THE CONTENTS OF THIS SECTION ARE
THE HIGHEST QUALITY AVAILABLE

INITIAL gj DATE 9/27/02

PAGE NUMBERING SEQUENCE IS INCONSISTENT

# Appendix C

# Electrical System Attachments

# C.1 Crest Pad Buildings Electrical Load Analysis

Mar 18, 2002 16:13:45

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ALL INFORMATION PRESENTED IS FOR REVIEW, APPROVAL, INTERPRETATION
AND APPLICATION BY A REGISTERED ENGINEER ONLY

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SKM POWER*TOOLS FOR WINDOWS
DEMAND LOAD ANALYSIS REPORT
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*** SOLUTION COMMENTS ***
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LOAD ANALYSIS INCLUDES ALL LOADS.

LOAD SUMMARY

LOAD SCHEDULE FOR BUS-ADMIN 480. VOLTS LINE TO LINE
SOURCE OF PWR SOURCE BUS

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| BRANCH LOADS | | | | | | | |
| BUS-MHYDJEE496 | 35.6 | 42.8 | 35.6 | 42.8 | 39.8 | 47.9 | 89.88 |
| TOTALS | 35.6 | 42.8 | 35.6 | 42.8 | 39.8 | 47.9 | 89.88 |

LOAD SCHEDULE FOR BUS-LP-CD-2182 208. VOLTS LINE TO LINE
SOURCE OF PWR BUS-XFMRCD8552

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| GEN | 5.8 | 16.1 | 5.8 | 16.1 | 5.8 | 16.1 | 80.00 |
| LTS | 0.9 | 2.4 | 0.9 | 2.4 | 1.1 | 2.9 | 80.00 |
| REC | 0.8 | 2.2 | 0.8 | 2.2 | 0.8 | 2.2 | 80.00 |
| BRANCH LOADS | | | | | | | |
| TOTALS | 7.4 | 20.7 | 7.4 | 20.7 | 7.7 | 21.3 | 80.00 |

LOAD SCHEDULE FOR BUS-MCC-CD2179 480. VOLTS LINE TO LINE
SOURCE OF PWR BUS-MHYDJEE496

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| BRANCH LOADS | | | | | | | |
| BUSA-P-CD-201 | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |
| BUSA-P-CD-207 | 1.2 | 1.4 | 1.2 | 1.4 | 1.5 | 1.8 | 80.00 |
| BUS-XFMRCD853 | 7.8 | 9.4 | 7.8 | 9.4 | 8.1 | 9.8 | 80.00 |
| BUS-UH-CD-1798 | 5.0 | 6.0 | 5.0 | 6.0 | 6.3 | 7.5 | 100.00 |
| BUSA-P-CD-202 | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |
| BUSAP-CD-209 | 1.7 | 2.1 | 1.7 | 2.1 | 2.2 | 2.6 | 80.00 |
| TOTALS | 15.8 | 19.0 | 15.8 | 19.0 | 17.6 | 21.2 | 90.92 |

LOAD SUMMARY

LOAD SCHEDULE FOR BUS-MCC-CD2181 480. VOLTS LINE TO LINE
SOURCE OF PWR BUS-MHYDJEE496

| ITEM DESCRIPTION | CONNECTED KVA | CONNECTED LOAD AMPS | DEMAND KVA | DEMAND LOAD AMPS | DESIGN KVA | DESIGN LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| BRANCH LOADS | | | | | | | |
| BUSAP-CD-203-1 | 5.8 | 7.0 | 5.8 | 7.0 | 7.3 | 8.8 | 80.00 |
| BUSAP-CD-203-2 | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |
| BUSA-P-CD-204 | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |
| BUS-XFMRCD8552 | 7.4 | 9.0 | 7.4 | 9.0 | 7.7 | 9.2 | 80.00 |
| BUS-UH-CD-1799 | 5.0 | 6.0 | 5.0 | 6.0 | 6.3 | 7.5 | 100.00 |
| BUSA-P-CD-208 | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |
| BUSAP-CD-205 | 1.2 | 1.4 | 1.2 | 1.4 | 1.5 | 1.7 | 80.00 |
| TOTALS | 19.8 | 23.8 | 19.8 | 23.8 | 22.6 | 27.2 | 88.85 |

LOAD SCHEDULE FOR BUS-MHYDJEE496 480. VOLTS LINE TO LINE
SOURCE OF PWR BUS-ADMIN

| ITEM DESCRIPTION | CONNECTED KVA | CONNECTED LOAD AMPS | DEMAND KVA | DEMAND LOAD AMPS | DESIGN KVA | DESIGN LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| BRANCH LOADS | | | | | | | |
| BUS-MCC-CD2181 | 19.8 | 23.8 | 19.8 | 23.8 | 22.6 | 27.2 | 88.85 |
| BUS-MCC-CD2179 | 15.8 | 19.0 | 15.8 | 19.0 | 17.6 | 21.2 | 90.92 |
| TOTALS | 35.6 | 42.8 | 35.6 | 42.8 | 39.8 | 47.9 | 89.88 |

LOAD SCHEDULE FOR BUS-P-CD-201 480. VOLTS LINE TO LINE
SOURCE OF PWR BUSA-P-CD-201

| ITEM DESCRIPTION | CONNECTED KVA | CONNECTED LOAD AMPS | DEMAND KVA | DEMAND LOAD AMPS | DESIGN KVA | DESIGN LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| LARGEST KVA MTR | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |
| BRANCH LOADS | | | | | | | |
| TOTALS | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |

LOAD SUMMARY

LOAD SCHEDULE FOR BUS-P-CD-202 480. VOLTS LINE TO LINE
SOURCE OF PWR BUSA-P-CD-202

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| LARGEST KVA MTR | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |
| BRANCH LOADS | | | | | | | |
| TOTALS | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |

LOAD SCHEDULE FOR BUS-P-CD-203-1 480. VOLTS LINE TO LINE
SOURCE OF PWR BUSAP-CD-203-1

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| LARGEST KVA MTR | 5.8 | 7.0 | 5.8 | 7.0 | 7.3 | 8.8 | 80.00 |
| BRANCH LOADS | | | | | | | |
| TOTALS | 5.8 | 7.0 | 5.8 | 7.0 | 7.3 | 8.8 | 80.00 |

LOAD SCHEDULE FOR BUS-P-CD-203-2 480. VOLTS LINE TO LINE
SOURCE OF PWR BUSAP-CD-203-2

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| LARGEST KVA MTR | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |
| BRANCH LOADS | | | | | | | |
| TOTALS | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |

LOAD SCHEDULE FOR BUS-P-CD-204 480. VOLTS LINE TO LINE
SOURCE OF PWR BUSA-P-CD-204

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| LARGEST KVA MTR | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |
| BRANCH LOADS | | | | | | | |
| TOTALS | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |

LOAD SUMMARY

LOAD SCHEDULE FOR BUS-P-CD-205 480. VOLTS LINE TO LINE
SOURCE OF PWR BUSAP-CD-205

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| LARGEST KVA MTR | 1.2 | 1.4 | 1.2 | 1.4 | 1.5 | 1.7 | 80.00 |
| BRANCH LOADS | | | | | | | |
| TOTALS | 1.2 | 1.4 | 1.2 | 1.4 | 1.5 | 1.7 | 80.00 |

LOAD SCHEDULE FOR BUS-P-CD-207 480. VOLTS LINE TO LINE
SOURCE OF PWR BUSA-P-CD-207

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| LARGEST KVA MTR | 1.2 | 1.4 | 1.2 | 1.4 | 1.5 | 1.8 | 80.00 |
| BRANCH LOADS | | | | | | | |
| TOTALS | 1.2 | 1.4 | 1.2 | 1.4 | 1.5 | 1.8 | 80.00 |

LOAD SCHEDULE FOR BUS-P-CD-208 480. VOLTS LINE TO LINE
SOURCE OF PWR BUSA-P-CD-208

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| LARGEST KVA MTR | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |
| BRANCH LOADS | | | | | | | |
| TOTALS | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |

LOAD SCHEDULE FOR BUS-P-CD-209 480. VOLTS LINE TO LINE
SOURCE OF PWR BUSAP-CD-209

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| LARGEST KVA MTR | 1.7 | 2.1 | 1.7 | 2.1 | 2.2 | 2.6 | 80.00 |
| BRANCH LOADS | | | | | | | |
| TOTALS | 1.7 | 2.1 | 1.7 | 2.1 | 2.2 | 2.6 | 80.00 |

LOAD SUMMARY

LOAD SCHEDULE FOR BUS-UH-CD-1798 480. VOLTS LINE TO LINE
SOURCE OF PWR BUS-MCC-CD2179

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| HEAT | 5.0 | 6.0 | 5.0 | 6.0 | 6.3 | 7.5 | 100.00 |
| BRANCH LOADS | | | | | | | |
| TOTALS | 5.0 | 6.0 | 5.0 | 6.0 | 6.3 | 7.5 | 100.00 |

LOAD SCHEDULE FOR BUS-UH-CD-1799 480. VOLTS LINE TO LINE
SOURCE OF PWR BUS-MCC-CD2181

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| HEAT | 5.0 | 6.0 | 5.0 | 6.0 | 6.3 | 7.5 | 100.00 |
| BRANCH LOADS | | | | | | | |
| TOTALS | 5.0 | 6.0 | 5.0 | 6.0 | 6.3 | 7.5 | 100.00 |

LOAD SCHEDULE FOR BUS-XFMRCD853 480. VOLTS LINE TO LINE
SOURCE OF PWR BUS-MCC-CD2179

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| BRANCH LOADS | | | | | | | |
| BUSLP-CD-1798 | 7.8 | 9.4 | 7.8 | 9.4 | 8.1 | 9.8 | 80.00 |
| TOTALS | 7.8 | 9.4 | 7.8 | 9.4 | 8.1 | 9.8 | 80.00 |

LOAD SCHEDULE FOR BUS-XFMRCD8552 480. VOLTS LINE TO LINE
SOURCE OF PWR BUS-MCC-CD2181

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| BRANCH LOADS | | | | | | | |
| BUS-LP-CD-2182 | 7.4 | 9.0 | 7.4 | 9.0 | 7.7 | 9.2 | 80.00 |
| TOTALS | 7.4 | 9.0 | 7.4 | 9.0 | 7.7 | 9.2 | 80.00 |

LOAD SUMMARY

LOAD SCHEDULE FOR BUSA-P-CD-201 480. VOLTS LINE TO LINE
SOURCE OF PWR BUS-MCC-CD2179

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| BRANCH LOADS | | | | | | | |
| BUS-P-CD-201 | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |
| TOTALS | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |

LOAD SCHEDULE FOR BUSA-P-CD-202 480. VOLTS LINE TO LINE
SOURCE OF PWR BUS-MCC-CD2179

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| BRANCH LOADS | | | | | | | |
| BUS-P-CD-202 | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |
| TOTALS | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |

LOAD SCHEDULE FOR BUSA-P-CD-204 480. VOLTS LINE TO LINE
SOURCE OF PWR BUS-MCC-CD2181

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| BRANCH LOADS | | | | | | | |
| BUS-P-CD-204 | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |
| TOTALS | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |

LOAD SCHEDULE FOR BUSA-P-CD-207 480. VOLTS LINE TO LINE
SOURCE OF PWR BUS-MCC-CD2179

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| BRANCH LOADS | | | | | | | |
| BUS-P-CD-207 | 1.2 | 1.4 | 1.2 | 1.4 | 1.5 | 1.8 | 80.00 |
| TOTALS | 1.2 | 1.4 | 1.2 | 1.4 | 1.5 | 1.8 | 80.00 |

LOAD SUMMARY

LOAD SCHEDULE FOR BUSA-P-CD-208 480. VOLTS LINE TO LINE
SOURCE OF PWR BUS-MCC-CD2181

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| BRANCH LOADS | | | | | | | |
| BUS-P-CD-208 | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |
| TOTALS | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |

LOAD SCHEDULE FOR BUSAP-CD-203-1 480. VOLTS LINE TO LINE
SOURCE OF PWR BUS-MCC-CD2181

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| BRANCH LOADS | | | | | | | |
| BUS-P-CD-203-1 | 5.8 | 7.0 | 5.8 | 7.0 | 7.3 | 8.8 | 80.00 |
| TOTALS | 5.8 | 7.0 | 5.8 | 7.0 | 7.3 | 8.8 | 80.00 |

LOAD SCHEDULE FOR BUSAP-CD-203-2 480. VOLTS LINE TO LINE
SOURCE OF PWR BUS-MCC-CD2181

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| BRANCH LOADS | | | | | | | |
| BUS-P-CD-203-2 | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |
| TOTALS | 0.4 | 0.5 | 0.4 | 0.5 | 0.5 | 0.6 | 80.00 |

LOAD SCHEDULE FOR BUSAP-CD-205 480. VOLTS LINE TO LINE
SOURCE OF PWR BUS-MCC-CD2181

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| BRANCH LOADS | | | | | | | |
| BUS-P-CD-205 | 1.2 | 1.4 | 1.2 | 1.4 | 1.5 | 1.7 | 80.00 |
| TOTALS | 1.2 | 1.4 | 1.2 | 1.4 | 1.5 | 1.7 | 80.00 |

LOAD SUMMARY

LOAD SCHEDULE FOR BUSAP-CD-209 480. VOLTS LINE TO LINE
SOURCE OF PWR BUS-MCC-CD2179

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| BRANCH LOADS | | | | | | | |
| BUS-P-CD-209 | 1.7 | 2.1 | 1.7 | 2.1 | 2.2 | 2.6 | 80.00 |
| TOTALS | 1.7 | 2.1 | 1.7 | 2.1 | 2.2 | 2.6 | 80.00 |

LOAD SCHEDULE FOR BUSLP-CD-1798 208. VOLTS LINE TO LINE
SOURCE OF PWR BUS-XFMRCD853

| ITEM DESCRIPTION | CONNECTED KVA | LOAD AMPS | DEMAND KVA | LOAD AMPS | DESIGN KVA | LOAD AMPS | % P F |
|---|---|---|---|---|---|---|---|
| END USE LOADS | | | | | | | |
| GEN | 5.7 | 15.8 | 5.7 | 15.8 | 5.7 | 15.8 | 80.00 |
| LTS | 1.3 | 3.6 | 1.3 | 3.6 | 1.6 | 4.5 | 80.00 |
| REC | 0.8 | 2.2 | 0.8 | 2.2 | 0.8 | 2.2 | 80.00 |
| BRANCH LOADS | | | | | | | |
| TOTALS | 7.8 | 21.7 | 7.8 | 21.7 | 8.1 | 22.6 | 80.00 |

TOTAL SOURCE LOAD SUMMARY

| LOAD DESCRIPTION TYPE | UNITS | CONNECTED LOAD | DEMAND LOAD | DESIGN LOAD | POWER FACTOR % |
|---|---|---|---|---|---|
| GEN | KW | 9.2 | 9.2 | 9.2 | |
| | KVAR | 6.9 | 6.9 | 6.9 | |
| | KVA | 11.5 | 11.5 | 11.5 | 80.00 LAGGING |
| HEAT | KW | 10.0 | 10.0 | 12.5 | |
| | KVAR | 0.0 | 0.0 | 0.0 | |
| | KVA | 10.0 | 10.0 | 12.5 | 100.00 UNITY |
| LTS | KW | 1.7 | 1.7 | 2.1 | |
| | KVAR | 1.3 | 1.3 | 1.6 | |
| | KVA | 2.2 | 2.2 | 2.7 | 80.00 LAGGING |
| REC | KW | 1.3 | 1.3 | 1.3 | |
| | KVAR | 1.0 | 1.0 | 1.0 | |
| | KVA | 1.6 | 1.6 | 1.6 | 80.00 LAGGING |
| KVA TYPE MTR | KW | 4.8 | 4.8 | 4.8 | |
| | KVAR | 3.6 | 3.6 | 3.6 | |
| | KVA | 6.0 | 6.0 | 6.0 | 80.00 LAGGING |
| LARGEST KVA MTR | KW | 4.7 | 4.7 | 5.8 | |
| | KVAR | 3.5 | 3.5 | 4.4 | |
| | KVA | 5.8 | 5.8 | 7.3 | 80.00 LAGGING |
| TOTAL LOADS | KW | 31.7 | 31.7 | 35.8 | |
| | KVAR | 16.2 | 16.2 | 17.4 | |
| | KVA | 35.6 | 35.6 | 39.8 | |
| | % PF | 89.0 | 89.0 | 89.9 | |
| | | LAGGING | LAGGING | LAGGING | |

LOAD DEMAND TABLE

| LOAD DESCRIPTION | LOAD TYPE | FIRST DEMAND KVA | % | SECOND DEMAND KVA | % | THIRD DEMAND KVA | % | DESIGN FACT |
|---|---|---|---|---|---|---|---|---|
| CAP | Z | ALL | 100. | ALL | 100. | ALL | 100. | 1.35 |
| CAPACITORS | Z | ALL | 100. | ALL | 100. | ALL | 100. | 1.35 |
| GEN | K | 100. | 100. | ALL | 50. | ALL | 100. | 1.00 |
| GENERAL LOADS | K | 100. | 100. | ALL | 50. | ALL | 100. | 1.00 |
| HEAT | Z | ALL | 100. | ALL | 100. | ALL | 100. | 1.25 |
| HEATING | Z | ALL | 100. | ALL | 100. | ALL | 100. | 1.25 |
| LIGHTING | K | ALL | 100. | ALL | 100. | ALL | 100. | 1.25 |
| LTS | K | ALL | 100. | ALL | 100. | ALL | 100. | 1.25 |
| OFF EQ | K | ALL | 100. | ALL | 100. | ALL | 100. | 1.00 |
| OFFICE EQUIPMENT | K | ALL | 100. | ALL | 100. | ALL | 100. | 1.00 |
| REC | Z | 10. | 100. | ALL | 50. | ALL | 100. | 1.00 |
| RECEPTACLES | Z | 10. | 100. | ALL | 50. | ALL | 100. | 1.00 |
| SPACE | K | ALL | 100. | ALL | 100. | ALL | 100. | 1.00 |
| SPARE | K | ALL | 100. | ALL | 100. | ALL | 100. | 1.00 |
| SPARE | K | ALL | 100. | ALL | 100. | ALL | 100. | 1.00 |
| SPARE | K | ALL | 100. | ALL | 100. | ALL | 100. | 1.00 |
| SPARE | K | ALL | 100. | ALL | 100. | ALL | 100. | 1.00 |
| SPARE | K | ALL | 100. | ALL | 100. | ALL | 100. | 1.00 |
| SPARE | K | ALL | 100. | ALL | 100. | ALL | 100. | 1.00 |
| SPARE | K | ALL | 100. | ALL | 100. | ALL | 100. | 1.00 |
| DEFAULT LOAD | K | ALL LOAD | 100. | 0. | 0. | ALL | 0. | 1.25 |

NOTES: LARGEST MOTOR CIRCUIT IDENTIFIED,
AND USED TO CALCULATE DEMAND LOAD BASED ON NEC ART 430
DEMAND AND DESIGN FACTORS APPLIED AT EACH LOAD BUS
AND ALL LOAD TOTALS ARE POWER FACTOR CORRECTED
DESIGN LOAD VALUES BASED ON MOTOR RUNING OR STARTING CONDITION

## C.2 Crest Pad Buildings Electrical Size Analysis

Mar 18, 2002 16:01:02

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AND APPLICATION BY A REGISTERED ENGINEER ONLY

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FEEDER AND TRANSFORMER STUDY CRITERIA

SIZE, REPORT AND CHANGE DATA BASE

BRANCH VOLTAGE DROP CRITERIA 5.00 %

VOLTAGE DROP CALCULATIONS ARE PRELIMINARY
EXECUTE VOLTAGE DROP AND LOAD FLOW STUDY FOR MORE ACCURATE RESULTS

PRIMARY/SECONDARY TRANSFORMER FDRS SIZED AT 125. % OF TX FULL LOAD RATING

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*** NOTICE   ***  FEEDER SIZED TO  125. PERCENT OF TRANSFORMER SIZE
                  BRANCH FROM  BUS-MCC-CD2181 TO  BUS-XFMRCD8552
                  TX KVA:      15.0  TR FLA:      18.0
                  MINIMUM FEEDER AMPACITY:        22.6

*** NOTICE   ***  FEEDER SIZED TO  125. PERCENT OF TRANSFORMER SIZE
                  BRANCH FROM  BUS-MCC-CD2179 TO  BUS-XFMRCD853
                  TX KVA:      15.0  TR FLA:      18.0
                  MINIMUM FEEDER AMPACITY:        22.6
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FEEDER SIZE REPORT

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F E E D E R  S C H E D U L E

| FEEDER NO | ROUTING NAME | Bus/Fdr VOLTAGE | PH | NO COND | SIZE FDR | COND TYPE | INSULATION TYPE | CLASS | | Length |
|---|---|---|---|---|---|---|---|---|---|---|
| FROM | BUS-ADMIN | 480. | | | | | | | | |
| TO | BUS-MHYDJEE496 | 600. | 3P | 1 | 350 | Copper | PVC | TW | | 600.0 |
| Duct: Non-Magnetic | | Gnd:3 | RaceWay: 2 1/2" | | | RaceWay Type: Non-Magnetic | | | RaceWay No.: | 1 |
| Manuf: IEEE 141 - Red Book | | | Desc: NEC Table 310-16 | | | Conductor Desc.: 3-1/C+G | | | | |
| Installation: Conduit | | | | | | Desc. : 60C | | | | |
| FROM | BUS-MCC-CD2179 | 480. | | | | | | | | |
| TO | BUS-UH-CD-1798 | 600. | 3P | 1 | 12 | Copper | | THWN | | 50.0 |
| Duct: Non-Magnetic | | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | | RaceWay No.: | 1 |
| Manuf: Typical | | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | | |
| TO | BUS-XFMRCD853 | 600. | | 1 | 12 | Copper | | THWN | | 5.0 |
| Duct: Non-Magnetic | | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | | RaceWay No.: | 1 |
| Manuf: Typical | | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | | |
| TO | BUSA-P-CD-201 | 600. | | 1 | 12 | Copper | | THHN | | 35.0 |
| Duct: Magnetic | | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | | RaceWay No.: | 1 |
| Manuf: Typical | | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | | |
| TO | BUSA-P-CD-202 | 600. | | 1 | 12 | Copper | | THHN | | 35.0 |
| Duct: Magnetic | | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | | RaceWay No.: | 1 |
| Manuf: Typical | | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | | |
| TO | BUSA-P-CD-207 | 600. | | 1 | 12 | Copper | | THHN | | 35.0 |
| Duct: Magnetic | | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | | RaceWay No.: | 1 |
| Manuf: Typical | | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | | |

FEEDER SIZE REPORT

**********

F E E D E R  S C H E D U L E

| FEEDER NO | ROUTING NAME | Bus/Fdr VOLTAGE | PH | NO COND | SIZE FOR | COND TYPE | INSULATION TYPE | CLASS | Length |
|---|---|---|---|---|---|---|---|---|---|
| FROM | BUS-MCC-CD2179 | 480. | (CONTINUED) | | | | | | |
| TO | BUSAP-CD-209 | 600. | | 1 | 12 | Copper | THHN | | 35.0 |
| Duct: Magnetic | | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | RaceWay No.: | 1 |
| Manuf: Typical | | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | |
| FROM | BUS-MCC-CD2181 | 480. | | | | | | | |
| TO | BUS-UH-CD-1799 | 600. | 3P | 1 | 12 | Copper | THHN | | 5.0 |
| Duct: Non-Magnetic | | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | RaceWay No.: | 1 |
| Manuf: Typical | | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | |
| TO | BUS-XFMRCD8552 | 600. | | 1 | 12 | Copper | THHN | | 5.0 |
| Duct: Non-Magnetic | | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | RaceWay No.: | 1 |
| Manuf: Typical | | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | |
| TO | BUSA-P-CD-204 | 600. | | 1 | 12 | Copper | THHN | | 35.0 |
| Duct: Magnetic | | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | RaceWay No.: | 1 |
| Manuf: Typical | | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | |
| TO | BUSA-P-CD-208 | 600. | | 1 | 12 | Copper | THHN | | 35.0 |
| Duct: Magnetic | | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | RaceWay No.: | 1 |
| Manuf: Typical | | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | |
| TO | BUSAP-CD-203-1 | 600. | | 1 | 12 | Copper | THHN | | 35.0 |
| Duct: Magnetic | | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | RaceWay No.: | 1 |
| Manuf: Typical | | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | |

FEEDER SIZE REPORT

F E E D E R  S C H E D U L E

| FEEDER ROUTING NO NAME | Bus/Fdr VOLTAGE | PH | NO COND | SIZE FDR | COND TYPE | INSULATION TYPE | CLASS | | Length |
|---|---|---|---|---|---|---|---|---|---|
| FROM BUS-MCC-CD2181 | 480. | (CONTINUED) | | | | | | | |
| TO BUSAP-CD-203-2 | 600. | | 1 | 12 | Copper | THHN | | | 35.0 |
| Duct: Magnetic | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | | RaceWay No.: | 1 |
| Manuf: Typical | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | | |
| TO BUSAP-CD-205 | 600. | | 1 | 12 | Copper | THHN | | | 35.0 |
| Duct: Magnetic | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | | RaceWay No.: | 1 |
| Manuf: Typical | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | | |
| FROM BUS-MHYDJEE496 | 480. | | | | | | | | |
| TO BUS-MCC-CD2179 | 600. | 3P | 1 | 2 | Copper | PVC | TW | | 250.0 |
| Duct: Non-Magnetic | Gnd:6 | RaceWay: 1 1/4" | | | RaceWay Type: Non-Magnetic | | | RaceWay No.: | 1 |
| Manuf: IEEE 141 - Red Book | | Desc: NEC Table 310-16 | | | Conductor Desc.: 3-1/C+G | | | | |
| Installation: Conduit | | | | | Desc. : 60C | | | | |
| TO BUS-MCC-CD2181 | 600. | | 1 | 2 | Copper | PVC | TW | | 200.0 |
| Duct: Non-Magnetic | Gnd:6 | RaceWay: 1 1/4" | | | RaceWay Type: Non-Magnetic | | | RaceWay No.: | 1 |
| Manuf: IEEE 141 - Red Book | | Desc: NEC Table 310-16 | | | Conductor Desc.: 3-1/C+G | | | | |
| Installation: Conduit | | | | | Desc. : 60C | | | | |
| FROM BUSA-P-CD-201 | 480. | | | | | | | | |
| TO BUS-P-CD-201 | 600. | 3P | 1 | 12 | Copper | THWN | | | 150.0 |
| Duct: Non-Magnetic | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | | RaceWay No.: | 1 |
| Manuf: Typical | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | | |
| FROM BUSA-P-CD-202 | 480. | | | | | | | | |
| TO BUS-P-CD-202 | 600. | 3P | 1 | 12 | Copper | THWN | | | 150.0 |
| Duct: Non-Magnetic | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | | RaceWay No.: | 1 |
| Manuf: Typical | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | | |

FEEDER SIZE REPORT

FEEDER SCHEDULE

| FEEDER NO | ROUTING NAME | Bus/Fdr VOLTAGE | PH | NO COND | SIZE FDR | COND TYPE | INSULATION TYPE | CLASS | Length |
|---|---|---|---|---|---|---|---|---|---|
| FROM | BUSA-P-CD-204 | 480. | | | | | | | |
| TO | BUS-P-CD-204 | 600. | 3P | 1 | 12 | Copper | THWN | | 150.0 |
| Duct: Non-Magnetic | | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | RaceWay No.: | 1 |
| Manuf: Typical | | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | |
| FROM | BUSA-P-CD-207 | 480. | | | | | | | |
| TO | BUS-P-CD-207 | 600. | 3P | 1 | 12 | Copper | THWN | | 150.0 |
| Duct: Non-Magnetic | | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | RaceWay No.: | 1 |
| Manuf: Typical | | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | |
| FROM | BUSA-P-CD-208 | 480. | | | | | | | |
| TO | BUS-P-CD-208 | 600. | 3P | 1 | 12 | Copper | THWN | | 150.0 |
| Duct: Non-Magnetic | | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | RaceWay No.: | 1 |
| Manuf: Typical | | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | |
| FROM | BUSAP-CD-203-1 | 480. | | | | | | | |
| TO | BUS-P-CD-203-1 | 600. | 3P | 1 | 12 | Copper | THWN | | 150.0 |
| Duct: Non-Magnetic | | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | RaceWay No.: | 1 |
| Manuf: Typical | | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | |
| FROM | BUSAP-CD-203-2 | 480. | | | | | | | |
| TO | BUS-P-CD-203-2 | 600. | 3P | 1 | 12 | Copper | THWN | | 150.0 |
| Duct: Non-Magnetic | | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | RaceWay No.: | 1 |
| Manuf: Typical | | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | |

FEEDER SIZE REPORT

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F E E D E R  S C H E D U L E

| FEEDER NO | ROUTING NAME | Bus/Fdr VOLTAGE | PH | NO COND | SIZE FOR | COND TYPE | INSULATION TYPE | CLASS | Length |
|---|---|---|---|---|---|---|---|---|---|
| FROM | BUSAP-CD-205 | 480. | | | | | | | |
| TO | BUS-P-CD-205 | 600. | 3P | 1 | 12 | Copper | THWN | | 10.0 |
| Duct: Non-Magnetic | | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | RaceWay No.: | 1 |
| Manuf: Typical | | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | |
| FROM | BUSAP-CD-209 | 480. | | | | | | | |
| TO | BUS-P-CD-209 | 600. | 3P | 1 | 12 | Copper | THWN | | 150.0 |
| Duct: Non-Magnetic | | Gnd:10 | RaceWay: 1/2" | | | RaceWay Type: Non-Magnetic | | RaceWay No.: | 1 |
| Manuf: Typical | | | Desc: NONE | | | Conductor Desc.: 3 Wire+Grnd | | | |

FEEDER EVALUATION

## FEEDER DESIGN LOAD ANALYSIS

| FEEDER ROUTING NO NAME | Bus/Fdr VOLTAGE | PH | NO COND | SIZE FDR | COND TYPE | INSULATION TYPE | CLASS | Design Load | Derated Rating |
|---|---|---|---|---|---|---|---|---|---|
| FROM BUS-ADMIN | 480. | | | | | | | | |
| TO BUS-MHYDJEE496 | EX Vd%: | 0.52 | 1 | 350 | Copper | PVC | | 48.A | 260.A |
| IEEE 141 - Red Book | TW | Conduit | | | 3-1/C+G | | | | |
| FROM BUS-MCC-CD2179 | 480. | | | | | | | | |
| TO BUS-UH-CD-1798 | NEW Vd%: | 0.25 | 1 | 12 | Copper | | | 8.A | 25.A |
| Typical | THWN | | | | 3 Wire+Grnd | | | | |
| TO BUS-XFMRCD853 | NEW Vd%: | 0.03 | 1 | 12 | Copper | | | 10.A | 25.A |
| Typical | THWN | | | | 3 Wire+Grnd | | | | |
| TO BUSA-P-CD-201 | NEW Vd%: | 0.01 | 1 | 12 | Copper | | | 1.A | 42.A |
| Typical | THHN | | | | 3 Wire+Grnd | | | | |
| TO BUSA-P-CD-202 | NEW Vd%: | 0.01 | 1 | 12 | Copper | | | 1.A | 42.A |
| Typical | THHN | | | | 3 Wire+Grnd | | | | |
| TO BUSA-P-CD-207 | NEW Vd%: | 0.03 | 1 | 12 | Copper | | | 2.A | 42.A |
| Typical | THHN | | | | 3 Wire+Grnd | | | | |
| TO BUSAP-CD-209 | NEW Vd%: | 0.05 | 1 | 12 | Copper | | | 3.A | 42.A |
| Typical | THHN | | | | 3 Wire+Grnd | | | | |
| FROM BUS-MCC-CD2181 | 480. | | | | | | | | |
| TO BUS-UH-CD-1799 | NEW Vd%: | 0.03 | 1 | 12 | Copper | | | 8.A | 25.A |
| Typical | THWN | | | | 3 Wire+Grnd | | | | |
| TO BUS-XFMRCD8552 | NEW Vd%: | 0.03 | 1 | 12 | Copper | | | 9.A | 25.A |
| Typical | THWN | | | | 3 Wire+Grnd | | | | |
| TO BUSA-P-CD-204 | NEW Vd%: | 0.01 | 1 | 12 | Copper | | | 1.A | 42.A |
| Typical | THHN | | | | 3 Wire+Grnd | | | | |
| TO BUSA-P-CD-208 | NEW Vd%: | 0.01 | 1 | 12 | Copper | | | 1.A | 42.A |
| Typical | THHN | | | | 3 Wire+Grnd | | | | |
| TO BUSAP-CD-203-1 | NEW Vd%: | 0.17 | 1 | 12 | Copper | | | 9.A | 42.A |
| Typical | THHN | | | | 3 Wire+Grnd | | | | |
| TO BUSAP-CD-203-2 | NEW Vd%: | 0.01 | 1 | 12 | Copper | | | 1.A | 42.A |
| Typical | THHN | | | | 3 Wire+Grnd | | | | |
| TO BUSAP-CD-205 | NEW Vd%: | 0.03 | 1 | 12 | Copper | | | 2.A | 42.A |
| Typical | THHN | | | | 3 Wire+Grnd | | | | |
| FROM BUS-MHYDJEE496 | 480. | | | | | | | | |
| TO BUS-MCC-CD2179 | EX Vd%: | 0.39 | 1 | 2 | Copper | PVC | | 21.A | 95.A |
| IEEE 141 - Red Book | TW | Conduit | | | 3-1/C+G | | | | |
| TO BUS-MCC-CD2181 | EX Vd%: | 0.39 | 1 | 2 | Copper | PVC | | 27.A | 95.A |
| IEEE 141 - Red Book | TW | Conduit | | | 3-1/C+G | | | | |

FEEDER EVALUATION

## F E E D E R  D E S I G N  L O A D  A N A L Y S I S

| FEEDER ROUTING NO NAME | Bus/Fdr VOLTAGE | PH | NO COND | SIZE FOR | COND TYPE | INSULATION TYPE CLASS | Design Load | Derated Rating |
|---|---|---|---|---|---|---|---|---|
| FROM BUSA-P-CD-201 | 480. | | | | | | | |
| TO BUS-P-CD-201 | NEW Vd%: | 0.05 | 1 | 12 | Copper | | 1.A | 25.A |
| Typical | THWN | | | | 3 Wire+Grnd | | | |
| FROM BUSA-P-CD-202 | 480. | | | | | | | |
| TO BUS-P-CD-202 | NEW Vd%: | 0.05 | 1 | 12 | Copper | | 1.A | 25.A |
| Typical | THWN | | | | 3 Wire+Grnd | | | |
| FROM BUSA-P-CD-204 | 480. | | | | | | | |
| TO BUS-P-CD-204 | NEW Vd%: | 0.05 | 1 | 12 | Copper | | 1.A | 25.A |
| Typical | THWN | | | | 3 Wire+Grnd | | | |
| FROM BUSA-P-CD-207 | 480. | | | | | | | |
| TO BUS-P-CD-207 | NEW Vd%: | 0.15 | 1 | 12 | Copper | | 2.A | 25.A |
| Typical | THWN | | | | 3 Wire+Grnd | | | |
| FROM BUSA-P-CD-208 | 480. | | | | | | | |
| TO BUS-P-CD-208 | NEW Vd%: | 0.05 | 1 | 12 | Copper | | 1.A | 25.A |
| Typical | THWN | | | | 3 Wire+Grnd | | | |
| FROM BUSAP-CD-203-1 | 480. | | | | | | | |
| TO BUS-P-CD-203-1 | NEW Vd%: | 0.73 | 1 | 12 | Copper | | 9.A | 25.A |
| Typical | THWN | | | | 3 Wire+Grnd | | | |
| FROM BUSAP-CD-203-2 | 480. | | | | | | | |
| TO BUS-P-CD-203-2 | NEW Vd%: | 0.05 | 1 | 12 | Copper | | 1.A | 25.A |
| Typical | THWN | | | | 3 Wire+Grnd | | | |
| FROM BUSAP-CD-205 | 480. | | | | | | | |
| TO BUS-P-CD-205 | NEW Vd%: | 0.01 | 1 | 12 | Copper | | 2.A | 25.A |
| Typical | THWN | | | | 3 Wire+Grnd | | | |
| FROM BUSAP-CD-209 | 480. | | | | | | | |
| TO BUS-P-CD-209 | NEW Vd%: | 0.22 | 1 | 12 | Copper | | 3.A | 25.A |
| Typical | THWN | | | | 3 Wire+Grnd | | | |

TRANSFORMER SIZE REPORT

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T R A N S F O R M E R  S C H E D U L E

| LOCATION DESCRIPTION BUS NO. NAME | VOLTAGE LEVELS | CONN CODE | PCT. TAP | TRANSFORMER DESCRIPTION | | | |
|---|---|---|---|---|---|---|---|
| FROM BUS-XFMRCD853 | 480. | D | 0.0 | TYPE: Dry Type | | | |
| TO BUSLP-CD-1798 | 208. | YG | | DEM: | 7.8 KVA | FL: | 15.0 KVA |
| Name: XF2-XFMRCD853 | | EX | | 2.78 %Z | | NOM: | 15.0 KVA |
| FROM BUS-XFMRCD8552 | 480. | D | 0.0 | TYPE: Dry Type | | | |
| TO BUS-LP-CD-2182 | 208. | YG | | DEM: | 7.4 KVA | FL: | 15.0 KVA |
| Name: XF2-LP-CD-8552 | | EX | | 2.78 %Z | | NOM: | 15.0 KVA |

## C.3 Crest Pad Buildings Electrical Load Flow Analysis

Mar 18, 2002 16:13:45

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ALL INFORMATION PRESENTED IS FOR REVIEW, APPROVAL
INTERPRETATION AND APPLICATION BY A REGISTERED ENGINEER ONLY

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SKM POWER*TOOLS FOR WINDOWS
LOAD FLOW AND VOLTAGE DROP ANALYSIS REPORT
COPYRIGHT SKM SYSTEMS ANALYSIS, INC. 1995-1996

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*** SOLUTION COMMENTS ***
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SOLUTION PARAMETERS

BRANCH VOLTAGE CRITERIA                  :  3.00 %
BUS VOLTAGE CRITERIA                     :  5.00 %

ACCELERATION FACTOR FOR 'PV' GENERATORS  :  1.00
ACCELERATION FACTOR FOR CONSTANT KVA LOADS:  1.00
EXACT(ITERATIVE) SOLUTION                :  YES

UTILITY IMPEDANCE                        :  YES
TRANSFORMER PHASE SHIFT                  :  NO

ALL PU VALUES ARE EXPRESSED ON A 100 MVA BASE

LOAD FLOW IS BASED ON DIRECTLY CONNECTED LOADS.
LOAD ANALYSIS INCLUDES ALL LOADS.


<<PERCENT VOLTAGE DROPS ARE BASED ON NOMINAL DESIGN VOLTAGES>>


      SWING GENERATORS
SOURCE NAME        VOLTAGE  ANGLE
=================================
INEEL_SSSTF        1.000     0.00

LARGEST LOAD:                    10.00 KVA
CONVERGENCE CRITERIA:      0.001 KVA
LARGEST BUS MISMATCH   BUSLP-CD-1798          0.405 KVA
LARGEST BUS MISMATCH   BUSLP-CD-1798          0.009 KVA
LARGEST BUS MISMATCH   BUSLP-CD-1798          0.000 KVA
```

BALANCED VOLTAGE DROP AND LOAD FLOW ANALYSIS (SWING GENERATORS)

| SOURCE | VOLTAGE | ANGLE | KW | KVAR | VD% | (UTILITY IMPEDANCE) |
|---|---|---|---|---|---|---|
| INEEL_SSSTF | 1.000 | 0.00 | 31.98 | 16.55 | 0.06 | 0.37586+J 3.00690 |

BALANCED VOLTAGE DROP AND LOAD FLOW ANALYSIS

**********

VOLTAGE EFFECT ON LOADS MODELED
VOLTAGE DROP CRITERIA: BRANCH = 3.00 % BUS = 5.00

==== BUS: BUS-ADMIN DESIGN VOLTS: 480 BUS VOLTS: 480 %VD: 0.06
========== PU BUS VOLTAGE: 0.999 ANGLE: -0.1 DEGREES
*** SWING GENERATOR: INEEL_SSSTF 32.0 KW 16.6 KVAR

LOAD TO: BUS-MHYDJEE496 FEEDER AMPS: 43.3 VOLTAGE DROP: 2. %VD: 0.48
PROJECTED POWER FLOW: 32.0 KW 16.6 KVAR 36.0 KVA PF:0.89 LAGGING
LOSSES THRU FEEDER: 0.1 KW 0.1 KVAR 0.2 KVA

==== BUS: BUS-LP-CD-2182 DESIGN VOLTS: 208 BUS VOLTS: 202 %VD: 2.74
========== PU BUS VOLTAGE: 0.973 ANGLE: -0.1 DEGREES
NET BRANCH DIVERSITY LOAD: 5.9 KW 4.4 KVAR

LOAD FROM: BUS-XFMRCD8552 TRANSF AMPS: 21.1 VOLTAGE DROP: 3. %VD: 1.41
PROJECTED POWER FLOW: 5.9 KW 4.4 KVAR 7.4 KVA PF:0.80 LAGGING
LOSSES THRU TRANSF: 0.1 KW 0.1 KVAR 0.1 KVA

==== BUS: BUS-MCC-CD2179 DESIGN VOLTS: 480 BUS VOLTS: 472 %VD: 1.57
========== PU BUS VOLTAGE: 0.984 ANGLE: 0.0 DEGREES

LOAD FROM: BUS-MHYDJEE496 FEEDER AMPS: 19.1 VOLTAGE DROP: 5. %VD: 1.03
PROJECTED POWER FLOW: 14.1 KW 6.9 KVAR 15.7 KVA PF:0.90 LAGGING
LOSSES THRU FEEDER: 0.2 KW 0.0 KVAR 0.2 KVA

LOAD TO: BUS-UH-CD-1798 FEEDER AMPS: 5.9 VOLTAGE DROP: 1. %VD: 0.20
PROJECTED POWER FLOW: 4.8 KW 0.0 KVAR 4.8 KVA PF:1.00 UNITY
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

LOAD TO: BUS-XFMRCD853 FEEDER AMPS: 9.6 VOLTAGE DROP: 0. %VD: 0.03
PROJECTED POWER FLOW: 6.3 KW 4.7 KVAR 7.9 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

LOAD TO: BUSA-P-CD-201 FEEDER AMPS: 0.4 VOLTAGE DROP: 0. %VD: 0.01
PROJECTED POWER FLOW: 0.3 KW 0.2 KVAR 0.4 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

LOAD TO: BUSA-P-CD-202 FEEDER AMPS: 0.4 VOLTAGE DROP: 0. %VD: 0.01
PROJECTED POWER FLOW: 0.3 KW 0.2 KVAR 0.4 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

BALANCED VOLTAGE DROP AND LOAD FLOW ANALYSIS

**********

VOLTAGE EFFECT ON LOADS MODELED
VOLTAGE DROP CRITERIA: BRANCH = 3.00 % BUS = 5.00

LOAD TO: BUSA-P-CD-207 FEEDER AMPS: 1.4 VOLTAGE DROP: 0. %VD: 0.03
PROJECTED POWER FLOW: 0.9 KW 0.7 KVAR 1.2 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

LOAD TO: BUSAP-CD-209 FEEDER AMPS: 2.1 VOLTAGE DROP: 0. %VD: 0.04
PROJECTED POWER FLOW: 1.4 KW 1.0 KVAR 1.8 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

=== BUS: BUS-MCC-CD2181 DESIGN VOLTS: 480 BUS VOLTS: 474 %VD: 1.31
========== PU BUS VOLTAGE: 0.987 ANGLE: 0.0 DEGREES

LOAD FROM: BUS-MHYDJEE496 FEEDER AMPS: 24.1 VOLTAGE DROP: 4. %VD: 0.77
PROJECTED POWER FLOW: 17.4 KW 9.4 KVAR 19.8 KVA PF:0.88 LAGGING
LOSSES THRU FEEDER: 0.2 KW 0.0 KVAR 0.2 KVA

LOAD TO: BUS-UH-CD-1799 FEEDER AMPS: 5.9 VOLTAGE DROP: 0. %VD: 0.02
PROJECTED POWER FLOW: 4.9 KW 0.0 KVAR 4.9 KVA PF:1.00 UNITY
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

LOAD TO: BUS-XFMRCD8552 FEEDER AMPS: 9.1 VOLTAGE DROP: 0. %VD: 0.03
PROJECTED POWER FLOW: 6.0 KW 4.5 KVAR 7.5 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

LOAD TO: BUSA-P-CD-204 FEEDER AMPS: 0.4 VOLTAGE DROP: 0. %VD: 0.01
PROJECTED POWER FLOW: 0.3 KW 0.2 KVAR 0.4 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

LOAD TO: BUSA-P-CD-208 FEEDER AMPS: 0.4 VOLTAGE DROP: 0. %VD: 0.01
PROJECTED POWER FLOW: 0.3 KW 0.2 KVAR 0.4 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

LOAD TO: BUSAP-CD-203-1 FEEDER AMPS: 7.1 VOLTAGE DROP: 1. %VD: 0.14
PROJECTED POWER FLOW: 4.7 KW 3.5 KVAR 5.9 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

LOAD TO: BUSAP-CD-203-2 FEEDER AMPS: 0.4 VOLTAGE DROP: 0. %VD: 0.01
PROJECTED POWER FLOW: 0.3 KW 0.2 KVAR 0.4 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

LOAD TO: BUSAP-CD-205 FEEDER AMPS: 1.4 VOLTAGE DROP: 0. %VD: 0.03
PROJECTED POWER FLOW: 0.9 KW 0.7 KVAR 1.2 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

```
                BALANCED VOLTAGE DROP AND LOAD FLOW ANALYSIS
*********************************************************************
VOLTAGE EFFECT ON LOADS MODELED
VOLTAGE DROP CRITERIA: BRANCH =  3.00 %   BUS =  5.00


==== BUS:  BUS-MHYDJEE496 DESIGN VOLTS:     480 BUS VOLTS:     477 %VD:  0.54
======================== PU BUS VOLTAGE:  0.995       ANGLE:  -0.1 DEGREES

LOAD FROM:  BUS-ADMIN       FEEDER AMPS:  43.3 VOLTAGE DROP:     2. %VD:  0.48
PROJECTED POWER FLOW:     31.9 KW      16.4 KVAR      35.8 KVA  PF:0.89 LAGGING
LOSSES THRU FEEDER:       0.1 KW       0.1 KVAR       0.2 KVA

LOAD   TO:  BUS-MCC-CD2179  FEEDER AMPS:  19.1 VOLTAGE DROP:     5. %VD:  1.03
PROJECTED POWER FLOW:     14.2 KW       7.0 KVAR      15.9 KVA  PF:0.90 LAGGING
LOSSES THRU FEEDER:       0.2 KW       0.0 KVAR       0.2 KVA

LOAD   TO:  BUS-MCC-CD2181  FEEDER AMPS:  24.1 VOLTAGE DROP:     4. %VD:  0.77
PROJECTED POWER FLOW:     17.6 KW       9.4 KVAR      20.0 KVA  PF:0.88 LAGGING
LOSSES THRU FEEDER:       0.2 KW       0.0 KVAR       0.2 KVA


==== BUS:  BUS-P-CD-201   DESIGN VOLTS:     480 BUS VOLTS:     472 %VD:  1.61
======================== PU BUS VOLTAGE:  0.984       ANGLE:   0.0 DEGREES
**** NO LOAD SPECIFIED ****


==== BUS:  BUS-P-CD-202   DESIGN VOLTS:     480 BUS VOLTS:     472 %VD:  1.61
======================== PU BUS VOLTAGE:  0.984       ANGLE:   0.0 DEGREES
**** NO LOAD SPECIFIED ****


==== BUS:  BUS-P-CD-203-1 DESIGN VOLTS:     480 BUS VOLTS:     470 %VD:  2.05
======================== PU BUS VOLTAGE:  0.980       ANGLE:   0.3 DEGREES
              NET BRANCH DIVERSITY LOAD:     4.7 KW     3.5 KVAR

LOAD FROM:  BUSAP-CD-203-1  FEEDER AMPS:   7.1 VOLTAGE DROP:     3. %VD:  0.60
PROJECTED POWER FLOW:      4.7 KW       3.5 KVAR       5.8 KVA  PF:0.80 LAGGING
LOSSES THRU FEEDER:       0.0 KW       0.0 KVAR       0.0 KVA


==== BUS:  BUS-P-CD-203-2 DESIGN VOLTS:     480 BUS VOLTS:     474 %VD:  1.35
======================== PU BUS VOLTAGE:  0.986       ANGLE:   0.0 DEGREES
**** NO LOAD SPECIFIED ****
```

```
                BALANCED VOLTAGE DROP AND LOAD FLOW ANALYSIS
*****************************************************************************
VOLTAGE EFFECT ON LOADS MODELED
'OLTAGE DROP CRITERIA: BRANCH =  3.00 %   BUS =  5.00


==== BUS:  BUS-P-CD-204   DESIGN VOLTS:     480 BUS VOLTS:     474 %VD:  1.35
======================== PU BUS VOLTAGE:  0.986       ANGLE:   0.0 DEGREES
**** NO LOAD SPECIFIED ****


==== BUS:  BUS-P-CD-205   DESIGN VOLTS:     480 BUS VOLTS:     474 %VD:  1.34
======================== PU BUS VOLTAGE:  0.987       ANGLE:   0.0 DEGREES
             NET BRANCH DIVERSITY LOAD:     0.9 KW     0.7 KVAR

LOAD FROM:  BUSAP-CD-205    FEEDER AMPS:   1.4 VOLTAGE DROP:     0. %VD:  0.01
PROJECTED POWER FLOW:      0.9 KW       0.7 KVAR       1.2 KVA  PF:0.80 LAGGING
LOSSES THRU FEEDER:      0.0 KW       0.0 KVAR       0.0 KVA


==== BUS:  BUS-P-CD-207   DESIGN VOLTS:     480 BUS VOLTS:     472 %VD:  1.71
======================== PU BUS VOLTAGE:  0.983       ANGLE:   0.0 DEGREES
             NET BRANCH DIVERSITY LOAD:     0.9 KW     0.7 KVAR

LOAD FROM:  BUSA-P-CD-207   FEEDER AMPS:   1.4 VOLTAGE DROP:     1. %VD:  0.12
PROJECTED POWER FLOW:      0.9 KW       0.7 KVAR       1.2 KVA  PF:0.80 LAGGING
LOSSES THRU FEEDER:      0.0 KW       0.0 KVAR       0.0 KVA


==== BUS:  BUS-P-CD-208   DESIGN VOLTS:     480 BUS VOLTS:     474 %VD:  1.35
======================== PU BUS VOLTAGE:  0.986       ANGLE:   0.0 DEGREES
**** NO LOAD SPECIFIED ****


==== BUS:  BUS-P-CD-209   DESIGN VOLTS:     480 BUS VOLTS:     471 %VD:  1.79
======================== PU BUS VOLTAGE:  0.982       ANGLE:   0.1 DEGREES
             NET BRANCH DIVERSITY LOAD:     1.4 KW     1.0 KVAR

LOAD FROM:  BUSAP-CD-209    FEEDER AMPS:   2.1 VOLTAGE DROP:     1. %VD:  0.18
PROJECTED POWER FLOW:      1.4 KW       1.0 KVAR       1.7 KVA  PF:0.80 LAGGING
LOSSES THRU FEEDER:      0.0 KW       0.0 KVAR       0.0 KVA
```

BALANCED VOLTAGE DROP AND LOAD FLOW ANALYSIS

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VOLTAGE EFFECT ON LOADS MODELED
VOLTAGE DROP CRITERIA: BRANCH = 3.00 % BUS = 5.00

==== BUS: BUS-UH-CD-1798 DESIGN VOLTS: 480 BUS VOLTS: 472 %VD: 1.76
========== PU BUS VOLTAGE: 0.982 ANGLE: 0.0 DEGREES
NET BRANCH DIVERSITY LOAD: 4.8 KW 0.0 KVAR

LOAD FROM: BUS-MCC-CD2179 FEEDER AMPS: 5.9 VOLTAGE DROP: 1. %VD: 0.20
PROJECTED POWER FLOW: 4.8 KW 0.0 KVAR 4.8 KVA PF:1.00 UNITY
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

==== BUS: BUS-UH-CD-1799 DESIGN VOLTS: 480 BUS VOLTS: 474 %VD: 1.33
========== PU BUS VOLTAGE: 0.987 ANGLE: 0.0 DEGREES
NET BRANCH DIVERSITY LOAD: 4.9 KW 0.0 KVAR

LOAD FROM: BUS-MCC-CD2181 FEEDER AMPS: 5.9 VOLTAGE DROP: 0. %VD: 0.02
PROJECTED POWER FLOW: 4.9 KW 0.0 KVAR 4.9 KVA PF:1.00 UNITY
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

==== BUS: BUS-XFMRCD853 DESIGN VOLTS: 480 BUS VOLTS: 472 %VD: 1.59
========== PU BUS VOLTAGE: 0.984 ANGLE: 0.0 DEGREES

LOAD FROM: BUS-MCC-CD2179 FEEDER AMPS: 9.6 VOLTAGE DROP: 0. %VD: 0.03
PROJECTED POWER FLOW: 6.3 KW 4.7 KVAR 7.9 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

LOAD TO: BUSLP-CD-1798 TRANSF AMPS: 9.6 VOLTAGE DROP: 7. %VD: 1.48
PROJECTED POWER FLOW: 6.3 KW 4.7 KVAR 7.9 KVA PF:0.80 LAGGING
LOSSES THRU TRANSF: 0.1 KW 0.1 KVAR 0.1 KVA

==== BUS: BUS-XFMRCD8552 DESIGN VOLTS: 480 BUS VOLTS: 474 %VD: 1.33
========== PU BUS VOLTAGE: 0.987 ANGLE: 0.0 DEGREES

LOAD TO: BUS-LP-CD-2182 TRANSF AMPS: 9.1 VOLTAGE DROP: 7. %VD: 1.41
PROJECTED POWER FLOW: 6.0 KW 4.5 KVAR 7.5 KVA PF:0.80 LAGGING
LOSSES THRU TRANSF: 0.1 KW 0.1 KVAR 0.1 KVA

LOAD FROM: BUS-MCC-CD2181 FEEDER AMPS: 9.1 VOLTAGE DROP: 0. %VD: 0.03
PROJECTED POWER FLOW: 6.0 KW 4.5 KVAR 7.5 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

BALANCED VOLTAGE DROP AND LOAD FLOW ANALYSIS

**********

VOLTAGE EFFECT ON LOADS MODELED
'OLTAGE DROP CRITERIA: BRANCH = 3.00 % BUS = 5.00

==== BUS: BUSA-P-CD-201 DESIGN VOLTS: 480 BUS VOLTS: 472 %VD: 1.57
========== PU BUS VOLTAGE: 0.984 ANGLE: 0.0 DEGREES

LOAD FROM: BUS-MCC-CD2179 FEEDER AMPS: 0.4 VOLTAGE DROP: 0. %VD: 0.01
PROJECTED POWER FLOW: 0.3 KW 0.2 KVAR 0.4 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

LOAD TO: BUS-P-CD-201 FEEDER AMPS: 0.4 VOLTAGE DROP: 0. %VD: 0.04
PROJECTED POWER FLOW: 0.3 KW 0.2 KVAR 0.4 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

==== BUS: BUSA-P-CD-202 DESIGN VOLTS: 480 BUS VOLTS: 472 %VD: 1.57
========== PU BUS VOLTAGE: 0.984 ANGLE: 0.0 DEGREES

LOAD FROM: BUS-MCC-CD2179 FEEDER AMPS: 0.4 VOLTAGE DROP: 0. %VD: 0.01
PROJECTED POWER FLOW: 0.3 KW 0.2 KVAR 0.4 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

LOAD TO: BUS-P-CD-202 FEEDER AMPS: 0.4 VOLTAGE DROP: 0. %VD: 0.04
PROJECTED POWER FLOW: 0.3 KW 0.2 KVAR 0.4 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

==== BUS: BUSA-P-CD-204 DESIGN VOLTS: 480 BUS VOLTS: 474 %VD: 1.31
========== PU BUS VOLTAGE: 0.987 ANGLE: 0.0 DEGREES

LOAD FROM: BUS-MCC-CD2181 FEEDER AMPS: 0.4 VOLTAGE DROP: 0. %VD: 0.01
PROJECTED POWER FLOW: 0.3 KW 0.2 KVAR 0.4 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

LOAD TO: BUS-P-CD-204 FEEDER AMPS: 0.4 VOLTAGE DROP: 0. %VD: 0.04
PROJECTED POWER FLOW: 0.3 KW 0.2 KVAR 0.4 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

==== BUS: BUSA-P-CD-207 DESIGN VOLTS: 480 BUS VOLTS: 472 %VD: 1.59
========== PU BUS VOLTAGE: 0.984 ANGLE: 0.0 DEGREES

LOAD FROM: BUS-MCC-CD2179 FEEDER AMPS: 1.4 VOLTAGE DROP: 0. %VD: 0.03
PROJECTED POWER FLOW: 0.9 KW 0.7 KVAR 1.2 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

BALANCED VOLTAGE DROP AND LOAD FLOW ANALYSIS

**********

VOLTAGE EFFECT ON LOADS MODELED
VOLTAGE DROP CRITERIA: BRANCH = 3.00 % BUS = 5.00

LOAD TO: BUS-P-CD-207 FEEDER AMPS: 1.4 VOLTAGE DROP: 1. %VD: 0.12
PROJECTED POWER FLOW: 0.9 KW 0.7 KVAR 1.2 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

==== BUS: BUSA-P-CD-208 DESIGN VOLTS: 480 BUS VOLTS: 474 %VD: 1.31
========== PU BUS VOLTAGE: 0.987 ANGLE: 0.0 DEGREES

LOAD FROM: BUS-MCC-CD2181 FEEDER AMPS: 0.4 VOLTAGE DROP: 0. %VD: 0.01
PROJECTED POWER FLOW: 0.3 KW 0.2 KVAR 0.4 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

LOAD TO: BUS-P-CD-208 FEEDER AMPS: 0.4 VOLTAGE DROP: 0. %VD: 0.04
PROJECTED POWER FLOW: 0.3 KW 0.2 KVAR 0.4 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

==== BUS: BUSAP-CD-203-1 DESIGN VOLTS: 480 BUS VOLTS: 473 %VD: 1.45
========== PU BUS VOLTAGE: 0.986 ANGLE: 0.0 DEGREES

LOAD FROM: BUS-MCC-CD2181 FEEDER AMPS: 7.1 VOLTAGE DROP: 1. %VD: 0.14
PROJECTED POWER FLOW: 4.7 KW 3.5 KVAR 5.9 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

LOAD TO: BUS-P-CD-203-1 FEEDER AMPS: 7.1 VOLTAGE DROP: 3. %VD: 0.60
PROJECTED POWER FLOW: 4.7 KW 3.5 KVAR 5.9 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

==== BUS: BUSAP-CD-203-2 DESIGN VOLTS: 480 BUS VOLTS: 474 %VD: 1.31
========== PU BUS VOLTAGE: 0.987 ANGLE: 0.0 DEGREES

LOAD FROM: BUS-MCC-CD2181 FEEDER AMPS: 0.4 VOLTAGE DROP: 0. %VD: 0.01
PROJECTED POWER FLOW: 0.3 KW 0.2 KVAR 0.4 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

LOAD TO: BUS-P-CD-203-2 FEEDER AMPS: 0.4 VOLTAGE DROP: 0. %VD: 0.04
PROJECTED POWER FLOW: 0.3 KW 0.2 KVAR 0.4 KVA PF:0.80 LAGGING
LOSSES THRU FEEDER: 0.0 KW 0.0 KVAR 0.0 KVA

```
                BALANCED VOLTAGE DROP AND LOAD FLOW ANALYSIS
*********************************************************************
VOLTAGE EFFECT ON LOADS MODELED
VOLTAGE DROP CRITERIA: BRANCH =  3.00 %   BUS =  5.00


==== BUS:  BUSAP-CD-205   DESIGN VOLTS:     480 BUS VOLTS:     474 %VD:  1.33
========================= PU BUS VOLTAGE:  0.987       ANGLE:   0.0 DEGREES

LOAD FROM:  BUS-MCC-CD2181  FEEDER AMPS:   1.4 VOLTAGE DROP:     0. %VD:  0.03
PROJECTED POWER FLOW:       0.9 KW       0.7 KVAR       1.2 KVA  PF:0.80 LAGGING
LOSSES THRU FEEDER:       0.0 KW       0.0 KVAR       0.0 KVA

LOAD   TO:  BUS-P-CD-205    FEEDER AMPS:   1.4 VOLTAGE DROP:     0. %VD:  0.01
PROJECTED POWER FLOW:       0.9 KW       0.7 KVAR       1.2 KVA  PF:0.80 LAGGING
LOSSES THRU FEEDER:       0.0 KW       0.0 KVAR       0.0 KVA


==== BUS:  BUSAP-CD-209   DESIGN VOLTS:     480 BUS VOLTS:     472 %VD:  1.61
========================= PU BUS VOLTAGE:  0.984       ANGLE:   0.0 DEGREES

LOAD FROM:  BUS-MCC-CD2179  FEEDER AMPS:   2.1 VOLTAGE DROP:     0. %VD:  0.04
PROJECTED POWER FLOW:       1.4 KW       1.0 KVAR       1.8 KVA  PF:0.80 LAGGING
LOSSES THRU FEEDER:       0.0 KW       0.0 KVAR       0.0 KVA

LOAD   TO:  BUS-P-CD-209    FEEDER AMPS:   2.1 VOLTAGE DROP:     1. %VD:  0.18
PROJECTED POWER FLOW:       1.4 KW       1.0 KVAR       1.8 KVA  PF:0.80 LAGGING
LOSSES THRU FEEDER:       0.0 KW       0.0 KVAR       0.0 KVA


==== BUS:  BUSLP-CD-1798  DESIGN VOLTS:     208 BUS VOLTS:     202 %VD:  3.07
========================= PU BUS VOLTAGE:  0.969       ANGLE:  -0.1 DEGREES
              NET BRANCH DIVERSITY LOAD:     6.2 KW     4.7 KVAR

LOAD FROM:  BUS-XFMRCD853   TRANSF AMPS:  22.1 VOLTAGE DROP:     3. %VD:  1.48
PROJECTED POWER FLOW:       6.2 KW       4.7 KVAR       7.8 KVA  PF:0.80 LAGGING
LOSSES THRU TRANSF:       0.1 KW       0.1 KVAR       0.1 KVA


==== BUS:  INEEL_SSSTF    DESIGN VOLTS:     480 BUS VOLTS:     480 %VD:  0.00
======================== PU BUS VOLTAGE:  1.000       ANGLE:   0.0 DEGREES
              *** SWING  GENERATOR: INEEL_SSSTF        32.0 KW    16.6 KVAR

LOAD   TO:  BUS-ADMIN       FEEDER AMPS:  43.3 VOLTAGE DROP:     0. %VD:  0.06
PROJECTED POWER FLOW:      32.0 KW      16.6 KVAR      36.0 KVA  PF:0.89 LAGGING
LOSSES THRU FEEDER:       0.0 KW       0.0 KVAR       0.0 KVA
```

BALANCED VOLTAGE DROP AND LOAD FLOW BUS DATA SUMMARY

| BUS NAME | BASE VOLT | PU VOLT | BUS NAME | BASE VOLT | PU VOLT |
|---|---|---|---|---|---|
| BUS-ADMIN | 480.00 | 0.9994 | BUS-LP-CD-2182 | 208.00 | 0.9726 |
| BUS-MCC-CD2179 | 480.00 | 0.9843 | BUS-MCC-CD2181 | 480.00 | 0.9869 |
| BUS-MHYDJEE496 | 480.00 | 0.9946 | BUS-P-CD-201 | 480.00 | 0.9839 |
| BUS-P-CD-202 | 480.00 | 0.9839 | BUS-P-CD-203-1 | 480.00 | 0.9795 |
| BUS-P-CD-203-2 | 480.00 | 0.9865 | BUS-P-CD-204 | 480.00 | 0.9865 |
| BUS-P-CD-205 | 480.00 | 0.9866 | BUS-P-CD-207 | 480.00 | 0.9829 |
| BUS-P-CD-208 | 480.00 | 0.9865 | BUS-P-CD-209 | 480.00 | 0.9821 |
| BUS-UH-CD-1798 | 480.00 | 0.9824 | BUS-UH-CD-1799 | 480.00 | 0.9867 |
| BUS-XFMRCD853 | 480.00 | 0.9841 | BUS-XFMRCD8552 | 480.00 | 0.9867 |
| BUSA-P-CD-201 | 480.00 | 0.9843 | BUSA-P-CD-202 | 480.00 | 0.9843 |
| BUSA-P-CD-204 | 480.00 | 0.9869 | BUSA-P-CD-207 | 480.00 | 0.9841 |
| BUSA-P-CD-208 | 480.00 | 0.9869 | BUSAP-CD-203-1 | 480.00 | 0.9855 |
| BUSAP-CD-203-2 | 480.00 | 0.9869 | BUSAP-CD-205 | 480.00 | 0.9867 |
| BUSAP-CD-209 | 480.00 | 0.9839 | BUSLP-CD-1798 | 208.00 | 0.9693 |
| INEEL_SSSTF | 480.00 | 1.0000 | | | |

BALANCED VOLTAGE DROP AND LOAD FLOW BRANCH DATA SUMMARY

| FROM NAME | TO NAME | TYPE | VD% | AMPS | KVA | RATING% |
|---|---|---|---|---|---|---|
| BUS-ADMIN | BUS-MHYDJEE496 | FDR | 0.48 | 43.33 | 36.01 | 16.67 |
| BUS-MCC-CD2179 | BUSA-P-CD-201 | FDR | 0.01 | 0.47 | 0.38 | 1.57 |
| BUS-MCC-CD2179 | BUSA-P-CD-207 | FDR | 0.03 | 1.43 | 1.17 | 4.75 |
| BUS-MCC-CD2179 | BUS-XFMRCD853 | FDR | 0.03 | 9.62 | 7.87 | 38.48 |
| BUS-MCC-CD2179 | BUS-UH-CD-1798 | FDR | 0.20 | 5.91 | 4.83 | 23.63 |
| BUS-MCC-CD2179 | BUSA-P-CD-202 | FDR | 0.01 | 0.47 | 0.38 | 1.57 |
| BUS-MCC-CD2179 | BUSAP-CD-209 | FDR | 0.04 | 2.14 | 1.75 | 7.14 |
| BUS-MCC-CD2181 | BUSAP-CD-203-1 | FDR | 0.14 | 7.16 | 5.87 | 23.86 |
| BUS-MCC-CD2181 | BUSAP-CD-203-2 | FDR | 0.01 | 0.47 | 0.38 | 1.56 |
| BUS-MCC-CD2181 | BUSA-P-CD-204 | FDR | 0.01 | 0.47 | 0.38 | 1.56 |
| BUS-MCC-CD2181 | BUS-XFMRCD8552 | FDR | 0.03 | 9.16 | 7.52 | 36.64 |
| BUS-MCC-CD2181 | BUS-UH-CD-1799 | FDR | 0.02 | 5.93 | 4.87 | 23.74 |
| BUS-MCC-CD2181 | BUSA-P-CD-208 | FDR | 0.01 | 0.47 | 0.38 | 1.56 |
| BUS-MCC-CD2181 | BUSAP-CD-205 | FDR | 0.03 | 1.42 | 1.16 | 4.73 |
| BUS-MHYDJEE496 | BUS-MCC-CD2181 | FDR | 0.77 | 24.16 | 19.98 | 25.43 |
| BUS-MHYDJEE496 | BUS-MCC-CD2179 | FDR | 1.03 | 19.18 | 15.86 | 20.19 |
| BUS-XFMRCD853 | BUSLP-CD-1798 | TX2 | 1.48 | 9.62 | 7.87 | 52.47 |
| BUS-XFMRCD8552 | BUS-LP-CD-2182 | TX2 | 1.41 | 9.16 | 7.51 | 50.09 |
| BUSA-P-CD-201 | BUS-P-CD-201 | FDR | 0.04 | 0.47 | 0.38 | 1.88 |
| BUSA-P-CD-202 | BUS-P-CD-202 | FDR | 0.04 | 0.47 | 0.38 | 1.88 |
| BUSA-P-CD-204 | BUS-P-CD-204 | FDR | 0.04 | 0.47 | 0.38 | 1.88 |
| BUSA-P-CD-207 | BUS-P-CD-207 | FDR | 0.12 | 1.43 | 1.17 | 5.71 |

BALANCED VOLTAGE DROP AND LOAD FLOW BRANCH DATA SUMMARY

| FROM NAME | TO NAME | TYPE | VD% | AMPS | KVA | RATING% |
|---|---|---|---|---|---|---|
| BUSA-P-CD-208 | BUS-P-CD-208 | FDR | 0.04 | 0.47 | 0.38 | 1.88 |
| BUSAP-CD-203-1 | BUS-P-CD-203-1 | FDR | 0.60 | 7.16 | 5.86 | 28.63 |
| BUSAP-CD-203-2 | BUS-P-CD-203-2 | FDR | 0.04 | 0.47 | 0.38 | 1.88 |
| BUSAP-CD-205 | BUS-P-CD-205 | FDR | 0.01 | 1.42 | 1.16 | 5.68 |
| BUSAP-CD-209 | BUS-P-CD-209 | FDR | 0.18 | 2.14 | 1.75 | 8.57 |

NOTE: FDR RATING% = % AMPS RATING BASED ON LIBRARY FLA OR BRANCH INPUT FLA
TX2 RATING% = % KVA RATING BASED ON TRANSFORMER FL KVA

28 BUSES

*** T O T A L  S Y S T E M  L O S S E S ***
1. KW 0. KVAR

## C.4 Crest Pad Buildings Electrical Panel Schedule

PANEL: SCH-LP-CD-2180 OC DEVICE TYPE: Breaker ENCLOSURE: NEMA 1 MAINS(A): BKR BUS RATING(A): 0
LOCATION: MOTOR CONTROL CENTER DEVICE FAMILY: Bolt On MOUNTING: Flush WIRING: 3-Phase 4-Wire WITHSTAND(A): 0
FED FROM: BUSLP-CD-1798 VOLTAGE: 208/120 FAULT CURRENT(A) 1168
Landfill Crest Pad Building Lighting Panel Mounted inside MCC

| OC AMPS | P | NOTES | DESCRIPTION | DEMAND CODE | VA | CKT | PHASE LOADS VA A | B | C | CKT | VA | DEMAND CODE | DESCRIPTION | NOTES | OC AMPS | P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | INTERIOR LIGHT | 1 Pole | LTS | 600 | 1 | 1600 | | | 2 | 1000 | GEN | 1 Pole | Air Conditioni | 0 | 1 |
| 0 | 1 | EXTERIOR LIGHT | 1 Pole | LTS | 700 | 3 | | 1700 | | 4 | 1000 | GEN | 1 Pole | Air Conditioni | 0 | 1 |
| 0 | 1 | CONTROL PANEL | 1 Pole | GEN | 1500 | 5 | | | 2500 | 6 | 1000 | GEN | 1 Pole | Air Conditioni | 0 | 1 |
| 0 | 1 | Fire Alarm Pan | 1 Pole | GEN | 500 | 7 | 500 | | | 8 | | | | | | |
| 0 | 1 | Voice Pager | 1 Pole | GEN | 700 | 9 | | 700 | | 10 | | | | | | |
| 0 | 1 | Building Recep | 1 Pole | REC | 400 | 11 | | | 400 | 12 | | | | | | |
| 0 | 1 | Receptacles | 1 Pole | REC | 400 | 13 | 400 | | | 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 | | | | | | |

| ALL CONNECTED | KVA | AMPS | • PHASE TOTALS | VA | AMPS | BUS TOTALS | KVA | |
|---|---|---|---|---|---|---|---|---|
| TOTAL CONNECTED | 7.80 | 21.7 | • A-N | 2500.0 | 20.8 | CONNECTED | 7.80 | DATE: Mar 18, 2002 |
| TOTAL DEMAND | 7.80 | 21.7 | • B-N | 2400.0 | 20.0 | DEMAND | 7.80 | TIME: 16:13:55 |
| TOTAL DESIGN | 8.13 | 22.6 | • C-N | 2900.0 | 24.1 | DESIGN | 8.12 | |

PANEL: SCH-LP-CD-2182 OC DEVICE TYPE: Breaker ENCLOSURE: NEMA 1 MAINS(A): BKR BUS RATING(A): 0
LOCATION: MOTOR CONTROL CENTER DEVICE FAMILY: Bolt On MOUNTING: Flush WIRING: 3-Phase 4-Wire WITHSTAND(A): 0
FED FROM: BUS-LP-CD-2182 VOLTAGE: 208/120 FAULT CURRENT(A) 1253
Landfill Crest Pad Building Lighting Panel Mounted inside MCC

| OC AMPS | P | NOTES | DESCRIPTION | DEMAND CODE | VA | CKT | PHASE LOADS VA A | B | C | CKT | VA | DEMAND CODE | DESCRIPTION | NOTES | OC AMPS | P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | INTERIOR LIGHT | 1 Pole | LTS | 600 | 1 | 1600 | | | 2 | 1000 | GEN | 1 Pole | Air Conditioni | 0 | 1 |
| 0 | 1 | EXTERIOR LIGHT | 1 Pole | LTS | 250 | 3 | | 1250 | | 4 | 1000 | GEN | 1 Pole | Air Conditioni | 0 | 1 |
| 0 | 1 | CONTROL PANEL | 1 Pole | GEN | 1500 | 5 | | | 2500 | 6 | 1000 | GEN | 1 Pole | Air Conditioni | 0 | 1 |
| 0 | 1 | Fire Alarm Pan | 1 Pole | GEN | 500 | 7 | 600 | | | 8 | 100 | GEN | 1 Pole | Building Spare | 0 | 1 |
| 0 | 1 | Voice Pager | 1 Pole | GEN | 700 | 9 | | 700 | | 10 | | | | | | |
| 0 | 1 | Building Recep | 1 Pole | REC | 400 | 11 | | | 400 | 12 | | | | | | |
| 0 | 1 | Receptacles | 1 Pole | REC | 400 | 13 | 400 | | | 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 | | | | | | |

| | KVA | AMPS | * PHASE TOTALS | VA | AMPS | BUS TOTALS | KVA | |
|---|---|---|---|---|---|---|---|---|
| ALL CONNECTED | | | | | | | | |
| TOTAL CONNECTED | 7.45 | 20.7 | * A-N | 2600.0 | 21.7 | CONNECTED | 7.45 | DATE: Mar 18, 2002 |
| TOTAL DEMAND | 7.45 | 20.7 | * B-N | 1950.0 | 16.2 | DEMAND | 7.45 | TIME: 16:13:55 |
| TOTAL DESIGN | 7.66 | 21.3 | * C-N | 2900.0 | 24.1 | DESIGN | 7.66 | |

# C.5 Crest Pad Buildings Electrical Short Circuit Analysis

Mar 20, 2002 10:54:42

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ALL INFORMATION PRESENTED IS FOR REVIEW, APPROVAL
INTERPRETATION AND APPLICATION BY A REGISTERED ENGINEER ONLY

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SKM POWER*TOOLS FOR WINDOWS
SHORT CIRCUIT ANALYSIS REPORT
COPYRIGHT SKM SYSTEMS ANALYSIS, INC. 1995-1996

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ALL PU VALUES ARE EXPRESSED ON A 100 MVA BASE

SWING GENERATORS

| SOURCE NAME | VOLTAGE | ANGLE |
|---|---|---|
| INEEL_SSSTF | 1.00 | 0.00 |

********** PRE-FAULT VOLTAGE PROFILE **********

| BUS# NAME | BASE VOLTS | PU VOLTS | ANGLE (D) |
|---|---|---|---|
| BUS-ADMIN | 480.00 | 1.0000 | 0. |
| BUS-LP-CD-2182 | 208.00 | 1.0000 | -30. |
| BUS-MCC-CD2179 | 480.00 | 1.0000 | 0. |
| BUS-MCC-CD2181 | 480.00 | 1.0000 | 0. |
| BUS-MHYDJEE496 | 480.00 | 1.0000 | 0. |
| BUS-P-CD-201 | 480.00 | 1.0000 | 0. |
| BUS-P-CD-202 | 480.00 | 1.0000 | 0. |
| BUS-P-CD-203-1 | 480.00 | 1.0000 | 0. |
| BUS-P-CD-203-2 | 480.00 | 1.0000 | 0. |
| BUS-P-CD-204 | 480.00 | 1.0000 | 0. |
| BUS-P-CD-205 | 480.00 | 1.0000 | 0. |
| BUS-P-CD-207 | 480.00 | 1.0000 | 0. |
| BUS-P-CD-208 | 480.00 | 1.0000 | 0. |
| BUS-P-CD-209 | 480.00 | 1.0000 | 0. |
| BUS-UH-CD-1798 | 480.00 | 1.0000 | 0. |
| BUS-UH-CD-1799 | 480.00 | 1.0000 | 0. |
| BUS-XFMRCD853 | 480.00 | 1.0000 | 0. |
| BUS-XFMRCD8552 | 480.00 | 1.0000 | 0. |
| BUSA-P-CD-201 | 480.00 | 1.0000 | 0. |
| BUSA-P-CD-202 | 480.00 | 1.0000 | 0. |
| BUSA-P-CD-204 | 480.00 | 1.0000 | 0. |
| BUSA-P-CD-207 | 480.00 | 1.0000 | 0. |
| BUSA-P-CD-208 | 480.00 | 1.0000 | 0. |
| BUSAP-CD-203-1 | 480.00 | 1.0000 | 0. |
| BUSAP-CD-203-2 | 480.00 | 1.0000 | 0. |
| BUSAP-CD-205 | 480.00 | 1.0000 | 0. |
| BUSAP-CD-209 | 480.00 | 1.0000 | 0. |
| BUSLP-CD-1798 | 208.00 | 1.0000 | -30. |

```
**************** F A U L T   A N A L Y S I S   R E P O R T ****************

            FAULT TYPE: 3PH
            MODEL INDUCTION MOTOR CONTRIBUTION: YES
            MODEL TRANSFORMER TAPS: YES
            MODEL TRANSFORMER PHASE SHIFT: YES
=====================================================================

 BUS-ADMIN      VOLTAGE BASE LL:                  480.0 (VOLTS)
                INI. SYM. RMS FAULT CURRENT:  39775.0 /  -83. ( AMPS/DEG )
                THEVENIN EQUIVALENT IMPEDANCE:    0.375 +j  3.001 (PU)
                THEVENIN IMPEDANCE X/R RATIO:     7.997

                 ASYM    RMS   INTERRUPTING AMPS
                1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                   54992.7     41456.0     40130.0     39790.4     39775.1

                INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                       AT TIME =     0.5 CYCLES
                ---PHASE A---       ---PHASE B---       ---PHASE C---
                0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

                INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                       AT TIME =     0.5 CYCLES
                ---PHASE A---       ---PHASE B---       ---PHASE C---
                39775.0 / -82.9    39775.0 / 157.1     39775.0 /  37.1

 BUS-ADMIN      ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                    FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                          ---PHASE A---      ---PHASE B---      ---PHASE C---
   BUS-MHYDJEE496    480.0  0.0096 / -35.  0.0096 /-155.  0.0096 /  85.
```

```
BUS-ADMIN      ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                   FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                             VBASE LL  -PHASE A-      -PHASE B-      -PHASE C-
 INEEL_SSSTF    BUS-ADMIN        480. 39692.8/ -83. 39692.8/ 157. 39692.8/  37.
 BUS-ADMIN      BUS-MHYDJEE496   480.    82.2/  99.    82.2/ -21.    82.2/-141.

 ---------------------------------------------------------------------------


 BUS-LP-CD-2182 VOLTAGE BASE LL:                    208.0 (VOLTS)
                INI. SYM. RMS FAULT CURRENT:    1157.8 /  -67. ( AMPS/DEG )
                THEVENIN EQUIVALENT IMPEDANCE:  191.406 +j 144.370 (PU)
                THEVENIN IMPEDANCE X/R RATIO:     0.754

                 ASYM    RMS   INTERRUPTING AMPS
                1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                    1158.0      1157.8      1157.8      1157.8      1157.8

                INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                       AT TIME =     0.5 CYCLES
                ---PHASE A---       ---PHASE B---       ---PHASE C---
                0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

                INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                       AT TIME =     0.5 CYCLES
                ---PHASE A---       ---PHASE B---       ---PHASE C---
                 1157.8 / -67.0     1157.8 / 173.0      1157.8 /  53.0

  BUS-LP-CD-2182 ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                   FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                        ---PHASE A---      ---PHASE B---      ---PHASE C---
    BUS-XFMRCD8552    480.0  0.7727 /   4.  0.7727 /-116.  0.7727 / 124.

BUS-LP-CD-2182 ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                   FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                             VBASE LL  -PHASE A-      -PHASE B-      -PHASE C-
 BUS-XFMRCD8552 BUS-LP-CD-2182   480.   501.7/ -37.   501.7/-157.   501.7/  83.

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```

```
BUS-MCC-CD2179 VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:   1526.6 /  -22. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:   73.267 +j  28.978 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.396

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                   1526.6      1526.6      1526.6      1526.6      1526.6

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
                1526.6 / -21.6     1526.6 /-141.6      1526.6 /  98.4

 BUS-MCC-CD2179 ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
  -                FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                        ---PHASE A---     ---PHASE B---     ---PHASE C---
   BUS-MHYDJEE496    480.0  0.8328 /  -8.  0.8328 /-128.  0.8328 / 112.
   BUSA-P-CD-201     480.0  0.0007 / -81.  0.0007 / 159.  0.0007 /  39.
   BUSA-P-CD-207     480.0  0.0020 / -81.  0.0020 / 159.  0.0020 /  39.
   BUS-XFMRCD853     480.0  0.0000 /   0.  0.0000 /   0.  0.0000 /   0.
   BUS-UH-CD-1798    480.0  0.0000 /   0.  0.0000 /   0.  0.0000 /   0.
   BUSA-P-CD-202     480.0  0.0007 / -81.  0.0007 / 159.  0.0007 /  39.
   BUSAP-CD-209      480.0  0.0028 / -81.  0.0028 / 159.  0.0028 /  39.

BUS-MCC-CD2179 ===== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                 FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                          VBASE LL  -PHASE A-     -PHASE B-     -PHASE C-
 BUS-MHYDJEE496 BUS-MCC-CD2179   480.  1514.6/ -21.  1514.6/-141.  1514.6/  99.
 BUS-MCC-CD2179 BUSA-P-CD-201    480.     2.8/  96.     2.8/ -24.     2.8/-144.
 BUS-MCC-CD2179 BUSA-P-CD-207    480.     8.4/  96.     8.4/ -24.     8.4/-144.
 BUS-MCC-CD2179 BUS-XFMRCD853    480.     0.0/   0.     0.0/   0.     0.0/   0.
```

```
BUS-MCC-CD2179 ======  FIRST BUS FROSYSTEM BRANCH FLOWS ( AMPS ) ========

 BUS-MCC-CD2179 BUS-UH-CD-1798   480.    0.0/   0.    0.0/   0.    0.0/   0.
 BUS-MCC-CD2179 BUSA-P-CD-202    480.    2.8/  96.    2.8/ -24.    2.8/-144.
 BUS-MCC-CD2179 BUSAP-CD-209     480.   11.9/  97.   11.9/ -23.   11.9/-143.

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 BUS-MCC-CD2181 VOLTAGE BASE LL:                480.0 (VOLTS)
                INI. SYM. RMS FAULT CURRENT:   2288.0 /  -26. ( AMPS/DEG )
                THEVENIN EQUIVALENT IMPEDANCE:  47.348 +j  22.843 (PU)
                THEVENIN IMPEDANCE X/R RATIO:    0.482

                 ASYM    RMS   INTERRUPTING AMPS
                1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                   2288.0      2288.0      2288.0      2288.0      2288.0

                INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                       AT TIME =     0.5 CYCLES
                ---PHASE A---       ---PHASE B---       ---PHASE C---
                0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

                INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                       AT TIME =     0.5 CYCLES
                ---PHASE A---       ---PHASE B---       ---PHASE C---
                 2288.0 / -25.8     2288.0 /-145.8      2288.0 /  94.2

 BUS-MCC-CD2181 ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                    FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                          ---PHASE A---     ---PHASE B---     ---PHASE C---
   BUS-MHYDJEE496    480.0  0.7429 / -12.  0.7429 /-132.  0.7429 / 108.
   BUSAP-CD-203-1    480.0  0.0096 / -79.  0.0096 / 161.  0.0096 /  41.
   BUSAP-CD-203-2    480.0  0.0007 / -81.  0.0007 / 159.  0.0007 /  39.
   BUSA-P-CD-204     480.0  0.0007 / -81.  0.0007 / 159.  0.0007 /  39.
   BUS-XFMRCD8552    480.0  0.0000 /   0.  0.0000 /   0.  0.0000 /   0.
   BUS-UH-CD-1799    480.0  0.0000 /   0.  0.0000 /   0.  0.0000 /   0.
   BUSA-P-CD-208     480.0  0.0007 / -81.  0.0007 / 159.  0.0007 /  39.
   BUSAP-CD-205      480.0  0.0020 / -81.  0.0020 / 159.  0.0020 /  39.
```

```
BUS-MCC-CD2181 ====== INI.   RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                    FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                              VBASE LL  -PHASE A-     -PHASE B-     -PHASE C-
 BUS-MHYDJEE496 BUS-MCC-CD2181   480.  2256.8/ -25.  2256.8/-145.  2256.8/  95.
 BUS-MCC-CD2181 BUSAP-CD-203-1   480.    40.5/  99.    40.5/ -21.    40.5/-141.
 BUS-MCC-CD2181 BUSAP-CD-203-2   480.     2.8/  96.     2.8/ -24.     2.8/-144.
 BUS-MCC-CD2181 BUSA-P-CD-204    480.     2.8/  96.     2.8/ -24.     2.8/-144.
 BUS-MCC-CD2181 BUS-XFMRCD8552   480.     0.0/   0.     0.0/   0.     0.0/   0.
 BUS-MCC-CD2181 BUS-UH-CD-1799   480.     0.0/   0.     0.0/   0.     0.0/   0.
 BUS-MCC-CD2181 BUSA-P-CD-208    480.     2.8/  96.     2.8/ -24.     2.8/-144.
 BUS-MCC-CD2181 BUSAP-CD-205     480.     8.4/  96.     8.4/ -24.     8.4/-144.

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 BUS-MHYDJEE496 VOLTAGE BASE LL:                480.0 (VOLTS)
                INI. SYM. RMS FAULT CURRENT:   7332.4 /  -53. ( AMPS/DEG )
                THEVENIN EQUIVALENT IMPEDANCE:    9.789 +j  13.163 (PU)
                THEVENIN IMPEDANCE X/R RATIO:     1.345

                 ASYM    RMS   INTERRUPTING AMPS
                1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                   7400.6      7332.4      7332.4      7332.4      7332.4

                INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                       AT TIME =     0.5 CYCLES
                ---PHASE A---       ---PHASE B---       ---PHASE C---
                0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

                INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                       AT TIME =     0.5 CYCLES
                ---PHASE A---       ---PHASE B---       ---PHASE C---
                 7332.4 / -53.4     7332.4 /-173.4      7332.4 /  66.6

 BUS-MHYDJEE496 ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                    FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                         ---PHASE A---      ---PHASE B---      ---PHASE C---
   BUS-ADMIN        480.0  0.8462 /  -6.  0.8462 /-126.  0.8462 / 114.
   BUS-MCC-CD2181   480.0  0.0188 / -68.  0.0188 / 172.  0.0188 /  52.
   BUS-MCC-CD2179   480.0  0.0142 / -70.  0.0142 / 170.  0.0142 /  50.
```

```
BUS-MHYDJEE496 ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                 FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                          VBASE LL  -PHASE A-      -PHASE B-      -PHASE C-
 BUS-ADMIN      BUS-MHYDJEE496   480.  7259.6/ -53.  7259.6/-173.  7259.6/  67.
 BUS-MHYDJEE496 BUS-MCC-CD2181   480.    57.0/  99.    57.0/ -21.    57.0/-141.
 BUS-MHYDJEE496 BUS-MCC-CD2179   480.    25.9/  97.    25.9/ -23.    25.9/-143.

 ---------------------------------------------------------------------------


  BUS-P-CD-201   VOLTAGE BASE LL:                  480.0 (VOLTS)
                 INI. SYM. RMS FAULT CURRENT:    532.0 /   -9. ( AMPS/DEG )
                 THEVENIN EQUIVALENT IMPEDANCE:  223.035 +j  37.165 (PU)
                 THEVENIN IMPEDANCE X/R RATIO:     0.167

                  ASYM    RMS   INTERRUPTING AMPS
                 1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                     532.0       532.0       532.0       532.0       532.0

                 INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                        AT TIME =     0.5 CYCLES
                 ---PHASE A---       ---PHASE B---       ---PHASE C---
                 0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

                 INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                        AT TIME =     0.5 CYCLES
                 ---PHASE A---       ---PHASE B---       ---PHASE C---
                   532.0 /  -9.5      532.0 /-129.5       532.0 / 110.5

  BUS-P-CD-201   ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) ======
                    FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                        ---PHASE A---      ---PHASE B---      ---PHASE C---
    BUSA-P-CD-201     480.0  0.5383 /  -6.  0.5383 /-126.  0.5383 / 114.

BUS-P-CD-201   ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                 FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                          VBASE LL  -PHASE A-      -PHASE B-      -PHASE C-
 MTRI-P-CD-201  BUS-P-CD-201     480.     2.8/ -84.     2.8/ 156.     2.8/  36.
 BUSA-P-CD-201  BUS-P-CD-201     480.   531.2/  -9.   531.2/-129.   531.2/ 111.

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```
BUS-P-CD-202   VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:    532.0 /   -9. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:  223.035 +j  37.165 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.167

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                   532.0       532.0       532.0       532.0       532.0

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---        ---PHASE B---        ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---        ---PHASE B---        ---PHASE C---
                 532.0 /  -9.5      532.0 /-129.5       532.0 / 110.5

BUS-P-CD-202   ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                         ---PHASE A---      ---PHASE B---      ---PHASE C---
  BUSA-P-CD-202     480.0  0.5383 /  -6.  0.5383 /-126.  0.5383 / 114.

BUS-P-CD-202   ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                           VBASE LL  -PHASE A-     -PHASE B-     -PHASE C-
MTRI-P-CD-202  BUS-P-CD-202     480.     2.8/ -84.     2.8/ 156.     2.8/  36.
BUSA-P-CD-202  BUS-P-CD-202     480.   531.2/  -9.   531.2/-129.   531.2/ 111.

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```

```
BUS-P-CD-203-1 VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:    611.2 /  -12. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:  192.356 +j  41.552 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.216

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                   611.2       611.2       611.2       611.2       611.2

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---        ---PHASE B---        ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---        ---PHASE B---        ---PHASE C---
                 611.2 / -12.2      611.2 /-132.2       611.2 / 107.8

 BUS-P-CD-203-1 ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                    FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                          ---PHASE A---      ---PHASE B---      ---PHASE C---
   BUSAP-CD-203-1    480.0  0.6079 /  -6.  0.6079 /-126.  0.6079 / 114.

BUS-P-CD-203-1 ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) =========
                    FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                              VBASE LL  -PHASE A-     -PHASE B-     -PHASE C-
 MTR P-CD-203-1 BUS-P-CD-203-1   480.    40.8/ -84.    40.8/ 156.    40.8/  36.
 BUSAP-CD-203-1 BUS-P-CD-203-1   480.   599.9/  -8.   599.9/-128.   599.9/ 112.

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```
BUS-P-CD-203-2 VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:    602.7 /   -9. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:  197.186 +j  30.855 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.156

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                   602.7       602.7       602.7       602.7       602.7

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---        ---PHASE B---        ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---        ---PHASE B---        ---PHASE C---
                 602.7 /  -8.9      602.7 /-128.9       602.7 / 111.1

 BUS-P-CD-203-2 ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                        ---PHASE A---      ---PHASE B---      ---PHASE C---
   BUSAP-CD-203-2    480.0  0.6100 /  -6.  0.6100 /-126.  0.6100 / 114.

BUS-P-CD-203-2 ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                          VBASE LL  -PHASE A-     -PHASE B-     -PHASE C-
 MTR P-CD-203-2 BUS-P-CD-203-2   480.     2.8/ -84.     2.8/ 156.     2.8/  36.
 BUSAP-CD-203-2 BUS-P-CD-203-2   480.   602.0/  -9.   602.0/-129.   602.0/ 111.

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BUS-P-CD-204   VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:    602.7 /   -9. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:  197.186 +j  30.855 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.156

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                   602.7       602.7       602.7       602.7       602.7

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
                 602.7 /  -8.9      602.7 /-128.9       602.7 / 111.1

BUS-P-CD-204   ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                         ---PHASE A---      ---PHASE B---      ---PHASE C---
  BUSA-P-CD-204     480.0  0.6100 /  -6.  0.6100 /-126.  0.6100 / 114.

BUS-P-CD-204   ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                           VBASE LL  -PHASE A-     -PHASE B-     -PHASE C-
MTR P-CD-204   BUS-P-CD-204     480.     2.8/ -84.     2.8/ 156.     2.8/  36.
BUSA-P-CD-204  BUS-P-CD-204     480.   602.0/  -9.   602.0/-129.   602.0/ 111.

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```
BUS-P-CD-205   VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:   1377.3 /  -17. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:   83.700 +j  24.927 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.298

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                  1377.3      1377.3      1377.3      1377.3      1377.3

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
                1377.3 / -16.6     1377.3 /-136.6      1377.3 / 103.4

BUS-P-CD-205   ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                        ---PHASE A---      ---PHASE B---      ---PHASE C---
  BUSAP-CD-205      480.0  0.0928 / -14.  0.0928 /-134.  0.0928 / 106.

BUS-P-CD-205   ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                          VBASE LL  -PHASE A-     -PHASE B-     -PHASE C-
MTRI-P-CD-205  BUS-P-CD-205     480.     8.4/ -84.     8.4/ 156.     8.4/  36.
BUSAP-CD-205   BUS-P-CD-205     480.  1374.1/ -16.  1374.1/-136.  1374.1/ 104.

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```
BUS-P-CD-207   VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:    533.0 /  -10. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:  222.242 +j  39.143 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.176

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                   533.0       533.0       533.0       533.0       533.0

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---        ---PHASE B---        ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---        ---PHASE B---        ---PHASE C---
                 533.0 / -10.0      533.0 /-130.0       533.0 / 110.0

BUS-P-CD-207   ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) ======
                  FIRST BUS FROM FAULT   AT TIME =     0.5 CYCLES
                        ---PHASE A---      ---PHASE B---      ---PHASE C---
  BUSA-P-CD-207     480.0  0.5379 /  -6.  0.5379 /-126.  0.5379 / 114.

BUS-P-CD-207   ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                          VBASE LL  -PHASE A-     -PHASE B-     -PHASE C-
MTRI-P-CD-207  BUS-P-CD-207    480.     8.4/ -84.     8.4/ 156.     8.4/  36.
BUSA-P-CD-207  BUS-P-CD-207    480.   530.8/  -9.   530.8/-129.   530.8/ 111.

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```
BUS-P-CD-208   VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:    602.7 /   -9. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:  197.186 +j  30.855 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.156

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                   602.7       602.7       602.7       602.7       602.7

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---        ---PHASE B---        ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---        ---PHASE B---        ---PHASE C---
                 602.7 /  -8.9      602.7 /-128.9       602.7 / 111.1

BUS-P-CD-208   ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                        ---PHASE A---      ---PHASE B---      ---PHASE C---
  BUSA-P-CD-208     480.0  0.6100 /  -6.  0.6100 /-126.  0.6100 / 114.

BUS-P-CD-208   ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                          VBASE LL  -PHASE A-      -PHASE B-      -PHASE C-
MTR P-CD-208   BUS-P-CD-208     480.     2.8/ -84.     2.8/ 156.     2.8/  36.
BUSA-P-CD-208  BUS-P-CD-208     480.   602.0/  -9.   602.0/-129.   602.0/ 111.

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```
BUS-P-CD-209   VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:    533.7 /  -10. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:  221.731 +j  40.369 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.182

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                   533.7       533.7       533.7       533.7       533.7

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---        ---PHASE B---        ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---        ---PHASE B---        ---PHASE C---
                 533.7 / -10.3      533.7 /-130.3       533.7 / 109.7

BUS-P-CD-209   ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) ======
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                        ---PHASE A---     ---PHASE B---     ---PHASE C---
  BUSAP-CD-209      480.0  0.5376 /  -6.  0.5376 /-126.  0.5376 / 114.

BUS-P-CD-209   ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                          VBASE LL  -PHASE A-     -PHASE B-     -PHASE C-
MTRI-P-CD-209  BUS-P-CD-209    480.    12.0/ -84.    12.0/ 156.    12.0/  36.
BUSAP-CD-209   BUS-P-CD-209    480.   530.5/  -9.   530.5/-129.   530.5/ 111.

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```
BUS-UH-CD-1798 VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:   1019.6 /  -15. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:  113.849 +j  30.914 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.272

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                   1019.6      1019.6      1019.6      1019.6      1019.6

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
                1019.6 / -15.2     1019.6 /-135.2      1019.6 / 104.8

 BUS-UH-CD-1798 ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                   FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                         ---PHASE A---      ---PHASE B---      ---PHASE C---
   BUS-MCC-CD2179    480.0  0.3444 / -12.  0.3444 /-132.  0.3444 / 108.

BUS-UH-CD-1798 ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                   FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                            VBASE LL  -PHASE A-     -PHASE B-     -PHASE C-
 BUS-MCC-CD2179 BUS-UH-CD-1798   480.  1019.6/ -15.  1019.6/-135.  1019.6/ 105.

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```
BUS-UH-CD-1799 VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:   2135.2 /  -24. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:   51.406 +j  23.036 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.448

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                  2135.2      2135.2      2135.2      2135.2      2135.2

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
                2135.2 / -24.1     2135.2 /-144.1      2135.2 /  95.9

 BUS-UH-CD-1799 ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                    FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                         ---PHASE A---      ---PHASE B---      ---PHASE C---
   BUS-MCC-CD2181    480.0  0.0721 / -21.  0.0721 /-141.  0.0721 /  99.

BUS-UH-CD-1799 ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                    FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                            VBASE LL  -PHASE A-      -PHASE B-      -PHASE C-
 BUS-MCC-CD2181 BUS-UH-CD-1799   480.  2135.2/ -24.  2135.2/-144.  2135.2/  96.

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BUS-XFMRCD853  VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:   1455.4 /  -21. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:   77.325 +j  29.172 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.377

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                   1455.4      1455.4      1455.4      1455.4      1455.4

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.   RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
                1455.4 / -20.7     1455.4 /-140.7      1455.4 /  99.3

BUS-XFMRCD853  ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                         ---PHASE A---      ---PHASE B---      ---PHASE C---
  BUS-MCC-CD2179    480.0  0.0492 / -18.  0.0492 /-138.  0.0492 / 102.
  BUSLP-CD-1798     208.0  0.0000 /   0.  0.0000 /   0.  0.0000 /   0.

BUS-XFMRCD853  ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) =========
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                         VBASE LL  -PHASE A-      -PHASE B-      -PHASE C-
BUS-MCC-CD2179 BUS-XFMRCD853    480.  1455.4/ -21.  1455.4/-141.  1455.4/  99.
BUS-XFMRCD853  BUSLP-CD-1798    480.     0.0/   0.     0.0/   0.     0.0/   0.

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BUS-XFMRCD8552 VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:   2135.2 /  -24. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:   51.406 +j  23.036 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.448

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                  2135.2      2135.2      2135.2      2135.2      2135.2

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
                2135.2 / -24.1     2135.2 /-144.1      2135.2 /  95.9

 BUS-XFMRCD8552 ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                   FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                         ---PHASE A---      ---PHASE B---      ---PHASE C---
   BUS-MCC-CD2181    480.0  0.0721 / -21.  0.0721 /-141.  0.0721 /  99.
   BUS-LP-CD-2182    208.0  0.0000 /   0.  0.0000 /   0.  0.0000 /   0.

BUS-XFMRCD8552 ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                   FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                          VBASE LL  -PHASE A-      -PHASE B-      -PHASE C-
 BUS-MCC-CD2181 BUS-XFMRCD8552   480.  2135.2/ -24.  2135.2/-144.  2135.2/  96.
 BUS-XFMRCD8552 BUS-LP-CD-2182   480.     0.0/   0.     0.0/   0.     0.0/   0.

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BUSA-P-CD-201  VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:   1133.8 /  -17. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:  101.618 +j  30.470 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.300

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                   1133.8      1133.8      1133.8      1133.8      1133.8

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---        ---PHASE B---        ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---        ---PHASE B---        ---PHASE C---
                1133.8 / -16.7     1133.8 /-136.7      1133.8 / 103.3

BUSA-P-CD-201  ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                   FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                          ---PHASE A---      ---PHASE B---      ---PHASE C---
  BUS-MCC-CD2179    480.0  0.2678 / -14.  0.2678 /-134.  0.2678 / 106.
  BUS-P-CD-201      480.0  0.0029 / -81.  0.0029 / 159.  0.0029 /  39.

BUSA-P-CD-201  ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                   FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                          VBASE LL  -PHASE A-      -PHASE B-      -PHASE C-
BUS-MCC-CD2179 BUSA-P-CD-201    480.  1132.7/ -17.  1132.7/-137.  1132.7/ 103.
BUSA-P-CD-201  BUS-P-CD-201     480.     2.8/  96.     2.8/ -24.     2.8/-144.

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BUSA-P-CD-202  VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:   1133.8 /  -17. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:  101.618 +j  30.470 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.300

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                  1133.8      1133.8      1133.8      1133.8      1133.8

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.   RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
                1133.8 / -16.7     1133.8 /-136.7      1133.8 / 103.3

 BUSA-P-CD-202  ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                   FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                         ---PHASE A---      ---PHASE B---      ---PHASE C---
   BUS-MCC-CD2179    480.0  0.2678 / -14.  0.2678 /-134.  0.2678 / 106.
   BUS-P-CD-202      480.0  0.0029 / -81.  0.0029 / 159.  0.0029 /  39.

BUSA-P-CD-202  ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                   FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                          VBASE LL  -PHASE A-      -PHASE B-      -PHASE C-
 BUS-MCC-CD2179 BUSA-P-CD-202    480.  1132.7/ -17.  1132.7/-137.  1132.7/ 103.
 BUSA-P-CD-202  BUS-P-CD-202     480.     2.8/  96.     2.8/ -24.     2.8/-144.

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BUSA-P-CD-204  VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:   1512.7 /  -18. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:   75.711 +j  24.301 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.321

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                  1512.7      1512.7      1512.7      1512.7      1512.7

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
                1512.7 / -17.8     1512.7 /-137.8      1512.7 / 102.2

 BUSA-P-CD-204  ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                    FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                         ---PHASE A---      ---PHASE B---      ---PHASE C---
   BUS-MCC-CD2181    480.0  0.3574 / -15.  0.3574 /-135.  0.3574 / 105.
   BUS-P-CD-204      480.0  0.0029 / -81.  0.0029 / 159.  0.0029 /  39.

BUSA-P-CD-204  ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                    FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                          VBASE LL  -PHASE A-     -PHASE B-     -PHASE C-
 BUS-MCC-CD2181 BUSA-P-CD-204    480.  1511.5/ -18.  1511.5/-138.  1511.5/ 102.
 BUSA-P-CD-204  BUS-P-CD-204     480.     2.8/  96.     2.8/ -24.     2.8/-144.

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```
BUSA-P-CD-207  VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:   1134.3 /  -17. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:  101.502 +j  30.686 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.302

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                   1134.3      1134.3      1134.3      1134.3      1134.3

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
                1134.3 / -16.8     1134.3 /-136.8      1134.3 / 103.2

BUSA-P-CD-207  ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) ======
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                        ---PHASE A---      ---PHASE B---      ---PHASE C---
  BUS-MCC-CD2179    480.0  0.2674 / -14.  0.2674 /-134.  0.2674 / 106.
  BUS-P-CD-207      480.0  0.0085 / -81.  0.0085 / 159.  0.0085 /  39.

BUSA-P-CD-207  ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) =========
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                          VBASE LL  -PHASE A-     -PHASE B-     -PHASE C-
BUS-MCC-CD2179 BUSA-P-CD-207    480.  1131.0/ -16.  1131.0/-136.  1131.0/ 104.
BUSA-P-CD-207  BUS-P-CD-207     480.     8.4/  96.     8.4/ -24.     8.4/-144.

-----------------------------------------------------------------------------
```

```
BUSA-P-CD-208  VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:   1512.7 /  -18. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:   75.711 +j  24.301 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.321

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                  1512.7      1512.7      1512.7      1512.7      1512.7

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
                1512.7 / -17.8     1512.7 /-137.8      1512.7 / 102.2

BUSA-P-CD-208  ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                         ---PHASE A---      ---PHASE B---      ---PHASE C---
  BUS-MCC-CD2181    480.0  0.3574 / -15.  0.3574 /-135.  0.3574 / 105.
  BUS-P-CD-208      480.0  0.0029 / -81.  0.0029 / 159.  0.0029 /  39.

BUSA-P-CD-208  ===== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) =========
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                         VBASE LL  -PHASE A-     -PHASE B-     -PHASE C-
BUS-MCC-CD2181 BUSA-P-CD-208   480.  1511.5/ -18.  1511.5/-138.  1511.5/ 102.
BUSA-P-CD-208  BUS-P-CD-208    480.     2.8/  96.     2.8/ -24.     2.8/-144.

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```
BUSAP-CD-203-1 VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:   1518.3 /  -19. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:   75.078 +j  25.288 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.337

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                   1518.3      1518.3      1518.3      1518.3      1518.3

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
                1518.3 / -18.6     1518.3 /-138.6      1518.3 / 101.4

BUSAP-CD-203-1 ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                   FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                         ---PHASE A---      ---PHASE B---      ---PHASE C---
   BUS-MCC-CD2181    480.0  0.3548 / -14.  0.3548 /-134.  0.3548 / 106.
   BUS-P-CD-203-1    480.0  0.0411 / -79.  0.0411 / 161.  0.0411 /  41.

BUSAP-CD-203-1 ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                   FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                         VBASE LL  -PHASE A-     -PHASE B-     -PHASE C-
BUS-MCC-CD2181 BUSAP-CD-203-1   480.  1500.5/ -17.  1500.5/-137.  1500.5/ 103.
BUSAP-CD-203-1 BUS-P-CD-203-1   480.    40.6/  98.    40.6/ -22.    40.6/-142.

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```
BUSAP-CD-203-2 VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:   1512.7 /  -18. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:   75.711 +j  24.301 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.321

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                   1512.7      1512.7      1512.7      1512.7      1512.7

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
                1512.7 / -17.8     1512.7 /-137.8      1512.7 / 102.2

 BUSAP-CD-203-2 ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                    FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                          ---PHASE A---      ---PHASE B---      ---PHASE C---
   BUS-MCC-CD2181    480.0  0.3574 / -15.  0.3574 /-135.  0.3574 / 105.
   BUS-P-CD-203-2    480.0  0.0029 / -81.  0.0029 / 159.  0.0029 /  39.

BUSAP-CD-203-2 ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                    FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                           VBASE LL  -PHASE A-     -PHASE B-     -PHASE C-
 BUS-MCC-CD2181 BUSAP-CD-203-2   480.  1511.5/ -18.  1511.5/-138.  1511.5/ 102.
 BUSAP-CD-203-2 BUS-P-CD-203-2   480.     2.8/  96.     2.8/ -24.     2.8/-144.

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BUSAP-CD-205   VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:   1513.4 /  -18. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:   75.625 +j  24.454 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.323

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                  1513.4      1513.4      1513.4      1513.4      1513.4

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---        ---PHASE B---        ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---        ---PHASE B---        ---PHASE C---
                1513.4 / -17.9     1513.4 /-137.9      1513.4 / 102.1

BUSAP-CD-205   ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                         ---PHASE A---      ---PHASE B---      ---PHASE C---
   BUS-MCC-CD2181    480.0  0.3570 / -15.  0.3570 /-135.  0.3570 / 105.
   BUS-P-CD-205      480.0  0.0006 / -82.  0.0006 / 158.  0.0006 /  38.

BUSAP-CD-205   ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                  FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                           VBASE LL  -PHASE A-      -PHASE B-      -PHASE C-
BUS-MCC-CD2181 BUSAP-CD-205     480.  1510.0/ -18.  1510.0/-138.  1510.0/ 102.
BUSAP-CD-205   BUS-P-CD-205     480.     8.4/  96.     8.4/ -24.     8.4/-144.

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```
BUSAP-CD-209   VOLTAGE BASE LL:                    480.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:   1134.6 /  -17. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:  101.428 +j  30.821 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.304

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                  1134.6      1134.6      1134.6      1134.6      1134.6

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
                1134.6 / -16.9     1134.6 /-136.9      1134.6 / 103.1

BUSAP-CD-209   ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                   FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                         ---PHASE A---     ---PHASE B---     ---PHASE C---
  BUS-MCC-CD2179    480.0  0.2672 / -14.  0.2672 /-134.  0.2672 / 106.
  BUS-P-CD-209      480.0  0.0121 / -81.  0.0121 / 159.  0.0121 /  39.

BUSAP-CD-209   ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) =========
                   FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                         VBASE LL  -PHASE A-     -PHASE B-     -PHASE C-
BUS-MCC-CD2179 BUSAP-CD-209    480.  1130.0/ -16.  1130.0/-136.  1130.0/ 104.
BUSAP-CD-209   BUS-P-CD-209    480.    11.9/  96.    11.9/ -24.    11.9/-144.

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BUSLP-CD-1798  VOLTAGE BASE LL:                    208.0 (VOLTS)
               INI. SYM. RMS FAULT CURRENT:   1050.0 /  -65. ( AMPS/DEG )
               THEVENIN EQUIVALENT IMPEDANCE:  217.325 +j 150.505 (PU)
               THEVENIN IMPEDANCE X/R RATIO:     0.693

                ASYM    RMS   INTERRUPTING AMPS
               1/2 CYCLES    2 CYCLES    3 CYCLES    5 CYCLES    8 CYCLES
                   1050.1      1050.0      1050.0      1050.0      1050.0

               INI. SYM. RMS FAULTED BUS VOLTAGES ( PU / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
               0.0000 /    0.0     0.0000 /    0.0     0.0000 /    0.0

               INI.    RMS   FAULTED CURRENT ( AMPS / DEG )
                      AT TIME =     0.5 CYCLES
               ---PHASE A---       ---PHASE B---       ---PHASE C---
                1050.0 / -64.7     1050.0 / 175.3      1050.0 /  55.3

BUSLP-CD-1798  ==== INI. SYM. RMS SYSTEM BUS VOLTAGES ( PU / DEG ) =======
                   FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                         ---PHASE A---      ---PHASE B---      ---PHASE C---
   BUS-XFMRCD853     480.0  0.7008 /   6.  0.7008 /-114.  0.7008 / 126.

BUSLP-CD-1798  ====== INI.    RMS   SYSTEM BRANCH FLOWS ( AMPS ) ========
                   FIRST BUS FROM FAULT    AT TIME =     0.5 CYCLES
                            VBASE LL  -PHASE A-     -PHASE B-     -PHASE C-
BUS-XFMRCD853  BUSLP-CD-1798    480.   455.0/ -35.   455.0/-155.   455.0/  85.

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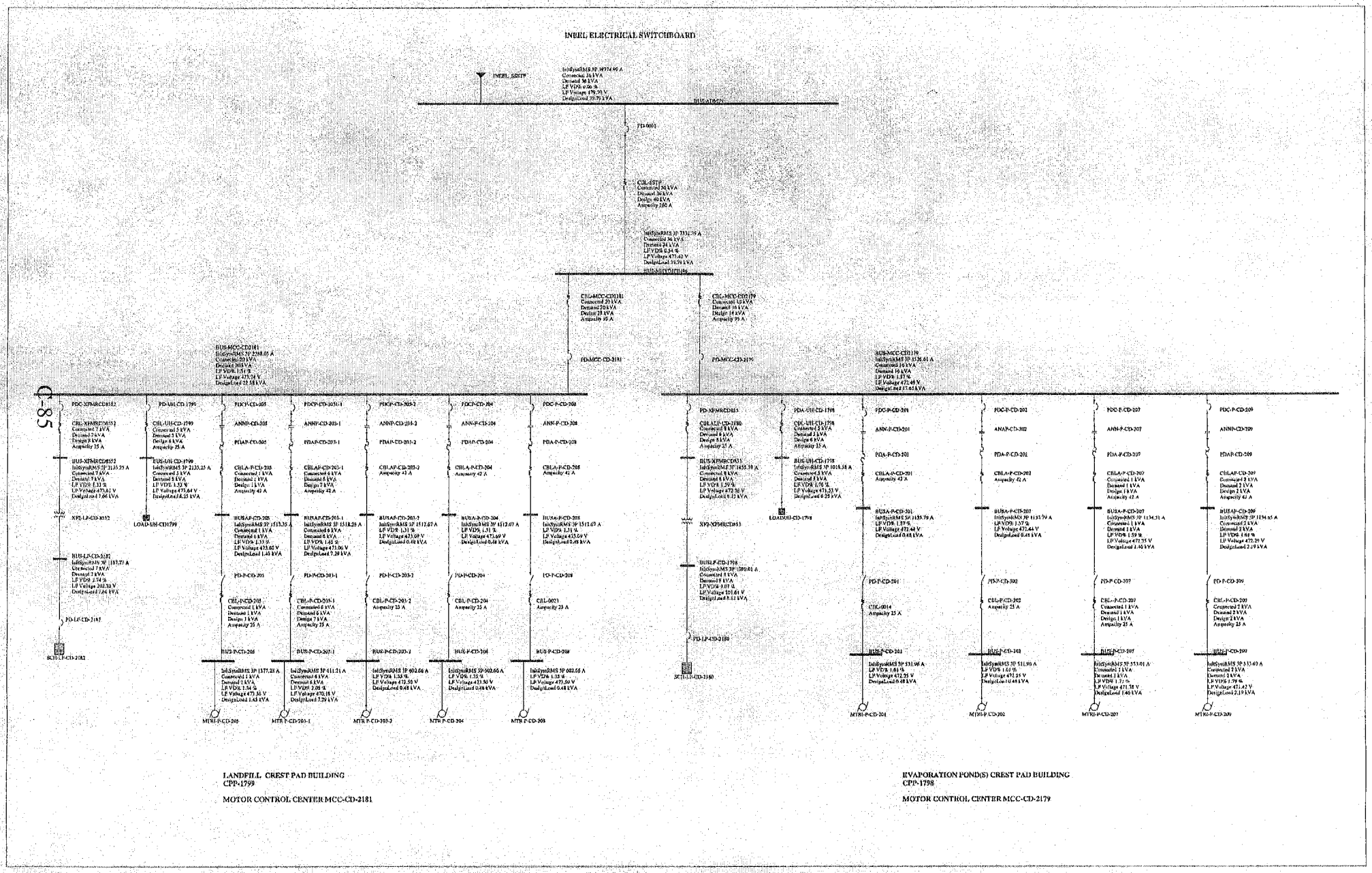
********** F A U L T A N A L Y S I S S U M M A R Y **********

| BUS NAME | VOLTAGE L-L | AVAILABLE FAULT CURRENT 3 PHASE | X/R | LINE/GRND | X/R |
|---|---|---|---|---|---|
| BUS-ADMIN | 480. | 39775.0 | 8.0 | | |
| BUS-LP-CD-2182 | 208. | 1157.8 | 0.8 | | |
| BUS-MCC-CD2179 | 480. | 1526.6 | 0.4 | | |
| BUS-MCC-CD2181 | 480. | 2288.0 | 0.5 | | |
| BUS-MHYDJEE496 | 480. | 7332.4 | 1.3 | | |
| BUS-P-CD-201 | 480. | 532.0 | 0.2 | | |
| BUS-P-CD-202 | 480. | 532.0 | 0.2 | | |
| BUS-P-CD-203-1 | 480. | 611.2 | 0.2 | | |
| BUS-P-CD-203-2 | 480. | 602.7 | 0.2 | | |
| BUS-P-CD-204 | 480. | 602.7 | 0.2 | | |
| BUS-P-CD-205 | 480. | 1377.3 | 0.3 | | |
| BUS-P-CD-207 | 480. | 533.0 | 0.2 | | |
| BUS-P-CD-208 | 480. | 602.7 | 0.2 | | |
| BUS-P-CD-209 | 480. | 533.7 | 0.2 | | |
| BUS-UH-CD-1798 | 480. | 1019.6 | 0.3 | | |
| BUS-UH-CD-1799 | 480. | 2135.2 | 0.4 | | |
| BUS-XFMRCD853 | 480. | 1455.4 | 0.4 | | |
| BUS-XFMRCD8552 | 480. | 2135.2 | 0.4 | | |
| BUSA-P-CD-201 | 480. | 1133.8 | 0.3 | | |
| BUSA-P-CD-202 | 480. | 1133.8 | 0.3 | | |
| BUSA-P-CD-204 | 480. | 1512.7 | 0.3 | | |
| BUSA-P-CD-207 | 480. | 1134.3 | 0.3 | | |
| BUSA-P-CD-208 | 480. | 1512.7 | 0.3 | | |
| BUSAP-CD-203-1 | 480. | 1518.3 | 0.3 | | |
| BUSAP-CD-203-2 | 480. | 1512.7 | 0.3 | | |
| BUSAP-CD-205 | 480. | 1513.4 | 0.3 | | |
| BUSAP-CD-209 | 480. | 1134.6 | 0.3 | | |
| BUSLP-CD-1798 | 208. | 1050.0 | 0.7 | | |

********** FAULT ANALYSIS REPORT COMPLETED **********

## C.6 Crest Pad Buildings Electrical Load Analysis One-Line




LANDFILL CREST PAD BUILDING
CPP-1799

MOTOR CONTROL CENTER MCC-CD-2181

EVAPORATION POND(S) CREST PAD BUILDING
CPP-1798

MOTOR CONTROL CENTER MCC-CD-2179

# C.7 Crest Pad Buildings Lighting Analysis

**LitePro 1.071 Point-By-Point Results** Mar 14, 2002

ROJECT: CREST PAD BUILDING/I GROUP: CREST PAD BLDG(S) AREA: CPP-1798 GRID: CDD-1798 (Ceil. peak runs N-S)
REPARED BY: LAWRENCE G FOX
'AJ ''S ARE FC, SCALE: 1 IN= 3.0FT, HORZ GRID (U/N), HORZ CALC, Z= 2.5 to 2.5
O. EFLECTANCES: 80 / 50 / 20
omputed in accordance with IES recommendations

**tatistics**

| GROUP | MIN | MAX | AVE | AVE/MIN | MAX/MIN |
|---|---|---|---|---|---|
| + | 15.4 | 36.3 | 29.1 | 1.89 | 2.35 |

Y-AXIS

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15.50 | 24.3 | 26.5 | 27.5 | 28.3 | 28.8 | 29.1 | 29.3 | 29.4 | 29.5 | 29.5 | 29.3 | 29.4 | 29.3 | 29.7 | 29.6 | 29.4 | 28.9 | 28.0 | 26.8 | 25.7 | 23.5 |
| 14.50 | 27.4 | 30.0 | 31.3 | 32.1 | 32.5 | 32.7 | 32.8 | 33.0 | 33.1 | 33.2 | 33.0 | 33.0 | 32.8 | 32.9 | 33.2 | 32.9 | 32.6 | 31.2 | 30.4 | 29.1 | 26.3 |
| 13.50 | 29.2 | 32.2 | 33.5 | 34.5 | 34.8 | 34.9 | 35.0 | 35.1 | 35.3 | 35.4 | 35.2 | 35.2 | 34.8 | 34.3 | 35.3 | 35.1 | 34.2 | 33.3 | 32.3 | 30.9 | 27.8 |
| | | | 1 | | | | | | | | 1 | | | | | | | | 1 | | |
| 12.50 | 30.1 | 33.1 | 34.5 | 35.4 | 35.8 | 35.9 | 35.9 | 36.0 | 36.2 | 36.3 | 36.0 | 35.9 | 35.4 | 34.7 | 36.2 | 36.0 | 34.3 | 33.5 | 32.7 | 31.4 | 28.5 |
| 11.50 | 30.0 | 32.8 | 34.2 | 35.1 | 35.6 | 35.7 | 35.8 | 35.9 | 35.9 | 35.8 | 35.4 | 35.1 | 34.8 | 33.7 | 33.2 | 33.4 | 32.5 | 32.3 | 31.9 | 30.7 | 28.1 |
| 10.50 | 29.1 | 31.8 | 33.0 | 34.0 | 34.6 | 34.9 | 35.0 | 35.0 | 34.9 | 33.6 | 32.7 | 31.9 | 30.7 | 28.6 | 20.1 | 20.5 | 25.4 | 28.3 | 28.6 | 28.1 | 26.1 |
| 9.50 | 27.9 | 30.3 | 31.5 | 32.5 | 33.0 | 33.4 | 33.5 | 33.2 | 32.8 | 32.1 | 31.1 | 30.2 | 27.2 | 22.7 | 19.2 | 19.3 | 22.2 | 24.8 | 25.6 | 26.1 | 24.1 |
| | 27.1 | 29.5 | 30.6 | 31.6 | 32.2 | 32.7 | 32.8 | 32.5 | 31.9 | 31.1 | 29.0 | 27.8 | 25.0 | 21.9 | 18.8 | 18.6 | 21.3 | 22.7 | 23.7 | 24.1 | 22.4 |
| 7.50 | 27.1 | 29.5 | 30.6 | 31.6 | 32.2 | 32.6 | 32.6 | 32.3 | 31.2 | 30.2 | 28.8 | 26.8 | 24.9 | 21.8 | 18.6 | 18.5 | 21.1 | 22.5 | 23.5 | 23.3 | 22.2 |
| 6.50 | 27.8 | 30.2 | 31.4 | 32.3 | 32.9 | 33.1 | 32.8 | 32.4 | 31.7 | 30.8 | 28.8 | 27.4 | 25.4 | 22.2 | 18.9 | 18.9 | 21.7 | 23.2 | 24.2 | 24.0 | 22.3 |
| 5.50 | 28.8 | 31.4 | 32.6 | 33.5 | 33.7 | 33.8 | 33.7 | 33.3 | 32.8 | 31.4 | 30.0 | 28.5 | 26.3 | 22.8 | 19.2 | 19.6 | 22.6 | 24.3 | 25.4 | 25.2 | 23.3 |
| 4.50 | 29.6 | 32.4 | 33.5 | 34.4 | 34.6 | 34.6 | 34.3 | 34.0 | 33.3 | 32.4 | 31.0 | 29.3 | 27.0 | 23.3 | 19.5 | 20.2 | 23.4 | 25.4 | 26.5 | 26.2 | 24.1 |
| 3.50 | 29.5 | 32.5 | 33.1 | 34.6 | 34.8 | 34.6 | 34.4 | 33.9 | 33.5 | 32.7 | 31.2 | 29.6 | 27.1 | 23.3 | 19.4 | 20.3 | 23.7 | 25.7 | 26.9 | 26.6 | 24.4 |
| 2.50 | 28.6 | 31.6 | 32.9 | 33.7 | 33.8 | 33.6 | 33.2 | 32.9 | 32.5 | 31.8 | 30.4 | 28.8 | 26.3 | 22.5 | 18.7 | 19.5 | 22.9 | 25.0 | 26.2 | 25.9 | 23.7 |
| 1.50 | 26.7 | 29.4 | 30.6 | 31.3 | 31.4 | 31.3 | 31.1 | 30.9 | 30.5 | 29.7 | 28.4 | 26.8 | 24.4 | 20.9 | 17.5 | 17.9 | 21.0 | 23.2 | 24.4 | 24.1 | 22.2 |
| 0.50 | 23.7 | 25.8 | 26.8 | 27.4 | 27.7 | 27.8 | 27.6 | 27.4 | 26.9 | 26.2 | 25.1 | 24.0 | 22.1 | 19.1 | 15.4 | 15.4 | 18.4 | 20.5 | 21.3 | 21.1 | 19.5 |

0.50 1.50 2.50 3.50 4.50 5.50 6.50 7.50 8.50 9.50 10.50 11.50 12.50 13.50 14.50 15.50 16.50 17.50 18.50 19.50 20.50

X-AXIS

*Page 1*

**LitePro 1.071 Point-By-Point Results** Mar 14, 2002

'ROJECT: CREST PAD BUILDING/I GROUP: CREST PAD BLDG(S) AREA: CPP-1799 GRID: CPP-1799 (Ceil. peak runs N-S)
'REPARED BY: LAWRENCE G FOX
/ALUES ARE FC, SCALE: 1 IN= 3.0FT, HORZ GRID (U/N), HORZ CALC, Z= 2.5 to 2.5
ROOM REFLECTANCES: 80 / 50 / 20
Computed in accordance with IES recommendations

**Statistics**

| GROUP | MIN | MAX | AVE | AVE/MIN | MAX/MIN |
|---|---|---|---|---|---|
| + | 15.3 | 36.1 | 29.0 | 1.89 | 2.36 |

**Luminaires Used**

| TYPE | QTY | TEST# | DESCRIPTION |
|---|---|---|---|
| 1 | 6 | 11205 | COLUMBIA, LUN4-240-LE, LUN<br>2-LAMP ENCLOSED & GASKETED, W/CLEAR STIPPLED WRAP LENS<br>LAMPS: ( 2) F40/T12, 3200 LUMENS, BLST: LE, LLF = 0.69 @9.00 |

Y-AXIS

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15.50 | 24.2 | 26.4 | 27.4 | 28.2 | 28.7 | 29.0 | 29.2 | 29.3 | 29.3 | 29.3 | 29.2 | 29.3 | 29.2 | 29.7 | 29.5 | 29.3 | 28.8 | 27.9 | 26.7 | 25.6 | 23.4 |
| 14.50 | 27.3 | 29.9 | 31.2 | 32.0 | 32.4 | 32.6 | 32.7 | 32.9 | 33.0 | 33.1 | 32.9 | 32.9 | 32.7 | 33.0 | 33.0 | 32.8 | 32.5 | 31.1 | 30.3 | 29.0 | 26.3 |
| 13.50 | 29.1 | 32.1 | 33.4 | 34.4 | 34.7 | 34.8 | 34.8 | 35.0 | 35.2 | 35.3 | 35.1 | 35.0 | 34.7 | 34.2 | 35.2 | 35.0 | 34.2 | 33.2 | 32.2 | 30.7 | 27.7 |
| 12.50 | 30.0 | 33.0 | 34.4 | 35.3 | 35.7 | 35.8 | 35.8 | 35.9 | 36.1 | 36.1 | 35.8 | 35.7 | 35.3 | 34.7 | 36.1 | 35.9 | 34.2 | 33.4 | 32.5 | 31.2 | 28.3 |
| 11.50 | 29.9 | 32.7 | 34.1 | 35.0 | 35.4 | 35.6 | 35.6 | 35.7 | 35.8 | 35.6 | 35.3 | 35.1 | 34.6 | 33.6 | 33.4 | 33.4 | 32.4 | 32.2 | 31.8 | 30.6 | 27.9 |
| 10.50 | 29.0 | 31.7 | 32.9 | 33.9 | 34.5 | 34.7 | 34.8 | 34.8 | 34.7 | 34.4 | 33.8 | 31.8 | 30.5 | 28.5 | 20.1 | 20.5 | 27.1 | 28.2 | 28.6 | 28.0 | 26.6 |
| 9.50 | 27.9 | 30.4 | 31.6 | 32.4 | 33.0 | 33.3 | 33.3 | 33.1 | 32.6 | 31.9 | 30.9 | 30.0 | 27.0 | 22.5 | 19.1 | 19.2 | 22.0 | 24.7 | 25.3 | 25.9 | 23.9 |
| 8.50 | 27.0 | 29.4 | 30.5 | 31.5 | 32.1 | 32.5 | 32.6 | 32.4 | 31.8 | 30.9 | 28.8 | 27.6 | 24.9 | 21.8 | 18.7 | 18.4 | 21.1 | 22.5 | 23.5 | 23.9 | 22.2 |
| 7.50 | 27.0 | 29.3 | 30.5 | 31.5 | 32.1 | 32.5 | 32.5 | 32.2 | 31.0 | 30.0 | 28.6 | 26.7 | 24.7 | 21.7 | 18.5 | 18.4 | 20.9 | 22.3 | 23.3 | 23.1 | 22.0 |
| 6.50 | 27.7 | 30.1 | 31.3 | 32.2 | 32.8 | 33.0 | 33.0 | 32.3 | 31.6 | 30.6 | 28.7 | 27.2 | 25.2 | 22.0 | 18.7 | 18.8 | 21.5 | 23.0 | 24.0 | 23.8 | 22.1 |
| 5.50 | 28.7 | 31.3 | 32.6 | 33.4 | 33.8 | 33.7 | 33.5 | 33.2 | 32.6 | 31.3 | 29.8 | 28.3 | 26.1 | 22.6 | 19.1 | 19.5 | 22.5 | 24.1 | 26.1 | 24.9 | 23.1 |
| 4.50 | 29.5 | 32.3 | 33.6 | 34.3 | 34.5 | 34.5 | 34.2 | 33.9 | 33.2 | 32.3 | 30.8 | 29.1 | 26.8 | 23.1 | 19.4 | 20.1 | 23.2 | 25.1 | 26.2 | 25.9 | 23.9 |
| 3.50 | 29.5 | 32.4 | 33.1 | 34.5 | 34.7 | 34.5 | 34.2 | 33.8 | 33.3 | 32.5 | 31.1 | 29.4 | 26.9 | 23.1 | 19.3 | 20.1 | 23.4 | 25.5 | 26.6 | 26.3 | 24.2 |
| 2.50 | 28.5 | 31.5 | 32.8 | 33.6 | 33.7 | 33.5 | 33.1 | 32.8 | 32.4 | 31.6 | 30.2 | 28.6 | 26.1 | 22.3 | 18.6 | 19.4 | 22.7 | 24.7 | 25.9 | 25.7 | 23.5 |
| 1.50 | 26.6 | 29.3 | 30.5 | 31.2 | 31.4 | 31.3 | 31.0 | 30.8 | 30.3 | 29.6 | 28.2 | 26.6 | 24.3 | 20.8 | 17.4 | 17.8 | 20.8 | 23.0 | 24.1 | 23.9 | 21.9 |
| 0.50 | 23.6 | 25.7 | 26.7 | 27.4 | 27.6 | 27.7 | 27.5 | 27.3 | 26.8 | 26.0 | 24.9 | 23.8 | 21.9 | 19.0 | 15.4 | 15.3 | 18.2 | 20.3 | 21.1 | 20.8 | 19.3 |

0.50 1.50 2.50 3.50 4.50 5.50 6.50 7.50 8.50 9.50 10.50 11.50 12.50 13.50 14.50 15.50 16.50 17.50 18.50 19.50 20.50

X-AXIS

*Page 1*

# C.8 Crest Pad Buildings Generator Sizing Analysis

Standby Generator Sizing

# Evaporation Crest Pad Building

**Evaporation Pond Crest Pad Building CD-1798**

**Generator Set Requirements:**

| | | | |
|---|---|---|---|
| GenSets in parallel (step load requirements calculated on a per-genset basis): | 1 | Duty: | Standby |
| Max Starting Voltage Dip, %: | 35 | Fuel: | Gasoline |
| Max Running Surge Voltage Dip, %: | 35 | 3 Phase | |
| Max Frequency Dip, %: | 10 | Frequency, Hz: | 60 |
| Site Altitude, ft (m): | 5,000 (1,524) | Voltage: | 277/480, Series Wye |
| Site Ambient Temperature, °F (°C): | 104 (40) | | |

**Load Running and Surge Requirements:**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| RkW: | 19 | Max SkW: | 15 | In step 1 | Max SkW Req: | 29 | GkW: | 19 |
| RkVA: | 21 | Max SkVA: | 27 | In step 3 | Max SkVA Req: | 44 | | |
| RPF: | 0.89 | RSkW: | 10 | | RSkW Req: | 33 | | |
| | | RSkVA: | 10 | | RSkVA Req: | 54 | | |

| | | | | | |
|---|---|---|---|---|---|
| **Model:** | 35EK | Engine Model: | CSG-649I | Engine Displacement, cu in: | 300 |
| Running at: | 55% Rated Load | | | Engine cylinders: | 6 |

| | | | | | |
|---|---|---|---|---|---|
| **Recommended by Onan** | | Alternator: | UR0300 | | |
| Fuel: | Gasoline | Feature Code: | B256 | Number Leads: | 12 |
| Temperature Rise at full rated load, °C: | 105 | Reconnectable | | | |
| Excitation: | Shunt | | | | |
| Voltage Range: | 208-240/416-480 BR | | | | |

| | | | |
|---|---|---|---|
| Starting Voltage Dip, %: | 7 | Max Starting Voltage Dip, %: | 35 |
| Running Surge Voltage Dip, %: | 4 | Max Running Surge Voltage Dip, %: | 35 |
| Frequency Dip, %: | 2 | Max Frequency Dip, %: | 10 |
| Site Rated Standby kW: | 34 | Load RkW: | 19 |
| Site Rated Alternator Max kW at 105°C and 480 volts: | 34 | Load GkW: | 19 |
| Site Rated Alternator Max kVA at 105°C and 480 volts: | 42 | Load RkVA: | 21 |
| Site Rated Max SkW: | 47 | Reduced Load RSkW Requirement: | 30 |
| Max SkVA: | 115 | Reduced Load RSkVA Requirement: | 54 |

# Landfill Crest Pad Building

## Landfill Crest Pad Building CP-1799

**Generator Set Requirements:**

| | | | |
|---|---|---|---|
| GenSets in parallel (step load requirements calculated on a per-genset basis): | 1 | Duty: | Standby |
| Max Starting Voltage Dip, %: | 35 | Fuel: | Gasoline |
| Max Running Surge Voltage Dip, %: | 35 | 3 Phase | |
| Max Frequency Dip, %: | 10 | Frequency, Hz: | 60 |
| Site Altitude, ft (m): | 5,000 (1,524) | Voltage: | 277/480, Series Wye |
| Site Ambient Temperature, °F (°C): | 104 (40) | | |

**Load Running and Surge Requirements:**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| RkW: | 18 | Max SkW: | 15 | In step 1 | Max SkW Req: | 28 | GkW: | 18 |
| RkVA: | 21 | Max SkVA: | 38 | In step 2 | Max SkVA Req: | 50 | | |
| RPF: | 0.85 | RSkW: | 5 | | RSkW Req: | 42 | | |
| | | RSkVA: | 5 | | RSkVA Req: | 87 | | |

| | | | | | |
|---|---|---|---|---|---|
| Model: | 35EK | Engine Model: | CSG-649I | Engine Displacement, cu in: | 300 |
| Running at: | 52% Rated Load | | | Engine cylinders: | 6 |

| | | | | | |
|---|---|---|---|---|---|
| Recommended by Onan | | Alternator: | UR0300 | | |
| Fuel: | Gasoline | Feature Code: | B256 | Number Leads: | 12 |
| Temperature Rise at full rated load, °C: | 105 | Reconnectable | | | |
| Excitation: | Shunt | | | | |
| Voltage Range: | 208-240/416-480 BR | | | | |

| | | | |
|---|---|---|---|
| Starting Voltage Dip, %: | 9 | Max Starting Voltage Dip, %: | 35 |
| Running Surge Voltage Dip, %: | 2 | Max Running Surge Voltage Dip, %: | 35 |
| Frequency Dip, %: | 2 | Max Frequency Dip, %: | 10 |
| Site Rated Standby kW: | 34 | Load RkW: | 18 |
| Site Rated Alternator Max kW at 105°C and 480 volts: | 34 | Load GkW: | 18 |
| Site Rated Alternator Max kVA at 105°C and 480 volts: | 42 | Load RkVA: | 21 |
| Site Rated Max SkW: | 47 | Reduced Load RSkW Requirement: | 34 |
| Max SkVA: | 115 | Reduced Load RSkVA Requirement: | 76 |