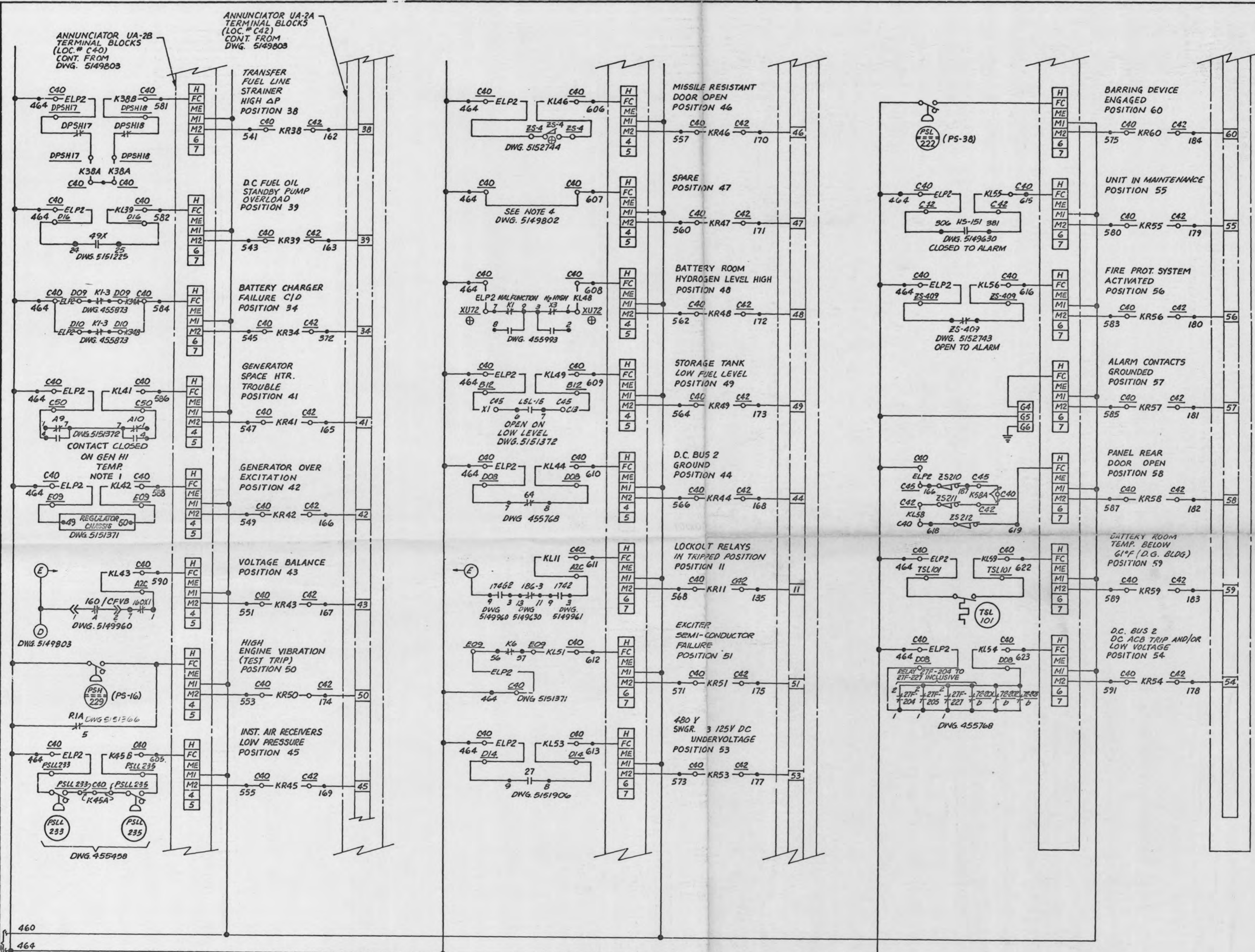
Southern California Edison Company

5151358-8

Docket # SD 206
Control # 7903270458
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- NOTE:
1. TSL-74 IS CONTROLLED BY GENERATOR SPACE RTD
 2. FOR GENERAL NOTES SEE DWG. 5149802.

SCHEME NO 1G KOOI (PART)

SONGS I
SAFETY RELATED
(⊗ EXCEPT AS NOTED)

1547 SH. 19A

SUPERSEDES PART OF DELAVAL DWG. 52189 5H.4

| Reference Drawings | Reference Drawings | Reference Drawings | No. | Revisions | Date | Approved | O.K. | O.K. | CLY. | Made | J.O.No. | Scale | Revisions | Date | Approved | O.K. | O.K. | CLY. | Made | J.O.No. | | | | | | |
|--------------------|------------------------------------|--------------------|-----------------------------------|-----------|------|----------|------|------|------|------|---------|-------|-----------|---|----------|------|------|------|------|---------|--|--|--|--|--|--|
| 5151225 | E.D. F.D. STBY. PR. G62 & G76 | 5149961 | E.D. DIESEL GEN 1 & 2 SH. 2 | | | | | | | | | | 4 | REC. REV. - ADDED STA. FILE NO. | | | | | | | | | | | | |
| 5149350 | E.D. BATTERY CHARGER SETS C40 | 5149960 | E.D. DIESEL GEN 1 & 2 SH. 1 | | | | | | | | | | 3 | INCORP. CCN 14 EFF. DATE IMMED. | | | | | | | | | | | | |
| M30060 | INSTRUMENT INDEX | 5151366 | E.D. D.G. 2 ENG. CONT. SYS. SH. 3 | | | | | | | | | | 2 | ACCORD. CCN 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 | | | | | | | | | | | | |
| 5148630 | E.D. ELEC. AUX. 4 & 6 KV DG. SWGR. | 5149802 | E.D. DG. 2 ANNUN. SYS. SH. 1 | | | | | | | | | | 1 | ACCORD. CCN 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 | | | | | | | | | | | | |
| 0102284-02 | SQ. D. 125V DC SWGR. 3 | 5149803 | E.D. DG. 2 ANNUN. SYS. SH. 2 | | | | | | | | | | 0 | ISSUE FOR CONSTRUCTION | | | | | | | | | | | | |
| 5151373 | E.D. MISC. CONTROLS MCC-28 | 5149289 | ANNUN. ENGRAVING LOCAL PANEL | | | | | | | | | | | | | | | | | | | | | | | |

Southern California Edison Company

5151359-5

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