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Vice President

June 14, 2002

U. S. Nuclear Regulatory Commission
Document Control Desk
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Subject: **Docket No. 50-361**
**Special Report: Inservice Inspection of Steam Generator Tubes, Cycle 12**
**San Onofre Nuclear Generating Station, Unit 2**

Gentlemen:

On June 2, 2002, Southern California Edison (SCE) completed the inservice inspection of steam generator tubes at San Onofre Nuclear Generating Station Unit 2. Technical Specification (TS) 5.7.2.c requires SCE to:

- Report the number of tubes plugged and tubes sleeved in each steam generator within 15 days of completing the inspection.
- Report the results of the steam generator tube inspections which fall into Category C-3 prior to resumption of plant operation. This report is required to include a description of the investigations conducted to determine the cause of the tube degradation and corrective measures taken to prevent recurrence.
- Report the complete results of steam generator tube inspections within 12 months of inspection completion.

The attachment to this letter, "Special Report – Inservice Inspection of Steam Generator Tubes," satisfies these requirements. This report also follows the guidance contained in NEI 97-06, Rev. 1, "Steam Generator Program Guidelines," dated January 2001 and contains no new commitments.

If you require any additional information, please advise.

Sincerely,

Attachments:

cc: E. W. Merschoff, Regional Administrator, NRC Region IV
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# SPECIAL REPORT - INSERVICE INSPECTION OF STEAM GENERATOR TUBES

## Regulatory Reporting Requirements

Reporting Requirement 5.7.2.c of Appendix A, Technical Specification to Facility Operating License NPF-10, requires the number of tubes plugged and tubes sleeved in each steam generator to be reported the Nuclear Regulatory Commission within 15 days following completion of the inspection.

Reporting Requirement 5.7.2.c of Appendix A, Technical Specification to Facility Operating License NPF-10, requires the results of steam generator tube inspections which fall into Category C-3 to be reported the Nuclear Regulatory Commission prior to resumption of plant operation.

Reporting Requirement 5.7.2.c of Appendix A, Technical Specification to Facility Operating License NPF-10, requires the complete results of steam generator tube inspections to be reported the Nuclear Regulatory Commission within 12 months following completion of the inspection.

## Planned Inspection Scope

Table 1 summarizes the planned inspection program. Also, when indications by the bobbin probe were non-quantifiable or distorted, the inspection program included inspection with the Plus-Point Probe. Table 2 provides the list of Nondestructive Examination (NDE) techniques utilized for each degradation mechanism.

There were no significant inspection program scope expansions in response to inspection results.

## Results

This report satisfies the listed regulatory reporting requirements.

The contents of this report were prepared using the guidance contained in NEI 97-06, Rev. 1, "Steam Generator Program Guidelines." The NEI guidance is an initiative to unify the industry approach towards steam generator issues and strengthen, where necessary, the steam generator program.

Table 3 summarizes the number of tubes repaired and active degradation mechanisms found. Each tube is only counted once in this listing, although it may also have an eddy current indication of a type below the point in the listing where it appears. The Appendices provide the complete results of the steam generator tubing inservice inspection.

Table 4 summarizes in-situ pressure and leak testing results. This particular testing demonstrated the structural and leakage (i.e., there was no leakage) integrity of the tested tubes consistent with EPRI guidelines. Eddy current testing results and in-situ pressure and leak testing results (Condition Monitoring) provide assurance that performance criteria in the NEI guidance (structural integrity and accident-induced leakage) were met during operation prior to this inspection.

**Repair of Tubes**

Table 5 provides an itemized listing of the tubes plugged in steam generator E-088 along with the corresponding Table 3 category specifying the indication orientation/location.

Table 6 provides an itemized listing of the tubes sleeved in steam generator E-088 along with the corresponding Table 3 category specifying the indication orientation/location.

Table 7 provides an itemized listing of tubes plugged in steam generator E-089 along with the corresponding Table 3 category specifying the indication orientation/location.

Table 8 provides an itemized listing of the tubes sleeved in steam generator E-089 along with the corresponding Table 3 category specifying the indication orientation/location.

**Repair Methods, Number of Tubes Repaired and Effective Plugging Percentage**

All tube plugging was performed using the design, materials, and installation methods of FRAMATOME ANP (FANP). A "roll" method was used for all tube plugs. One tube was "stabilized" in the vicinity of the top of the tubesheet using the design, materials, and installation methods of FANP.

All tube sleeving was performed using the welded sleeve design, materials, and installation methods of Westinghouse (formerly ABB Combustion Engineering). This repair method is specifically addressed in Technical Specification 5.5.2.11.f.1.j for Unit 2.

Forty-nine tubes were plugged, and seventy-five tubes were sleeved in Steam Generator E-088 during the Cycle 12 refueling outage. A total of 773 tubes have been plugged, and to date, 255 sleeved tubes are in service. The design number of tubes is 9350 tubes and the sleeve to plug equivalency ratio is thirty-eight sleeves per plug. The effective plugging percentage for E-088 is 8.4%.

Fifty-two tubes were plugged, and forty-three tubes were sleeved in Steam Generator E-089 during the Cycle 12 refueling outage. A total of 817 tubes have been plugged, and to date, 146 sleeved tubes are in service. The design number of tubes is 9350 tubes and the sleeve to plug equivalency ratio is thirty-eight sleeves per plug. The effective plugging percentage for E-089 is 8.8%.

**Causes and Corrective Actions**

The degradation detected during this inspection remained within the Technical Specification category C-3. There is no significant update from previous reports of causes and corrective actions for Category C-3 results. Thus, this portion of a previous report is provided below.

Actions have been taken to improve the secondary side chemistry environment for steam generator tubing in both Unit 2 steam generators. These actions have been reviewed by a panel of industry experts for application at SONGS. The expert panel concurs with these measures. The actions include:

1. Chemical cleaning of the entire tube bundle (full bundle) performed during the Cycle 9 refueling outage in December 1996.

2. Addition of an inhibitor (titanium dioxide) for IGA/SCC immediately after the chemical cleaning for maximum crevice penetration potential. This is ongoing.

3. Use of Ethanolamine (ETA) for pH control of the secondary fluids. This is ongoing.

4. Boric acid addition in the secondary side to help reduce denting of the tube supports and stress corrosion cracking of tubing. This is ongoing.

In addition, SCE reduced the reactor coolant temperature at the steam generator inlet (T-hot) by about 13°F. SCE expects this will reduce stress corrosion cracking of the tubing initiating from the inside diameter of the tubing. The first phase of this change, a reduction of about 4°F, was completed in January 1998. The final phase of this change, a reduction of an additional 9°F, was completed in February 1999.

**Description of Tables and Appendices**

Table 1 - Summary of the Planned Inspection Program for the Unit 2 Cycle 12 (U2C12) Refueling Outage

Table 2 - List of Nondestructive Examination (NDE) Techniques Utilized for Each Degradation Mechanism for the U2C12 Refueling Outage

Table 3 - Number of Tubes Repaired and Active Degradation Mechanisms Found During the U2C12 Refueling Outage

Table 4 - Summary of Results of In-Situ Pressure and Leak Testing for the U2C12 Refueling Outage

Table 5 - U2C12 Refueling Outage Tubes Plugged, Steam Generator E-088

Table 6 - U2C12 Refueling Outage Tubes Sleeved, Steam Generator E-088

Table 7 - U2C12 Refueling Outage Tubes Plugged, Steam Generator E-089

Table 8 - U2C12 Refueling Outage Tubes Sleeved, Steam Generator E-089

Appendix 1 - Steam Generator Reference Information

Appendix 2 - Legend for Appendices 3 and 4

Appendix 3 - Inspection Summary, Steam Generator E-088

Appendix 4 - Inspection Summary, Steam Generator E-089

**Table 1 - Summary of the Planned Inspection Program for the Unit 2 Cycle 12 (U2C12) Refueling Outage**

| | Number of Tubes/Percentage of Tubes Steam Generator | |
|---|---|---|
| | **E-088** | **E-089** |
| Full length of tube with the bobbin probe (excluding sleeved regions and U-bends for Rows 1-3) | 8626 / 100% | 8585 / 100% |
| Hot leg expansion transition at the top-of-tubesheet with the Plus-Point Probe | 8446 / 100% | 8482 / 100% |
| Cold leg expansion transition at the top-of-tubesheet with the Plus-Point Probe | 2680 / 31% | 2646 / 30% |
| U-bend regions of Rows 1, 2, and 3 with both mid and high frequency Plus-Point Probes | 181/ 100% | 179 / 100% |
| Plus-Point Probe examinations of tube support intersections with dents greater than, or equal to, 2 volts | 3293 / 100% | 2097 / 100% |
| Plus-Point Probe examination of hot leg dings greater than, or equal to, 5 volts | 118 / 100% | 52 / 100% |
| Plus-Point Probe examination of all tube support intersections with quantified wear indications by the bobbin probe | 362 / 100% | 352 / 100% |
| Full length of sleeves with the Plus-Point Probe | 180 / 100% | 103 / 100% |

**Table 2 – List of Nondestructive Examination (NDE) Techniques Utilized for Each Degradation Mechanism for the U2C12 Refueling Outage**

| Indication Orientation/Location | Probe Type for Detection | Probe Type for Characterization |
|---|---|---|
| Axially oriented ID (initiated on the inside-diameter of the tubing wall) indications at tube support locations | Bobbin<br>Plus Point (Note 1) | Plus Point<br>Plus Point |
| Axially oriented OD (initiated on the outside-diameter of the tubing wall) indications at tube support locations | Bobbin<br>Plus Point (Note 1) | Plus Point<br>Plus Point |
| Axially oriented OD indications not associated with a tube support (freespan) | Bobbin | Plus Point |
| Circumferentially oriented ID indications near or below the expansion transition at the top of the hot leg tubesheet | Plus Point | Plus Point |
| Circumferentially oriented OD indications near the expansion transition at the top of the hot leg tubesheet | Plus Point | Plus Point |
| Axially oriented indications in the sludge pile region near the top of the hot leg tubesheet | Plus Point | Plus Point |
| Axially oriented ID indications near or below the expansion transition at the top of the hot leg tubesheet | Plus Point | Plus Point |
| Indications of wear at tube support locations | Bobbin | Plus Point |

Note 1: Plus-Point technique is used at dents with greater than, or equal to, two volts.

**TABLE 3 – Number of Tubes Repaired and Active Degradation Mechanisms Found During the U2C12 Refueling Outage**

| Category | Indication Orientation/Location | Steam Generator E-088 | Steam Generator E-089 |
|---|---|---|---|
| **1** | Tubes with axially oriented ID (initiated on the inside-diameter of the tubing wall) indications at tube support locations. (ID Axial @ Support) | 4 | 2 |
| **2** | Tubes with axially oriented OD (initiated on the outside-diameter of the tubing wall) indications at tube support locations. (OD Axial @ Support) | 19 | 10 |
| **3** | Tubes with axially oriented OD indications not associated with a tube support (freespan). (OD Axial @ Freespan) | 6 | 8 |
| **4** | Tubes with circumferentially oriented ID indications near the expansion transition at the top of the hot leg tubesheet. (ID Circ @ TSH) | 30 | 12 |
| **5** | Tubes with circumferentially oriented OD indications near the expansion transition at the top of the hot leg tubesheet. (OD Circ @ TSH) | 8 | 17 |
| **6** | Tubes with axially oriented OD indications in the sludge pile region near the top of the hot leg tubesheet. (OD Axial @ Sludge Pile TSH) | 6 | 8 |
| **7** | Tubes with axially oriented OD indications near the expansion transition at the top of the hot leg tubesheet. (OD Axial @ TSH) | 0 | 0 |
| **8** | Tubes with axially oriented ID indications near the expansion transition at the top of the hot leg tubesheet. (ID Axial @ TSH) | 2 | 0 |
| **9** | Tubes with axially oriented ID indications below the inlet top-of-tubesheet. (ID Axial below TSH) | 26 | 9 |
| **10** | Tubes with circumferentially oriented ID indications below the inlet top-of-tubesheet. (ID Circ below TSH) | 9 | 1 |
| **11** | Tubes with indications of wear at tube support locations. (Wear @ Support) | 14 | 23 |
| **12** | Tubes with volumetric indications. (OD Vol @ Miscellaneous) | 0 | 2 |
| **13** | Miscellaneous preventative plugging (not an active degradation mechanism). (Prevent @ Miscellaneous) | 0 | 3 |
| **Total** | | 124 | 95 |

## TABLE 4

## SONGS-2 IN SITU PRESSURE TEST LIST
## S/G 88 MAY-2002

| TUBE AND EDDY CURRENT INFORMATION | | | | | | | | | IN-SITU TEST RESULTS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| REGION | TUBE INFORMATION | | | PLUS POINT DATA | | | | | GPM @ NOPD | GPM @ MSLB | GPM @ NOPD POST MSLB | PRESURE 3xNOPD |
| | ROW | COL | LOCATION | LENGTH | VOLTS | Max. Depth % | PDA or Avg. Depth % | ORIENTATION | | | | |
| EGGCRATE | 27 | 115 | 05H + 0.01 | 0.65 | 0.31 | 93% | 34% | OD AXIAL | 0 | 0 | 0 | 5000 |

## SONGS-2 IN SITU PRESSURE TEST LIST
## S/G 89 MAY-2002

| TUBE AND EDDY CURRENT INFORMATION | | | | | | | | | IN-SITU TEST RESULTS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| REGION | TUBE INFORMATION | | | PLUS POINT DATA | | | | | GPM @ NOPD | GPM @ MSLB | GPM @ NOPD POST MSLB | PRESURE 3xNOPD |
| | ROW | COL | LOCATION | LENGTH | VOLTS | Max. Depth % | PDA or Avg. Depth % | ORIENTATION | | | | |
| EGGCRATE | 13 | 119 | 06H - 0.18 | 0.18 | 0.24 | 71% | N/A | OD AXIAL | 0 | 0 | 0 | 5000 |
| LOW ROW U-BEND | 1 | 165 | DBH + 9.91 | N/A | N/A | N/A | N/A | DATA QUALITY | 0 | 0 | 0 | 5000 |

NOTES:

GPM = Gallons per Minute
NOPD = Normal Operation Pressure Differential
MSLB = Main Steam Line Break Pressure Differential
N/A = Not Applicable
OD = Degradation initiated on the outside diameter of the tubing
ID = Degradation initiated on the inside diameter of the tubing
PDA = Percent degraded area

**TABLE 5 – SONGS U2C12 Refueling Outage Tubes Plugged**
**STEAM GENERATOR E-088**

| Row | Column | Reason for Plugging Tube (per Table 3) |
|---|---|---|
| 4 | 12 | OD Axial @ Sludge Pile TSH |
| 15 | 13 | OD Axial @ Support |
| 37 | 13 | OD Axial @ Freespan |
| 80 | 24 | OD Axial @ Support |
| 84 | 24 | OD Axial @ Support |
| 78 | 26 | OD Axial @ Support |
| 85 | 27 | OD Axial @ Support |
| 88 | 30 | OD Axial @ Support |
| 90 | 40 | OD Axial @ Support |
| 21 | 49 | ID Axial @ Support |
| 18 | 58 | OD Axial @ Support |
| 13 | 61 | OD Axial @ Support |
| 33 | 69 | OD Axial @ Support |
| 145 | 73 | Wear @ Support |
| 46 | 74 | Wear @ Support |
| 46 | 78 | Wear @ Support |
| 51 | 79 | Wear @ Support |
| 53 | 81 | Wear @ Support |
| 55 | 85 | ID Axial below TSH |
| 147 | 85 | Wear @ Support |
| 56 | 86 | Wear @ Support |
| 143 | 87 | OD Axial @ Support |
| 56 | 88 | ID Axial below TSH |
| 147 | 89 | Wear @ Support |
| 54 | 90 | Wear @ Support |
| 56 | 90 | Wear @ Support |
| 145 | 91 | Wear @ Support |
| 47 | 99 | Wear @ Support |
| 44 | 100 | Wear @ Support |
| 39 | 101 | Wear @ Support |
| 54 | 108 | OD Axial @ Freespan |
| 31 | 109 | ID Axial @ Support |

**TABLE 5 (CONT.) – SONGS U2C12 Refueling Outage Tubes Plugged**
**STEAM GENERATOR E-088**

| Row | Column | Reason for Plugging Tube (per Table 3) |
|---|---|---|
| 133 | 109 | OD Axial @ Freespan |
| 28 | 112 | OD Axial @ Support |
| 27 | 115 | OD Axial @ Support |
| 29 | 115 | OD Axial @ Support |
| 22 | 116 | ID Axial @ Support |
| 18 | 118 | ID Axial @ Support |
| 37 | 119 | ID Axial below TSH |
| 10 | 120 | ID Circ below TSH |
| 18 | 124 | OD Axial @ Freespan |
| 87 | 133 | OD Axial @ Support |
| 105 | 133 | OD Axial @ Support |
| 21 | 159 | OD Axial @ Support |
| 4 | 162 | ID Axial below TSH |
| 32 | 164 | OD Axial @ Support |
| 22 | 166 | OD Axial @ Freespan |
| 22 | 168 | OD Axial @ Freespan |
| 24 | 170 | OD Axial @ Support |

**TABLE 6 – SONGS U2C12 Refueling Outage Tubes Sleeved**
**STEAM GENERATOR E-088**

| Row | Column | Reason for Sleeving Tube (per Table 3) |
|---|---|---|
| 17 | 27 | ID Axial below TSH |
| 17 | 35 | ID Circ @TSH |
| 8 | 36 | ID Circ below TSH |
| 18 | 36 | ID Circ @ TSH |
| 19 | 39 | ID Circ @ TSH |
| 16 | 44 | ID Circ @ TSH |
| 6 | 46 | ID Circ below TSH |
| 24 | 48 | ID Circ below TSH |
| 25 | 49 | ID Circ @ TSH |
| 45 | 55 | OD Circ @ TSH |
| 48 | 58 | ID Circ below TSH |
| 90 | 58 | ID Circ @ TSH |
| 17 | 61 | ID Axial below TSH |
| 12 | 62 | ID Circ below TSH |
| 62 | 62 | ID Circ @ TSH |
| 54 | 64 | ID Axial below TSH |
| 49 | 65 | OD Axial @ Sludge Pile TSH |
| 30 | 68 | ID Axial @ TSH |
| 36 | 68 | ID Circ below TSH |
| 37 | 69 | ID Axial below TSH |
| 65 | 69 | ID Circ @ TSH |
| 30 | 70 | ID Axial @ TSH |
| 68 | 70 | ID Circ @ TSH |
| 49 | 71 | ID Axial below TSH |
| 46 | 72 | ID Axial below TSH |
| 62 | 72 | ID Circ @ TSH |
| 82 | 72 | ID Circ @ TSH |
| 54 | 74 | ID Axial below TSH |
| 68 | 74 | ID Circ @ TSH |
| 44 | 76 | ID Axial below TSH |
| 67 | 83 | OD Axial @ Sludge Pile TSH |
| 86 | 86 | OD Circ @ TSH |

**TABLE 6 (CONT.) – SONGS U2C12 Refueling Outage Tubes Sleeved**
**STEAM GENERATOR E-088**

| Row | Column | Reason for Sleeving Tube (per Table 3) |
|---|---|---|
| 58 | 88 | ID Axial below TSH |
| 82 | 88 | ID Circ @ TSH |
| 71 | 89 | OD Axial @ Sludge Pile TSH |
| 68 | 90 | OD Axial @ Sludge Pile TSH |
| 56 | 92 | ID Axial below TSH |
| 77 | 93 | OD Circ @ TSH |
| 77 | 97 | OD Circ @ TSH |
| 81 | 97 | ID Circ @ TSH |
| 97 | 97 | ID Circ @ TSH |
| 64 | 98 | OD Axial @ Sludge Pile TSH |
| 74 | 100 | OD Circ @ TSH |
| 68 | 102 | ID Circ @ TSH |
| 41 | 103 | ID Axial below TSH |
| 61 | 103 | ID Circ @ TSH |
| 79 | 103 | ID Circ @ TSH |
| 52 | 104 | ID Axial below TSH |
| 51 | 105 | ID Axial below TSH |
| 36 | 106 | ID Axial below TSH |
| 72 | 106 | ID Circ @ TSH |
| 36 | 108 | ID Axial below TSH |
| 114 | 108 | OD Circ @ TSH |
| 49 | 109 | ID Axial below TSH |
| 67 | 109 | OD Circ @ TSH |
| 51 | 111 | ID Axial below TSH |
| 57 | 111 | ID Axial below TSH |
| 83 | 111 | ID Circ @ TSH |
| 22 | 112 | ID Axial below TSH |
| 23 | 113 | ID Axial below TSH |
| 65 | 113 | ID Circ @ TSH |
| 28 | 114 | ID Axial below TSH |
| 46 | 116 | ID Circ @ TSH |
| 55 | 117 | OD Circ @ TSH |
| 25 | 119 | ID Circ below TSH |

**TABLE 6 (CONT.) – SONGS U2C12 Refueling Outage Tubes Sleeved**
**STEAM GENERATOR E-088**

| Row | Column | Reason for Sleeving Tube (per Table 3) |
|---|---|---|
| 65 | 119 | ID Circ @ TSH |
| 27 | 121 | ID Circ @ TSH |
| 39 | 121 | ID Circ @ TSH |
| 65 | 121 | ID Circ @ TSH |
| 34 | 122 | ID Axial below TSH |
| 47 | 123 | ID Circ @ TSH |
| 18 | 126 | ID Circ @ TSH |
| 58 | 134 | ID Circ @ TSH |
| 15 | 135 | ID Circ below TSH |
| 12 | 138 | ID Circ @ TSH |

**TABLE 7 – SONGS U2C12 Refueling Outage Tubes Plugged**
**STEAM GENERATOR E-089**

| Row | Column | Reason for Plugging Tube (per Table 3) |
|---|---|---|
| 18 | 16 | OD Axial @ Support |
| 93 | 23 | Wear @ Support |
| 67 | 31 | OD Axial @ Support |
| 9 | 33 | ID Axial @ Support |
| 95 | 33 | OD Axial @ Support |
| 93 | 35 | OD Axial @ Freespan |
| 110 | 36 | OD Axial @ Freespan |
| 102 | 38 | OD Axial @ Support |
| 106 | 40 | OD Axial @ Freespan |
| 114 | 46 | OD Axial @ Support |
| 38 | 52 | OD Axial @ Freespan |
| 34 | 54 | ID Axial @ Support |
| 121 | 77 | OD Axial @ Support |
| 65 | 79 | OD Axial @ Sludge Pile TSH |
| 55 | 81 | Wear @ Support |
| 147 | 81 | Wear @ Support |
| 54 | 82 | Wear @ Support |
| 55 | 83 | Wear @ Support |
| 75 | 85 | Wear @ Support |
| 61 | 87 | OD Circ @TSH |
| 56 | 88 | Wear @ Support |
| 58 | 88 | Wear @ Support |
| 56 | 90 | Wear @ Support |
| 62 | 90 | OD Circ @ TSH |
| 145 | 91 | Wear @ Support |
| 52 | 92 | Wear @ Support |
| 54 | 92 | Wear @ Support |
| 55 | 95 | Wear @ Support |
| 71 | 97 | Wear @ Support |
| 48 | 98 | Wear @ Support |
| 50 | 98 | Wear @ Support |
| 45 | 99 | Wear @ Support |
| 51 | 99 | Wear @ Support |
| 38 | 102 | Wear @ Support |
| 35 | 105 | ID Axial below TSH |

**TABLE 7 (CONT.) – SONGS U2C12 Refueling Outage Tubes Plugged**
**STEAM GENERATOR E-089**

| Row | Column | Reason for Plugging Tube (per Table 3) |
|---|---|---|
| 73 | 105 | Wear @ Support |
| 44 | 108 | Wear @ Support |
| 68 | 112 | OD Axial @ Freespan |
| 13 | 119 | OD Axial @ Support |
| 4 | 120 | OD Axial @ Support |
| 19 | 121 | OD Axial @ Support |
| 79 | 121 | Wear @ Support |
| 22 | 126 | OD Axial @ Freespan |
| 120 | 128 | OD Axial @ Freespan |
| 2 | 154 | OD Vol @ Miscellaneous |
| 2 | 158 | OD Vol @ Miscellaneous |
| 74 | 160 | Wear @ Support |
| 38 | 164 | OD Axial @ Support |
| 1 | 165 | Prevent @ Miscellaneous |
| 3 | 165 | Prevent @ Miscellaneous |
| 1 | 173 | Prevent @ Miscellaneous |
| 14 | 174 | OD Axial @ Freespan |

**TABLE 8 – SONGS U2C12 Refueling Outage Tubes Sleeved**
**STEAM GENERATOR E-089**

| Row | Column | Reason for Sleeving Tube (per Table 3) |
|---|---|---|
| 39 | 37 | ID Circ @ TSH |
| 16 | 42 | ID Circ @ TSH |
| 47 | 45 | ID Axial below TSH |
| 100 | 46 | OD Circ @ TSH |
| 24 | 48 | ID Circ @ TSH |
| 29 | 49 | OD Circ @ TSH |
| 47 | 49 | OD Circ @ TSH |
| 50 | 52 | OD Circ @ TSH |
| 39 | 53 | OD Axial @ Sludge Pile TSH |
| 24 | 54 | OD Circ @ TSH |
| 30 | 54 | OD Circ @ TSH |
| 44 | 54 | OD Axial @ Sludge Pile TSH |
| 22 | 60 | ID Axial below TSH |
| 71 | 63 | ID Circ @ TSH |
| 31 | 65 | OD Axial @ Sludge Pile TSH |
| 22 | 66 | ID Axial below TSH |
| 70 | 66 | ID Circ @ TSH |
| 55 | 69 | OD Axial @ Sludge Pile TSH |
| 57 | 69 | OD Axial @ Sludge Pile TSH |
| 74 | 72 | OD Circ @ TSH |
| 114 | 76 | OD Circ @ TSH |
| 57 | 81 | OD Axial @ Sludge Pile TSH |
| 65 | 81 | OD Axial @ Sludge Pile TSH |
| 86 | 82 | ID Circ @ TSH |
| 63 | 91 | ID Axial below TSH |
| 61 | 93 | OD Circ @ TSH |
| 85 | 93 | ID Circ @ TSH |
| 84 | 96 | ID Circ @ TSH |
| 59 | 99 | OD Circ @ TSH |
| 41 | 103 | ID Axial below TSH |
| 57 | 105 | ID Circ @ TSH |
| 75 | 105 | OD Circ @ TSH |
| 37 | 107 | ID Axial below TSH |
| 24 | 112 | OD Circ @ TSH |
| 25 | 115 | OD Circ @ TSH |
| 29 | 115 | ID Axial below TSH |

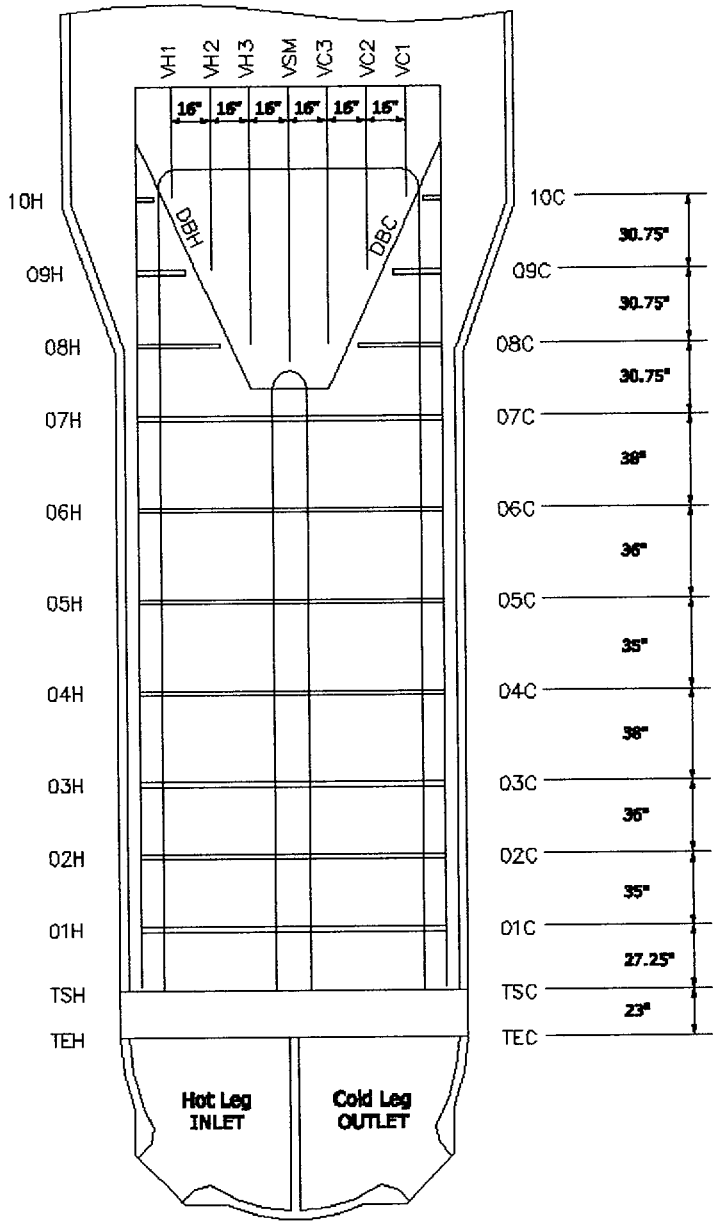
**TABLE 8 (CONT.) – SONGS U2C12 Refueling Outage Tubes Sleeved**
**STEAM GENERATOR E-089**

| Row | Column | Reason for Sleeving Tube (per Table 3) |
|---|---|---|
| 93 | 115 | ID Axial below TSH |
| 26 | 118 | OD Circ @ TSH |
| 28 | 118 | OD Circ @ TSH |
| 85 | 119 | ID Circ @ TSH |
| 85 | 123 | ID Circ @ TSH |
| 13 | 139 | ID Circ below TSH |
| 11 | 141 | ID Circ @ TSH |

**Appendix 1**

**Steam Generator Reference Information**

**Steam Generator**
**CE Model 3410 Tube Support Drawing**



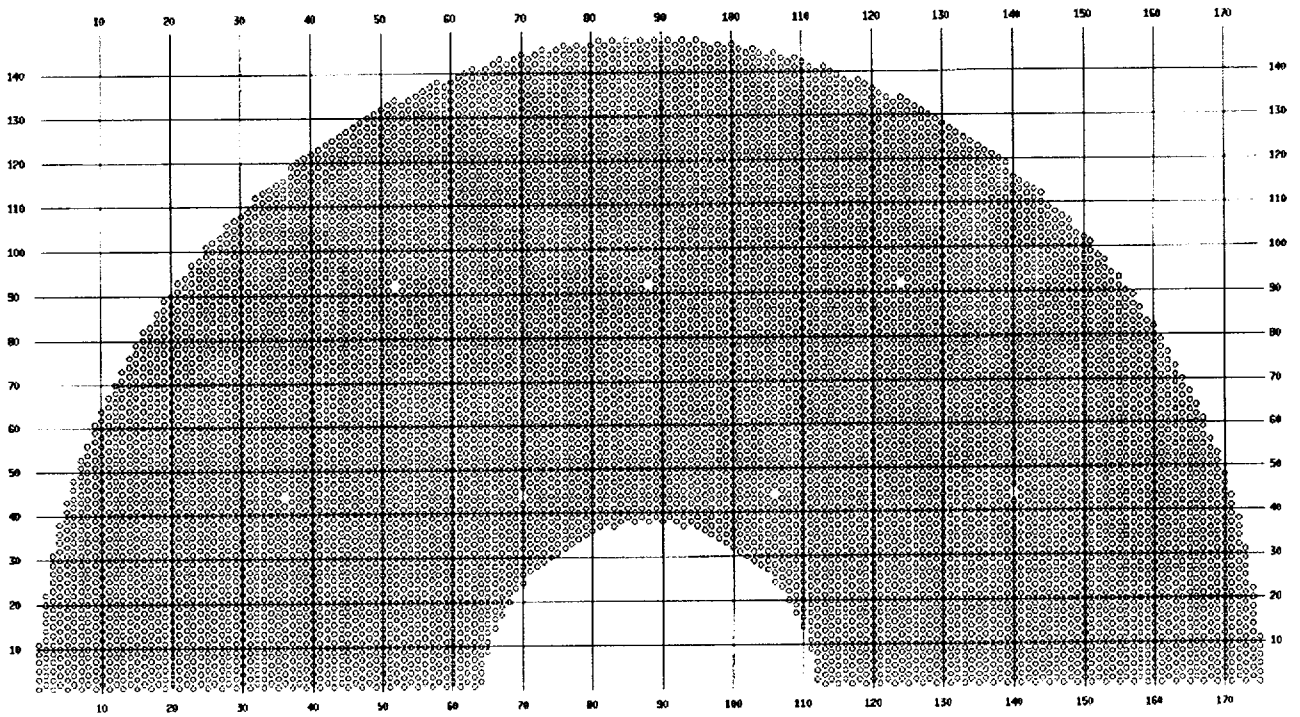
# STEAM GENERATOR TUBE SUPPORT INTERSECTIONS ABOVE THE 7TH (FULL) EGGCRATE SUPPORT

| SUPPORT INTERSECTIONS | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROW | STRUCTURES | | | | | | | | | | | | | | |
| 122-147 | 08H | 09H | 10H | DBH | VH1 | VH2 | VH3 | VSM | VC3 | VC2 | VC1 | DBC | 10C | 09C | 08C |
| 120-121* | 08H | 09H | 10H | DBH | VH1 | VH2 | VH3 | VSM | VC3 | VC2 | VC1 | DBC | 10C | 09C | 08C |
| 115-119 | 08H | 09H | | DBH | VH1 | VH2 | VH3 | VSM | VC3 | VC2 | VC1 | DBC | | 09C | 08C |
| 86-114 | 08H | 09H | | DBH | | VH2 | VH3 | VSM | VC3 | VC2 | | DBC | | 09C | 08C |
| 84-85* | 08H | 09H | | DBH | | VH2 | VH3 | VSM | VC3 | VC2 | | DBC | | 09C | 08C |
| 83 | 08H | | | DBH | | VH2 | VH3 | VSM | VC3 | VC2 | | DBC | | | 08C |
| 51-82 | 08H | | | DBH | | | VH3 | VSM | VC3 | | | DBC | | | 08C |
| 49-50* | 08H | | | DBH | | | | VSM | | | | DBC | | | 08C |
| 19-48 | | | | DBH | | | | VSM | | | | DBC | | | |
| 1-18 | | | | DBH | | | | | | | | DBC | | | |

* Indicates those rows adjacent to scallop bars

## SOUTHERN CALIFORNIA EDISON, SAN ONOFRE

## CE MODEL 3410 STEAM GENERATOR



**Appendix 2**

**Legend for Appendices 3 and 4**

## List of Abbreviations and Format Used to Describe Indications from Rotating Probe Testing

| "I-Code" Abbreviations | Explanation of the Abbreviations |
|---|---|
| SCI | Single Circumferential Indication |
| MCI | Multiple Circumferential Indications |
| SAI | Single Axial Indication |
| MAI | Multiple Axial Indications |
| MMI | Mixed Mode Indications |
| SVI | Single Volumetric Indication (i.e. no special axial or circumferential aspect) |
| MVI | Multiple Volumetric Indications (i.e. no special axial or circumferential aspect) |

### Format

In Appendices 3 and 4, a single line of data is associated with each individual rotating probe indication. Below is a descriptive example of the format.

| ROW | COL | VOLTS | DEG | CHN | IND | %TW | LOCATION | EXT | EXT | UTIL 1 | UTIL 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 12 | +P VOLTS | +P DEG | CH# | CODE | % | LOCATION | EXT | EXT | PAN VOLTS | +P LEN |

1. All "I-Code" indications require a single line entry. The example above displays the form of a Resolution Report line. The VOLTS field contains the Plus-Point P-to-P voltage of the largest, most representative response. The DEG field contains the corresponding phase angle. The CHN field contains the reporting channel (i.e. the appropriate 300kHz Plus-Point channel). The IND field contains the appropriate 3-letter code (see list above). The %TW field indicates the percent wall loss for wear indications. The LOCATION field contains the abbreviation for the referenced landmark and the (FROM-TO) distance for the indication. The EXT fields contain the landmarks of the beginning and end of the test extent. The UTIL 1 field contains the 300kHz pancake P-to-P voltage of the largest, most representative response. The UTIL 2 field contains the measured Plus-Point length of the indications. Exceptions to this general guidance is provided in paragraphs 2 and 3 below.

2. For axial indications of extended length, the location should be ranged (FROM-TO) in the LOCATION field. If the range of such an indication includes any part of a support structure, it should be references from that landmark.

3. For "I-Code" indications which have both axial and circumferential extent (i.e. SVI, MVI, and MMI) the location should be ranged in the LOCATION field (as above) and the UTIL 2 field should contain the circumferential length.

**Appendix 3**

**Inspection Summary**

**Steam Generator E-088**

SG88 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 12 | 0.23 | 104 | 2 | SAI | | TSH +3.51 | | TSH | TSH | 0.21 | 0.12 | 47 | HOT | 600PP |
| 4 | 162 | 3.04 | 26 | 4 | SAI | | TSH -7.10 | | TSH | TSH | 5.60 | 0.24 | 180 | HOT | 580PP |
| 6 | 46 | 0.46 | 22 | P 1 | SCI | | TSH -4.32 | | TSH | TSH | 0.84 | 0.20 | 33 | HOT | 600PP |
| 8 | 36 | 0.45 | 21 | P 1 | SCI | | TSH -5.27 | | TSH | TSH | 0.21 | 0.22 | 36 | HOT | 600PP |
| 10 | 120 | 1.75 | 41 | P 1 | SCI | | TSH -7.86 | | TSH | TSH | 3.94 | 0.22 | 182 | HOT | 580PP |
| | | 1.16 | 26 | 4 | MVI | | TSH -9.17 | TO-8.97 | TSH | TSH | 1.55 | 0.69 | 182 | HOT | 580PP |
| | | 0.46 | 51 | P 1 | MCI | | TSH -7.43 | TO-6.62 | TSH | TSH | 3.13 | 0.46 | 182 | HOT | 580PP |
| 10 | 126 | 0.22 | 35 | P 2 | TWD | 11 | 05H +0.76 | | TEC | TEH | LAR | | 13 | HOT | 600UL |
| 12 | 62 | 0.34 | 21 | P 1 | SCI | | TSH -1.77 | | TSH | TSH | 0.13 | 0.19 | 58 | HOT | 600PP |
| 12 | 138 | 0.27 | 25 | P 1 | SCI | | TSH -0.02 | | TSH | TSH | 0.22 | 0.35 | 46 | HOT | 600PP |
| 13 | 9 | 0.61 | 81 | P 2 | TWD | 24 | 05H -0.10 | | TEH | TEC | | | 46 | COLD | 600UL |
| 13 | 61 | 0.39 | 115 | 2 | SAI | | 06H +0.49 | | 06H | 06H | 1.34 | 0.27 | 115 | HOT | 580PP |
| 15 | 13 | 0.29 | 98 | 2 | SAI | | 06H +0.30 | | 06H | 06H | 0.18 | 0.53 | 123 | HOT | 580PP |
| 15 | 135 | 0.42 | 19 | P 1 | SCI | | TSH -2.66 | | TSH | TSH | 0.28 | 0.16 | 41 | HOT | 600PP |
| 16 | 20 | 0.28 | 128 | P 2 | TWD | 12 | DBC +1.25 | | TEH | TEC | | | 49 | COLD | 600UL |
| 16 | 44 | 0.27 | 22 | P 1 | SCI | | TSH -0.09 | | TSH | TSH | 0.00 | 0.19 | 32 | HOT | 600PP |
| 17 | 27 | 0.55 | 11 | 2 | SAI | | TSH -2.82 | | TSH | TSH | 0.51 | 0.19 | 39 | HOT | 600PP |
| 17 | 35 | 0.44 | 17 | P 1 | SCI | | TSH -0.09 | | TSH | TSH | 0.16 | 0.19 | 36 | HOT | 600PP |
| 17 | 61 | 1.01 | 20 | 2 | SAI | | TSH -1.11 | | TSH | TSH | 0.65 | 0.18 | 53 | HOT | 600PP |
| 18 | 36 | 0.72 | 22 | P 1 | SCI | | TSH -0.08 | | TSH | TSH | 0.49 | 0.19 | 37 | HOT | 600PP |
| 18 | 44 | 0.25 | 92 | P 2 | TWD | 8 | DBH -1.75 | | TEH | TEC | | | 1 | COLD | 600UL |
| 18 | 58 | 0.69 | 43 | 2 | SAI | | 07H -0.11 | | 07H | 07H | 0.56 | 0.11 | 188 | HOT | 520PP |
| 18 | 118 | 0.49 | 7 | 2 | SAI | | 06H +0.26 | | 06H | 06H | 0.00 | 0.26 | 138 | HOT | 580PP |
| 18 | 124 | 0.15 | 91 | 2 | SAI | | 01H +8.39 | | 01H | 01H | 0.00 | 0.39 | 135 | HOT | 580PP |
| 18 | 126 | 0.38 | 24 | P 1 | SCI | | TSH -0.12 | | TSH | TSH | 0.69 | 0.22 | 76 | HOT | 600PP |
| 19 | 39 | 0.29 | 25 | P 1 | SCI | | TSH -0.11 | | TSH | TSH | 0.17 | 0.21 | 37 | HOT | 600PP |
| 21 | 49 | 1.07 | 16 | 2 | SAI | | 07H -0.52 | | 07H | 07H | 0.00 | 0.20 | 107 | HOT | 580PP |
| 21 | 159 | 0.28 | 93 | 2 | SAI | | 06H +0.87 | | 06H | 06H | 0.71 | 0.18 | 111 | HOT | 580PP |
| | | 0.43 | 134 | P 2 | TWD | 16 | 06H +0.87 | | TEH | TEC | | | 30 | COLD | 600UL |
| 22 | 112 | 0.53 | 14 | 2 | SAI | | TSH -0.58 | | TSH | TSH | 0.47 | 0.18 | 68 | HOT | 600PP |
| 22 | 116 | 0.65 | 13 | 2 | SAI | | 06H +0.02 | | 06H | 06H | 0.00 | 0.18 | 138 | HOT | 580PP |
| 22 | 166 | 0.09 | 124 | 2 | SAI | | 06H +4.48 | | 06H | 06H | 0.00 | 0.32 | 105 | HOT | 580PP |
| | | 0.14 | 114 | 2 | SAI | | 06H +7.50 | | 06H | 06H | 0.19 | 0.67 | 105 | HOT | 580PP |
| | | 0.07 | 74 | 2 | SAI | | 06H +10.97 | | 06H | 06H | 0.00 | 0.45 | 105 | HOT | 580PP |
| | | 0.11 | 126 | 2 | SAI | | 06H +17.60 | | 06H | 06H | 0.00 | 0.48 | 105 | HOT | 580PP |
| 22 | 168 | 0.14 | 119 | 2 | SAI | | 06H +13.00 | | 06H | 06H | 0.00 | 0.27 | 105 | HOT | 580PP |
| 23 | 109 | 0.33 | 116 | P 2 | TWD | 14 | VSM +0.76 | | TEC | TEH | | | 19 | HOT | 600UL |
| 23 | 113 | 0.61 | 18 | 2 | SAI | | TSH -1.16 | | TSH | TSH | 1.22 | 0.16 | 67 | HOT | 600PP |
| | | 0.64 | 14 | 2 | SAI | | TSH -0.51 | | TSH | TSH | 1.21 | 0.16 | 67 | HOT | 600PP |
| 24 | 14 | 0.33 | 66 | P 2 | TWD | 13 | VSM +0.88 | | TEH | TEC | | | 49 | COLD | 600UL |
| 24 | 48 | 0.47 | 21 | P 1 | SCI | | TSH -2.07 | | TSH | TSH | 0.58 | 0.16 | 48 | HOT | 600PP |

SG88 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 170 | 0.19 | 117 | 2 | SAI | | 02H | +0.33 | 02H | 02H | 0.59 | 0.24 | 106 | HOT | 580PP |
| | | 0.20 | 104 | 2 | SAI | | 06H | -0.33 | 06H | 06H | 0.00 | 0.13 | 106 | HOT | 580PP |
| | | 0.20 | 133 | 2 | SAI | | 06H | -0.12 | 06H | 06H | 0.00 | 0.16 | 106 | HOT | 580PP |
| | | 0.24 | 141 | 2 | SAI | | 06H | +0.12 | 06H | 06H | 0.00 | 0.16 | 106 | HOT | 580PP |
| 25 | 49 | 0.42 | 14 | P 1 | SCI | | TSH | -0.05 | TSH | TSH | 0.27 | 0.14 | 47 | HOT | 600PP |
| 25 | 119 | 0.56 | 23 | P 1 | MCI | | TSH | -0.21 | TSH | TSH | 0.32 | 0.24 | 71 | HOT | 580PP |
| 27 | 115 | 0.31 | 125 | 2 | SAI | | 05H | +0.01 | 05H | 05H | 0.00 | 0.35 | 143 | HOT | 580PP |
| | | 0.17 | 94 | 2 | SAI | | 05H | -0.48 | 05H | 05H | 0.00 | 0.22 | 143 | HOT | 580PP |
| 27 | 121 | 0.23 | 16 | P 1 | SCI | | TSH | -0.04 | TSH | TSH | 0.31 | 0.18 | 174 | HOT | 580PP |
| 27 | 173 | 0.40 | 134 | P 2 | TWD | 18 | 04H | +0.86 | TEH | TEC | | | 36 | COLD | 600UL |
| 28 | 112 | 0.43 | 98 | P 2 | TWD | 15 | 07H | +0.80 | TEC | TEH | | | 20 | HOT | 600UL |
| | | 0.25 | 101 | 2 | SAI | | 07H | +0.81 | 07H | 07H | 0.00 | 0.14 | 142 | HOT | 580PP |
| 28 | 114 | 0.44 | 17 | 2 | SAI | | TSH | -3.43 | TSH | TSH | 0.54 | 0.25 | 71 | HOT | 580PP |
| 29 | 115 | 0.26 | 134 | 2 | SAI | | 05H | -0.07 | 05H | 05H | 0.00 | 0.57 | 142 | HOT | 580PP |
| 30 | 68 | 0.63 | 15 | 2 | SAI | | TSH | -0.09 | TSH | TSH | 0.73 | 0.25 | 58 | HOT | 600PP |
| 30 | 70 | 0.62 | 18 | 2 | SAI | | TSH | -0.03 | TSH | TSH | 0.33 | 0.17 | 58 | HOT | 600PP |
| 31 | 11 | 0.47 | 115 | P 2 | TWD | 20 | DBH | +1.35 | TEH | TEC | | | 46 | COLD | 600UL |
| 31 | 109 | 0.85 | 18 | 2 | SAI | | 06H | -0.53 | 06H | 06H | 0.00 | 0.24 | 142 | HOT | 580PP |
| 32 | 60 | 0.34 | 49 | P 2 | TWD | 13 | VSM | -0.86 | TEC | TEH | | | 15 | HOT | 600UL |
| 32 | 164 | 0.22 | 95 | 2 | SAI | | 06H | +0.37 | 06H | 06H | 0.64 | 0.33 | 111 | HOT | 580PP |
| 33 | 69 | 0.30 | 111 | 2 | SAI | | 07H | -0.12 | 07H | 07H | 0.00 | 0.19 | 188 | HOT | 520PP |
| 33 | 71 | 0.46 | 92 | P 2 | TWD | 16 | DBC | -1.68 | TSC | TEH | | | 31 | HOT | 600UL |
| 34 | 72 | 0.59 | 23 | P 2 | TWD | 20 | DBC | +2.02 | TEC | TEH | | | 30 | HOT | 600UL |
| 34 | 116 | 0.24 | 75 | P 2 | TWD | 11 | VSM | -0.87 | TEC | TEH | | | 19 | HOT | 600UL |
| 34 | 122 | 0.86 | 18 | 2 | SAI | | TSH | -4.50 | TSH | TSH | 0.79 | 0.18 | 71 | HOT | 580PP |
| 35 | 25 | 0.61 | 132 | P 2 | TWD | 21 | VSM | -0.73 | TEH | TEC | | | 50 | COLD | 600UL |
| 35 | 59 | 0.64 | 83 | P 2 | TWD | 22 | VSM | +0.63 | TEC | TEH | | | 15 | HOT | 600UL |
| 36 | 58 | 0.53 | 155 | P 2 | TWD | 19 | VSM | +0.80 | TEC | TEH | | | 15 | HOT | 600UL |
| 36 | 68 | 0.45 | 18 | P 1 | SCI | | TSH | -1.26 | TSH | TSH | 0.00 | 0.21 | 58 | HOT | 600PP |
| 36 | 102 | 0.96 | 82 | P 2 | TWD | 29 | DBC | +1.92 | TSC | TEH | | | 34 | HOT | 600UL |
| 36 | 104 | 0.94 | 106 | P 2 | TWD | 27 | DBH | -1.69 | STH | TEC | | | 42 | COLD | 600UL |
| 36 | 106 | 0.31 | 16 | 2 | SAI | | TSH | -1.11 | TSH | TSH | 0.95 | 0.16 | 67 | HOT | 600PP |
| 36 | 108 | 0.96 | 22 | 2 | SAI | | TSH | -3.98 | TSH | TSH | 1.30 | 0.16 | 67 | HOT | 600PP |
| 36 | 110 | 0.34 | 148 | P 2 | TWD | 15 | VSM | +0.66 | TEC | TEH | | | 19 | HOT | 600UL |
| 37 | 13 | 0.19 | 92 | 2 | SAI | | 06H | +2.03 | 06H | 06H | 0.22 | 0.17 | 123 | HOT | 580PP |
| 37 | 47 | 0.43 | 134 | P 2 | TWD | 15 | VSM | +0.91 | TEC | TEH | | | 12 | HOT | 600UL |
| 37 | 61 | 0.66 | 121 | P 2 | TWD | 22 | VSM | +0.63 | TEC | TEH | | | 15 | HOT | 600UL |
| 37 | 69 | 0.99 | 16 | 2 | MAI | | TSH | -1.28 | TSH | TSH | 0.66 | 0.17 | 57 | HOT | 600PP |
| 37 | 119 | 1.90 | 23 | 4 | SAI | | TEH | +9.99 | TEH | TEH | 3.39 | 0.46 | 175 | HOT | 580PP |
| 38 | 74 | 0.67 | 21 | P 2 | TWD | 22 | DBC | +1.87 | TEC | TEH | | | 30 | HOT | 600UL |

SG88 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 38 | 102 | 0.34 | 109 | P 2 | TWD | 13 | DBC | +1.59 | TSC | TEH | | | 34 | HOT | 600UL |
| | | 0.81 | 123 | P 2 | TWD | 26 | DBC | +1.93 | TSC | TEH | | | 34 | HOT | 600UL |
| 39 | 13 | 0.33 | 132 | P 2 | TWD | 15 | VSM | +0.19 | TEH | TEC | | | 46 | COLD | 600UL |
| 39 | 101 | 0.99 | 126 | P 2 | TWD | 30 | DBC | +1.97 | TEC | TEH | | | 34 | HOT | 600UL |
| 39 | 103 | 0.43 | 80 | P 2 | TWD | 14 | DBC | +1.80 | STH | TEC | | | 42 | COLD | 600UL |
| 39 | 121 | 0.23 | 23 | P 1 | SCI | | TSH | -0.14 | TSH | TSH | 0.51 | 0.19 | 72 | HOT | 600PP |
| 39 | 127 | 0.36 | 61 | P 2 | TWD | 17 | VSM | -0.88 | TEC | TEH | | | 13 | HOT | 600UL |
| 40 | 122 | 0.49 | 65 | P 2 | TWD | 17 | VSM | -0.85 | TEC | TEH | | | 14 | HOT | 600UL |
| 41 | 73 | 0.31 | 92 | P 2 | TWD | 11 | VSM | +0.89 | TEC | TEH | | | 31 | HOT | 600UL |
| 41 | 101 | 0.35 | 130 | P 2 | TWD | 13 | VSM | -0.81 | TEC | TEH | | | 35 | HOT | 600UL |
| 41 | 103 | 0.22 | 15 | 2 | SAI | | TSH | -0.44 | TSH | TSH | 0.56 | 0.17 | 59 | HOT | 600PP |
| 41 | 113 | 0.40 | 71 | P 2 | TWD | 17 | VSM | -0.91 | TEC | TEH | | | 26 | HOT | 600UL |
| 42 | 74 | 0.42 | 107 | P 2 | TWD | 15 | DBC | +1.86 | TEC | TEH | | | 31 | HOT | 600UL |
| 42 | 106 | 0.48 | 107 | P 2 | TWD | 18 | VSM | -0.83 | TSC | TEH | | | 34 | HOT | 600UL |
| 43 | 19 | 0.60 | 128 | P 2 | TWD | 21 | 02H | +0.85 | TEH | TEC | | | 48 | COLD | 600UL |
| 43 | 51 | 0.95 | 122 | P 2 | TWD | 27 | VSM | +0.82 | TEC | TEH | | | 12 | HOT | 600UL |
| 43 | 75 | 0.62 | 126 | P 2 | TWD | 20 | DBC | +1.99 | TEC | TEH | | | 31 | HOT | 600UL |
| | | 0.81 | 114 | P 2 | TWD | 24 | VSM | +0.86 | TEC | TEH | | | 31 | HOT | 600UL |
| 43 | 101 | 0.30 | 108 | P 2 | TWD | 11 | DBC | -1.63 | TEC | TEH | | | 34 | HOT | 600UL |
| 43 | 125 | 0.37 | 112 | P 2 | TWD | 17 | VSM | -0.83 | TEC | TEH | | | 13 | HOT | 600UL |
| 44 | 58 | 0.48 | 118 | P 2 | TWD | 18 | VSM | +0.84 | TEC | TEH | | | 15 | HOT | 600UL |
| 44 | 76 | 0.49 | 13 | 2 | SAI | | TSH | -0.90 | TSH | TSH | 0.62 | 0.32 | 69 | HOT | 600PP |
| | | 0.35 | 14 | 2 | SAI | | TSH | -1.81 | TSH | TSH | 0.23 | 0.12 | 69 | HOT | 600PP |
| | | 0.35 | 10 | 2 | SAI | | TSH | -2.06 | TSH | TSH | 0.56 | 0.29 | 69 | HOT | 600PP |
| 44 | 98 | 0.51 | 109 | P 2 | TWD | 16 | 01H | -0.30 | TEC | TEH | | | 35 | HOT | 600UL |
| 44 | 100 | 0.33 | 119 | P 2 | TWD | 13 | DBC | -1.51 | TEC | TEH | | | 34 | HOT | 600UL |
| | | 1.40 | 169 | P 2 | TWD | 36 | DBC | +1.82 | TEC | TEH | | | 34 | HOT | 600UL |
| 44 | 124 | 0.33 | 47 | P 2 | TWD | 12 | VSM | -0.97 | TEC | TEH | | | 14 | HOT | 600UL |
| 45 | 55 | 0.37 | 125 | P 1 | SCI | | TSH | +0.07 | TSH | TSH | 0.00 | 0.57 | 54 | HOT | 600PP |
| 45 | 73 | 0.41 | 130 | P 2 | TWD | 13 | DBC | -1.61 | STH | TEC | | | 40 | COLD | 600UL |
| 45 | 75 | 0.85 | 112 | P 2 | TWD | 25 | DBC | +1.95 | TEC | TEH | | | 30 | HOT | 600UL |
| | | 0.87 | 106 | P 2 | TWD | 26 | DBH | -1.76 | TEC | TEH | | | 30 | HOT | 600UL |
| 46 | 72 | 0.39 | 25 | 2 | SAI | | TSH | -1.37 | TSH | TSH | 0.71 | 0.16 | 67 | HOT | 600PP |
| 46 | 74 | 0.62 | 87 | P 2 | TWD | 19 | DBC | +1.78 | TEC | TEH | | | 31 | HOT | 600UL |
| | | 1.23 | 97 | P 2 | TWD | 30 | VSM | -0.87 | TEC | TEH | | | 31 | HOT | 600UL |
| | | 0.32 | 133 | P 2 | TWD | 11 | VSM | +0.83 | TEC | TEH | | | 31 | HOT | 600UL |
| 46 | 76 | 0.70 | 18 | P 2 | TWD | 22 | DBH | +2.01 | TEC | TEH | | | 30 | HOT | 600UL |
| 46 | 78 | 1.11 | 129 | P 2 | TWD | 30 | DBC | +2.25 | TEC | TEH | | | 30 | HOT | 600UL |
| 46 | 98 | 0.94 | 76 | P 2 | TWD | 29 | DBH | -1.92 | TEC | TEH | | | 34 | HOT | 600UL |
| 46 | 116 | 0.43 | 20 | P 1 | SCI | | TSH | -0.03 | TSH | TSH | 0.34 | 0.16 | 72 | HOT | 600PP |
| | | 0.71 | 38 | P 2 | TWD | 23 | VSM | -0.80 | TEC | TEH | | | 20 | HOT | 600UL |
| 47 | 99 | 0.50 | 62 | P 2 | TWD | 18 | DBC | -1.91 | TEC | TEH | | | 34 | HOT | 600UL |
| | | 1.44 | 109 | P 2 | TWD | 37 | DBH | -2.25 | TEC | TEH | | | 34 | HOT | 600UL |

SG88 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.32 | 98 | P 2 | TWD | 14 | DBC | +2.15 | TEC | TEH. | | | 34 | HOT | 600UL |
| 47 | 109 | 0.21 | 134 | P 2 | TWD | 9 | VSM | +0.98 | STH | TEC | | | 42 | COLD | 600UL |
| 47 | 123 | 0.27 | 21 | P 1 | MCI | | TSH | -0.08 | TSH | TSH | 0.20 | 0.20 | 76 | HOT | 600PP |
| 47 | 143 | 0.37 | 138 | P 2 | TWD | 15 | VSM | -0.81 | TEH | TEC | | | 23 | COLD | 600UL |
| 48 | 58 | 0.39 | 17 | P 1 | SCI | | TSH | -3.20 | TSH | TSH | 0.40 | 0.16 | 53 | HOT | 600PP |
| 48 | 68 | 0.38 | 118 | P 2 | TWD | 14 | VSM | +0.78 | TEC | TEH | | | 17 | HOT | 600UL |
| 48 | 108 | 0.52 | 92 | P 2 | TWD | 17 | VSM | -0.20 | TEC | TEH | | | 10 | HOT | 600UL |
| | | 0.48 | 74 | P 2 | TWD | 16 | VSM | -0.77 | TEC | TEH | | | 10 | HOT | 600UL |
| 49 | 31 | 0.43 | 92 | P 2 | TWD | 16 | 08C | -1.14 | TEH | TEC | | | 50 | COLD | 600UL |
| 49 | 65 | 0.21 | 91 | 2 | SAI | | TSH | +0.18 | TSH | TSH | 0.00 | 0.18 | 57 | HOT | 600PP |
| | | 0.25 | 107 | 2 | SAI | | TSH | +0.40 | TSH | TSH | 0.00 | 0.25 | 57 | HOT | 600PP |
| 49 | 71 | 0.30 | 11 | 2 | SAI | | TSH | -0.63 | TSH | TSH | 0.20 | 0.12 | 68 | HOT | 600PP |
| | | 0.33 | 14 | 2 | SAI | | TSH | -0.46 | TSH | TSH | 0.10 | 0.14 | 68 | HOT | 600PP |
| | | 0.51 | 82 | P 2 | TWD | 18 | VSM | -0.82 | TEC | TEH | | | 30 | HOT | 600UL |
| 49 | 75 | 0.30 | 108 | P 2 | TWD | 11 | DBH | -1.96 | TEC | TEH | | | 30 | HOT | 600UL |
| 49 | 109 | 0.80 | 19 | 2 | SAI | | TSH | -2.59 | TSH | TSH | 1.00 | 0.16 | 67 | HOT | 600PP |
| 50 | 8 | 0.36 | 143 | P 2 | TWD | 16 | VSM | +0.78 | TEH | TEC | | | 46 | COLD | 600UL |
| 50 | 66 | 0.70 | 130 | P 2 | TWD | 24 | 08C | +1.08 | STH | TEC | | | 41 | COLD | 600UL |
| 50 | 76 | 0.72 | 90 | P 2 | TWD | 23 | DBC | -1.81 | TEC | TEH | | | 30 | HOT | 600UL |
| 50 | 98 | 0.32 | 42 | P 2 | TWD | 12 | VSM | -0.89 | TEC | TEH | | | 34 | HOT | 600UL |
| 50 | 110 | 0.47 | 73 | P 2 | TWD | 20 | 08H | +1.23 | TEC | TEH | LAR | | 26 | HOT | 600UL |
| 51 | 77 | 0.49 | 87 | P 2 | TWD | 16 | DBC | -2.00 | TEC | TEH | | | 31 | HOT | 600UL |
| 51 | 79 | 1.14 | 120 | P 2 | TWD | 31 | DBC | -1.76 | TEC | TEH | | | 30 | HOT | 600UL |
| | | 0.70 | 44 | P 2 | TWD | 22 | DBC | +1.88 | TEC | TEH | | | 30 | HOT | 600UL |
| | | 0.30 | 40 | P 2 | TWD | 11 | DBH | +1.41 | TEC | TEH | | | 30 | HOT | 600UL |
| 51 | 99 | 0.69 | 90 | P 2 | TWD | 24 | DBH | -2.05 | TEC | TEH | | | 34 | HOT | 600UL |
| 51 | 105 | 0.41 | 14 | 2 | SAI | | TSH | -1.33 | TSH | TSH | 0.00 | 0.20 | 59 | HOT | 600PP |
| | | 0.39 | 22 | 2 | SAI | | TSH | -1.17 | TSH | TSH | 0.53 | 0.17 | 59 | HOT | 600PP |
| | | 0.32 | 9 | 2 | SAI | | TSH | -0.96 | TSH | TSH | 0.18 | 0.15 | 59 | HOT | 600PP |
| 51 | 111 | 0.62 | 11 | 2 | SAI | | TSH | -4.45 | TSH | TSH | 0.83 | 0.19 | 67 | HOT | 600PP |
| 51 | 163 | 0.52 | 63 | P 2 | TWD | 19 | VH3 | +0.89 | TEH | TEC | | | 35 | COLD | 600UL |
| 52 | 68 | 0.53 | 125 | P 2 | TWD | 19 | VSM | +0.04 | TEC | TEH | | | 17 | HOT | 600UL |
| 52 | 90 | 1.05 | 69 | P 2 | TWD | 27 | DBH | -1.91 | STH | TEC | | | 38 | COLD | 600UL |
| 52 | 94 | 0.49 | 124 | P 2 | TWD | 18 | DBC | -1.77 | TEC | TEH | | | 34 | HOT | 600UL |
| 52 | 96 | 0.49 | 65 | P 2 | TWD | 18 | DBH | -2.14 | TEC | TEH | | | 34 | HOT | 600UL |
| 52 | 104 | 0.58 | 16 | 2 | SAI | | TSH | -1.08 | TSH | TSH | 0.48 | 0.13 | 59 | HOT | 600PP |
| 53 | 81 | 1.15 | 101 | P 2 | TWD | 31 | DBH | -1.61 | TEC | TEH | | | 30 | HOT | 600UL |
| 54 | 8 | 0.57 | 120 | P 2 | TWD | 23 | 01H | +0.08 | TEH | TEC | LAR | | 46 | COLD | 600UL |
| | | 0.15 | 24 | P 2 | TWD | 8 | 01H | -1.01 | TEH | TEC | LAR | | 46 | COLD | 600UL |
| 54 | 64 | 0.70 | 16 | 2 | SAI | | TSH | -1.63 | TSH | TSH | 0.49 | 0.15 | 58 | HOT | 600PP |
| | | 0.79 | 17 | 2 | SAI | | TSH | -3.48 | TSH | TSH | 0.62 | 0.15 | 58 | HOT | 600PP |
| 54 | 74 | 0.56 | 16 | 2 | SAI | | TSH | -1.55 | TSH | TSH | 0.80 | 0.15 | 70 | HOT | 580PP |
| | | 0.49 | 13 | 2 | SAI | | TSH | -1.32 | TSH | TSH | 0.82 | 0.20 | 70 | HOT | 580PP |

SG88 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 54 | 76 | 0.46 | 137 | P 2 | TWD | 16 | DBC | -1.71 | TEC | TEH | | | 30 | HOT | 600UL |
| 54 | 90 | 1.59 | 79 | P 2 | TWD | 35 | DBH | -2.10 | STH | TEC | | | 38 | COLD | 600UL |
| | | 0.84 | 132 | P 2 | TWD | 23 | DBH | +1.75 | STH | TEC | | | 38 | COLD | 600UL |
| | | 0.18 | 8 | P 2 | TWD | 6 | DBC | +1.74 | STH | TEC | | | 38 | COLD | 600UL |
| 54 | 96 | 0.64 | 78 | P 2 | TWD | 19 | DBH | -1.61 | STH | TEC | | | 38 | COLD | 600UL |
| 54 | 108 | 0.14 | 132 | 2 | SAI | | 02H | +7.35 | 02H | 02H | 0.00 | 0.22 | 150 | HOT | 580PP |
| 55 | 83 | 0.67 | 119 | P 2 | TWD | 19 | DBH | -1.89 | STH | TEC | | | 40 | COLD | 600UL |
| | | 0.20 | 162 | P 2 | TWD | 7 | DBH | +1.85 | 01H | TEC | | | 40 | COLD | 600UL |
| 55 | 85 | 0.33 | 14 | 2 | SAI | | TSH | -1.10 | TSH | TSH | 0.30 | 0.21 | 74 | HOT | 580PP |
| 55 | 89 | 0.85 | 95 | P 2 | TWD | 24 | DBC | -1.54 | STH | TEC | | | 38 | COLD | 600UL |
| | | 0.56 | 170 | P 2 | TWD | 17 | DBC | +1.47 | STH | TEC | | | 38 | COLD | 600UL |
| 55 | 91 | 0.39 | 93 | P 2 | TWD | 15 | DBH | -1.99 | TEC | TEH | | | 34 | HOT | 600UL |
| 55 | 117 | 0.24 | 93 | P 1 | SCI | | TSH | -0.08 | TSH | TSH | 0.65 | 0.31 | 71 | HOT | 580PP |
| 56 | 80 | 0.47 | 50 | P 2 | TWD | 16 | DBC | -1.95 | TEC | TEH | | | 31 | HOT | 600UL |
| 56 | 86 | 1.41 | 91 | P 2 | TWD | 36 | DBH | -2.00 | TEC | TEH | | | 34 | HOT | 600UL |
| 56 | 88 | 0.70 | 25 | 2 | SAI | | TSH | -1.40 | TSH | TSH | 0.44 | 0.16 | 64 | HOT | 600PP |
| | | 0.71 | 85 | P 2 | TWD | 22 | DBC | -1.71 | TEC | TEH | | | 35 | HOT | 600UL |
| 56 | 90 | 0.72 | 28 | P 2 | TWD | 24 | DBH | +1.27 | TEC | TEH | | | 34 | HOT | 600UL |
| | | 1.01 | 52 | P 2 | TWD | 30 | DBH | -2.15 | TEC | TEH | | | 34 | HOT | 600UL |
| 56 | 92 | 0.38 | 23 | 2 | SAI | | TSH | -0.60 | TSH | TSH | 0.93 | 0.16 | 63 | HOT | 600PP |
| 57 | 25 | 0.63 | 56 | P 2 | TWD | 21 | VH3 | -0.79 | TEH | TEC | | | 51 | COLD | 600UL |
| 57 | 69 | 0.33 | 118 | P 2 | TWD | 11 | VH3 | +0.82 | TEC | TEH | | | 17 | HOT | 600UL |
| 57 | 81 | 0.43 | 124 | P 2 | TWD | 15 | DBH | -1.49 | TEC | TEH | | | 30 | HOT | 600UL |
| 57 | 111 | 0.76 | 20 | 2 | SAI | | TSH | -4.12 | TSH | TSH | 0.81 | 0.16 | 67 | HOT | 600PP |
| 57 | 167 | 0.59 | 150 | P 2 | TWD | 22 | 02C | +0.84 | TEH | TEC | | | 34 | COLD | 600UL |
| 58 | 70 | 0.40 | 97 | P 2 | TWD | 14 | VSM | -0.82 | TEC | TEH | | | 17 | HOT | 600UL |
| 58 | 88 | 0.29 | 10 | 2 | SAI | | TSH | -0.98 | TSH | TSH | 0.27 | 0.14 | 63 | HOT | 600PP |
| | | 0.32 | 89 | P 2 | TWD | 12 | DBC | -1.73 | TEC | TEH | | | 34 | HOT | 600UL |
| 58 | 134 | 0.33 | 31 | P 1 | SCI | | TSH | -0.05 | TSH | TSH | 0.23 | 0.20 | 42 | HOT | 600PP |
| 59 | 87 | 0.50 | 68 | P 2 | TWD | 17 | DBH | -1.99 | TEC | TEH | | | 35 | HOT | 600UL |
| 59 | 111 | 0.32 | 91 | P 2 | TWD | 12 | 01H | +1.19 | STH | TEC | | | 42 | COLD | 600UL |
| 59 | 143 | 0.41 | 37 | P 2 | TWD | 17 | VH3 | -0.57 | TEH | TEC | | | 23 | COLD | 600UL |
| 61 | 31 | 0.29 | 84 | P 2 | TWD | 11 | VH3 | +1.03 | TEH | TEC | | | 50 | COLD | 600UL |
| 61 | 103 | 0.32 | 23 | P 1 | SCI | | TSH | -0.17 | TSH | TSH | 0.86 | 0.21 | 59 | HOT | 600PP |
| 61 | 125 | 0.35 | 130 | P 2 | TWD | 12 | VC3 | -1.08 | TEC | TEH | | | 14 | HOT | 600UL |
| 62 | 62 | 0.42 | 19 | P 1 | MCI | | TSH | -0.09 | TSH | TSH | 0.10 | 0.17 | 57 | HOT | 600PP |
| 62 | 70 | 0.40 | 133 | P 2 | TWD | 14 | VSM | +0.00 | TEC | TEH | | | 17 | HOT | 600UL |
| 62 | 72 | 0.22 | 13 | P 1 | SCI | | TSH | -0.11 | TSH | TSH | 0.26 | 0.16 | 69 | HOT | 600PP |
| 64 | 80 | 0.57 | 157 | P 2 | TWD | 18 | DBH | +1.62 | TEC | TEH | | | 31 | HOT | 600UL |
| | | 0.39 | 152 | P 2 | TWD | 13 | VSM | -0.76 | TEC | TEH | | | 31 | HOT | 600UL |
| 64 | 98 | 0.15 | 105 | 2 | SAI | | TSH | +0.11 | TSH | TSH | 0.00 | 0.13 | 59 | HOT | 600PP |
| 65 | 69 | 0.56 | 16 | P 1 | SCI | | TSH | -0.14 | TSH | TSH | 0.00 | 0.25 | 58 | HOT | 600PP |

SG88 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 65 | 97 | 0.42 | 95 | P 2 | TWD | 14 | 02H -1.13 | TEC | TEH | | | 35 | HOT | 600UL |
| 65 | 113 | 0.42 | 30 | P 1 | SCI | | TSH -0.11 | TSH | TSH | 0.57 | 0.22 | 67 | HOT | 600PP |
| 65 | 119 | 0.41 | 22 | P 1 | SCI | | TSH -0.08 | TSH | TSH | 0.45 | 0.19 | 72 | HOT | 600PP |
| 65 | 121 | 0.19 | 24 | P 1 | SCI | | TSH -0.14 | TSH | TSH | 0.12 | 0.16 | 72 | HOT | 600PP |
| 66 | 48 | 0.57 | 123 | P 2 | TWD | 19 | VSM -0.82 | TEC | TEH | | | 12 | HOT | 600UL |
| 67 | 83 | 0.18 | 95 | 4 | MAI | | TSH +0.59 | TSH | TSH | 0.00 | 0.17 | 170 | HOT | 580PP |
| 67 | 85 | 0.79 | 52 | P 2 | TWD | 23 | DBC -1.91 | TEC | TEH | | | 35 | HOT | 600UL |
| 67 | 109 | 0.18 | 118 | P 1 | SCI | | TSH +0.03 | TSH | TSH | 0.00 | 0.20 | 68 | HOT | 600PP |
| 67 | 121 | 0.17 | 90 | P 2 | TWD | 8 | VSM +0.81 | TEC | TEH | | | 19 | HOT | 600UL |
| 67 | 129 | 0.23 | 148 | P 2 | TWD | 11 | VH3 +0.00 | TEC | TEH | | | 9 | HOT | 600UL |
| 67 | 159 | 0.47 | 118 | P 2 | TWD | 17 | VC3 -0.31 | TEH | TEC | | | 29 | COLD | 600UL |
| | | 0.32 | 122 | P 2 | TWD | 12 | VH3 +0.81 | TEH | TEC | | | 29 | COLD | 600UL |
| 67 | 165 | 0.79 | 120 | P 2 | TWD | 27 | VH3 -0.83 | TEH | TEC | | | 34 | COLD | 600UL |
| 68 | 70 | 0.42 | 20 | P 1 | SCI | | TSH -0.08 | TSH | TSH | 0.09 | 0.19 | 58 | HOT | 600PP |
| 68 | 74 | 0.18 | 22 | P 1 | SCI | | TSH -0.07 | TSH | TSH | 0.18 | 0.19 | 69 | HOT | 600PP |
| 68 | 90 | 0.24 | 98 | 2 | SAI | | TSH +0.55 | TSH | TSH | 0.17 | 0.19 | 64 | HOT | 600PP |
| 68 | 102 | 0.87 | 27 | P 1 | MCI | | TSH -0.18 | TSH | TSH | 0.87 | 0.21 | 59 | HOT | 600PP |
| 68 | 146 | 0.50 | 110 | P 2 | TWD | 21 | VC3 -0.86 | TEH | TEC | | | 25 | COLD | 600UL |
| 69 | 163 | 0.36 | 94 | P 2 | TWD | 14 | VSM +0.83 | TEH | TEC | | | 34 | COLD | 600UL |
| 70 | 70 | 0.50 | 86 | P 2 | TWD | 18 | VC3 -0.86 | TEC | TEH | | | 17 | HOT | 600UL |
| 71 | 63 | 0.52 | 115 | P 2 | TWD | 18 | VH3 -0.88 | TEC | TEH | | | 17 | HOT | 600UL |
| 71 | 85 | 0.87 | 52 | P 2 | TWD | 24 | DBC -1.91 | TEC | TEH | | | 35 | HOT | 600UL |
| 71 | 89 | 0.19 | 132 | 2 | SAI | | TSH +0.85 | TSH | TSH | 0.24 | 0.16 | 63 | HOT | 600PP |
| 71 | 97 | 0.28 | 76 | P 2 | TWD | 10 | 01H +0.88 | TEC | TEH | | | 35 | HOT | 600UL |
| 72 | 70 | 0.36 | 91 | P 2 | TWD | 13 | VC3 -1.10 | TEC | TEH | | | 18 | HOT | 600UL |
| 72 | 88 | 0.54 | 105 | P 2 | TWD | 20 | DBC -1.82 | TEC | TEH | | | 34 | HOT | 600UL |
| 72 | 90 | 0.60 | 141 | P 2 | TWD | 19 | VSM +0.86 | TEC | TEH | | | 35 | HOT | 600UL |
| 72 | 98 | 0.45 | 102 | P 2 | TWD | 17 | 02H -1.24 | TEC | TEH | | | 34 | HOT | 600UL |
| 72 | 106 | 0.46 | 27 | P 1 | SCI | | TSH -0.12 | TSH | TSH | 0.19 | 0.17 | 60 | HOT | 600PP |
| | | 0.51 | 83 | P 2 | TWD | 16 | VH3 -0.80 | TEC | TEH | | | 35 | HOT | 600UL |
| 72 | 118 | 0.23 | 68 | P 2 | TWD | 8 | VH3 -0.83 | TEC | TEH | | | 9 | HOT | 600UL |
| 73 | 73 | 0.82 | 119 | P 2 | TWD | 24 | VSM +0.93 | TEC | TEH | | | 31 | HOT | 600UL |
| 73 | 133 | 0.51 | 131 | P 2 | TWD | 20 | VH3 +0.87 | TEH | TEC | | | 22 | COLD | 600UL |
| 74 | 82 | 0.46 | 127 | P 2 | TWD | 16 | VSM -0.94 | TEC | TEH | | | 31 | HOT | 600UL |
| | | 0.95 | 140 | P 2 | TWD | 26 | VSM +0.82 | TEC | TEH | | | 31 | HOT | 600UL |
| 74 | 100 | 0.21 | 79 | P 1 | MCI | | TSH -0.02 | TSH | TSH | 0.00 | 0.45 | 59 | HOT | 600PP |
| 74 | 146 | 0.75 | 141 | P 2 | TWD | 23 | VH3 -0.83 | TEH | TEC | | | 26 | COLD | 600UL |
| | | 0.72 | 59 | P 2 | TWD | 23 | VC3 -0.95 | TEH | TEC | | | 26 | COLD | 600UL |
| | | 1.02 | 143 | P 2 | TWD | 28 | VC3 +0.85 | TEH | TEC | | | 26 | COLD | 600UL |
| 74 | 148 | 0.26 | 82 | P 2 | TWD | 11 | VH3 -0.86 | TEH | TEC | | | 26 | COLD | 600UL |

SG88 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 75 | 139 | 0.23 | 86 | P 2 | TWD | 9 | VH3 | -0.92 | TEH | TEC | | | 23 | COLD | 600UL |
| | | 0.34 | 156 | P 2 | TWD | 14 | VH3 | +0.80 | TEH | TEC | | | 23 | COLD | 600UL |
| | | 0.89 | 97 | P 2 | TWD | 28 | VSM | +0.04 | TEH | TEC | | | 23 | COLD | 600UL |
| 76 | 84 | 0.23 | 34 | P 2 | TWD | 9 | VH3 | -0.83 | TEC | TEH | | | 30 | HOT | 600UL |
| | | 0.20 | 70 | P 2 | TWD | 8 | VH3 | +0.72 | TEC | TEH | | | 30 | HOT | 600UL |
| 76 | 88 | 0.54 | 63 | P 2 | TWD | 17 | 03H | -1.14 | TEC | TEH | | | 35 | HOT | 600UL |
| 76 | 90 | 0.41 | 45 | P 2 | TWD | 16 | VSM | +0.08 | TEC | TEH | | | 34 | HOT | 600UL |
| 76 | 100 | 0.46 | 142 | P 2 | TWD | 16 | VC3 | -0.85 | TEC | TEH | | | 35 | HOT | 600UL |
| 76 | 134 | 0.44 | 127 | P 2 | TWD | 16 | VH3 | +0.73 | TEH | TEC | | | 21 | COLD | 600UL |
| 77 | 31 | 0.22 | 122 | P 2 | TWD | 9 | VSM | +0.33 | TEH | TEC | | | 50 | COLD | 600UL |
| 77 | 33 | 0.55 | 79 | P 2 | TWD | 18 | VSM | +0.86 | TEH | TEC | | | 52 | COLD | 600UL |
| 77 | 93 | 0.29 | 110 | P 1 | SCI | | TSH | -0.03 | TSH | TSH | 0.25 | 0.25 | 63 | HOT | 600PP |
| 77 | 97 | 0.21 | 130 | P 1 | SCI | | TSH | -0.04 | TSH | TSH | 0.44 | 0.38 | 63 | HOT | 600PP |
| 78 | 22 | 0.69 | 105 | P 2 | TWD | 23 | VC3 | -0.88 | TEH | TEC | | | 48 | COLD | 600UL |
| 78 | 26 | 0.37 | 95 | 2 | SAI | | 06H | +0.58 | 06H | 06H | 0.65 | 0.29 | 123 | HOT | 580PP |
| 78 | 120 | 0.28 | 34 | P 2 | TWD | 12 | VC3 | +0.67 | TEC | TEH | | | 9 | HOT | 600UL |
| 78 | 136 | 0.56 | 66 | P 2 | TWD | 21 | DBH | -1.99 | TEH | TEC | | | 22 | COLD | 600UL |
| 78 | 138 | 0.23 | 166 | P 2 | TWD | 9 | DBC | +1.53 | TEH | TEC | | | 24 | COLD | 600UL |
| 78 | 142 | 0.48 | 133 | P 2 | TWD | 18 | VH3 | +0.84 | TEH | TEC | | | 24 | COLD | 600UL |
| 78 | 148 | 0.59 | 143 | P 2 | TWD | 20 | 08C | -0.86 | TEH | TEC | | | 26 | COLD | 600UL |
| 78 | 154 | 0.49 | 134 | P 2 | TWD | 18 | VC3 | +0.88 | TEH | TEC | | | 28 | COLD | 600UL |
| 79 | 73 | 0.40 | 97 | P 2 | TWD | 14 | VSM | +0.79 | TEC | TEH | | | 31 | HOT | 600UL |
| 79 | 103 | 0.37 | 28 | P 1 | SCI | | TSH | +0.00 | TSH | TSH | 0.58 | 0.30 | 60 | HOT | 600PP |
| 79 | 143 | 0.20 | 134 | P 2 | TWD | 9 | DBC | -1.26 | TEH | TEC | | | 23 | COLD | 600UL |
| 80 | 24 | 0.37 | 97 | 2 | SAI | | 06H | +0.22 | 06H | 06H | 0.31 | 0.17 | 123 | HOT | 580PP |
| 80 | 80 | 0.45 | 133 | P 2 | TWD | 15 | VSM | -0.82 | TEC | TEH | | | 31 | HOT | 600UL |
| 80 | 112 | 0.25 | 87 | P 2 | TWD | 10 | VSM | -0.91 | TEC | TEH | | | 9 | HOT | 600UL |
| 81 | 23 | 0.47 | 57 | P 2 | TWD | 18 | DBC | +1.60 | TEH | TEC | | | 49 | COLD | 600UL |
| 81 | 39 | 0.23 | 101 | P 2 | TWD | 9 | VSM | +0.92 | TEH | TEC | | | 3 | COLD | 600UL |
| 81 | 97 | 0.30 | 21 | P 1 | SCI | | TSH | -0.10 | TSH | TSH | 0.43 | 0.27 | 63 | HOT | 600PP |
| 81 | 151 | 0.37 | 137 | P 2 | TWD | 14 | VH3 | +0.62 | TEH | TEC | | | 28 | COLD | 600UL |
| 82 | 54 | 0.86 | 118 | P 2 | TWD | 26 | VH3 | -0.84 | TEC | TEH | | | 11 | HOT | 600UL |
| 82 | 72 | 0.26 | 20 | P 1 | SCI | | TSH | -0.15 | TSH | TSH | 0.39 | 0.19 | 69 | HOT | 600PP |
| 82 | 88 | 0.29 | 20 | P 1 | MCI | | TSH | -0.11 | TSH | TSH | 0.33 | 0.19 | 73 | HOT | 600PP |
| 83 | 111 | 0.42 | 29 | P 1 | SCI | | TSH | -0.12 | TSH | TSH | 0.19 | 0.25 | 67 | HOT | 600PP |
| 83 | 129 | 0.27 | 71 | P 2 | TWD | 12 | VC2 | +0.55 | TEC | TEH | | | 9 | HOT | 600UL |
| 84 | 24 | 0.33 | 133 | 2 | SAI | | 06H | -0.29 | 06H | 06H | 0.65 | 0.24 | 123 | HOT | 580PP |
| 84 | 104 | 0.40 | 29 | P 2 | TWD | 15 | 09H | -1.11 | TEC | TEH | | | 34 | HOT | 600UL |
| 84 | 114 | 0.31 | 117 | P 2 | TWD | 14 | 09C | +0.00 | TEC | TEH | | | 9 | HOT | 600UL |

SG88 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 85 | 27 | 0.26 | 125 | 2 | SAI | 07H | +0.48 | | 07H | 07H | 0.12 | 0.24 | 123 | HOT | 580PP |
| 85 | 67 | 0.45 | 96 | P 2 | TWD | 16 | VH2 | -0.74 | TEC | TEH | | | 17 | HOT | 600UL |
| 85 | 91 | 0.47 | 123 | P 2 | TWD | 18 | 09H | -1.15 | TEC | TEH | | | 34 | HOT | 600UL |
| 85 | 119 | 0.39 | 73 | P 2 | TWD | 16 | 09H | +1.50 | TEC | TEH | LOCOK | | 9 | HOT | 600UL |
| 85 | 141 | 0.47 | 96 | P 2 | TWD | 18 | 09H | +1.44 | TEH | TEC | LOCOK | | 23 | COLD | 600UL |
| 86 | 86 | 0.19 | 115 | P 1 | SCI | | TSH | +0.05 | TSH | TSH | 0.00 | 0.33 | 170 | HOT | 580PP |
| 86 | 130 | 0.35 | 128 | P 2 | TWD | 13 | VC2 | +0.80 | TEH | TEC | | | 21 | COLD | 600UL |
| 87 | 37 | 0.42 | 126 | P 2 | TWD | 15 | VH2 | -0.78 | TEH | TEC | | | 5 | COLD | 600UL |
| | | 0.34 | 126 | P 2 | TWD | 13 | VH2 | +0.76 | TEH | TEC | | | 5 | COLD | 600UL |
| 87 | 125 | 0.30 | 113 | P 2 | TWD | 13 | VH2 | -0.83 | TEC | TEH | | | 9 | HOT | 600UL |
| 87 | 127 | 0.37 | 55 | P 2 | TWD | 14 | VH2 | -0.81 | TEC | TEH | | | 9 | HOT | 600UL |
| 87 | 129 | 0.32 | 129 | P 2 | TWD | 14 | VH2 | -0.79 | TEC | TEH | | | 9 | HOT | 600UL |
| 87 | 133 | 0.33 | 106 | 2 | SAI | | 06H | -0.02 | 06H | 06H | 0.99 | 0.59 | 117 | HOT | 580PP |
| 88 | 30 | 0.25 | 115 | 2 | SAI | | 07H | +0.72 | 07H | 07H | 0.23 | 0.35 | 123 | HOT | 580PP |
| | | 0.24 | 101 | 2 | SAI | | 07H | -0.20 | 07H | 07H | 0.33 | 0.31 | 123 | HOT | 580PP |
| 88 | 52 | 0.46 | 53 | P 2 | TWD | 16 | VH2 | +0.86 | TEC | TEH | | | 11 | HOT | 600UL |
| 89 | 33 | 0.29 | 151 | P 2 | TWD | 11 | VH2 | -0.86 | TEH | TEC | | | 52 | COLD | 600UL |
| 89 | 37 | 0.44 | 121 | P 2 | TWD | 16 | VH2 | -0.76 | TEH | TEC | | | 5 | COLD | 600UL |
| | | 0.27 | 73 | P 2 | TWD | 10 | VH2 | +0.78 | TEH | TEC | | | 5 | COLD | 600UL |
| 89 | 51 | 0.37 | 110 | P 2 | TWD | 14 | VH3 | +0.82 | TEC | TEH | | | 11 | HOT | 600UL |
| 89 | 61 | 0.40 | 142 | P 2 | TWD | 15 | VH3 | +0.84 | TEC | TEH | | | 15 | HOT | 600UL |
| | | 0.39 | 83 | P 2 | TWD | 15 | VH3 | -0.84 | TEC | TEH | | | 15 | HOT | 600UL |
| 89 | 123 | 0.47 | 120 | P 2 | TWD | 16 | VH2 | -0.95 | TEC | TEH | | | 10 | HOT | 600UL |
| 89 | 125 | 0.37 | 28 | P 2 | TWD | 14 | VH2 | -0.99 | TEC | TEH | | | 9 | HOT | 600UL |
| 89 | 127 | 0.58 | 127 | P 2 | TWD | 19 | VH2 | -0.93 | TEC | TEH | | | 10 | HOT | 600UL |
| 89 | 141 | 0.41 | 60 | P 2 | TWD | 17 | VH2 | +0.77 | TEH | TEC | | | 23 | COLD | 600UL |
| | | 0.28 | 96 | P 2 | TWD | 11 | VC2 | +0.75 | TEH | TEC | | | 23 | COLD | 600UL |
| 89 | 143 | 0.38 | 142 | P 2 | TWD | 15 | VH2 | -0.81 | TEH | TEC | | | 23 | COLD | 600UL |
| 90 | 40 | 0.18 | 83 | 2 | SAI | | 07H | -0.53 | 07H | 07H | 0.15 | 0.23 | 127 | HOT | 580PP |
| 90 | 58 | 0.46 | 24 | P 1 | SCI | | TSH | -0.15 | TSH | TSH | 0.68 | 0.19 | 65 | HOT | 600PP |
| 90 | 78 | 0.57 | 109 | P 2 | TWD | 20 | 03H | -1.03 | TEH | TEC | | | 7 | COLD | 600UL |
| 90 | 148 | 0.41 | 33 | P 2 | TWD | 16 | VH2 | +0.90 | TEH | TEC | | | 19 | COLD | 600UL |
| 92 | 26 | 0.66 | 70 | P 2 | TWD | 23 | VH2 | -0.81 | TEH | TEC | | | 55 | COLD | 600UL |
| 92 | 36 | 0.68 | 43 | P 2 | TWD | 24 | VH2 | -0.81 | TEH | TEC | | | 55 | COLD | 600UL |
| | | 0.29 | 68 | P 2 | TWD | 12 | VSM | +0.85 | TEH | TEC | | | 55 | COLD | 600UL |
| 93 | 153 | 0.50 | 59 | P 2 | TWD | 18 | 05C | -0.88 | TEH | TEC | | | 19 | COLD | 600UL |
| | | 0.43 | 78 | P 2 | TWD | 17 | 03C | +0.91 | TEH | TEC | | | 19 | COLD | 600UL |
| 94 | 32 | 0.44 | 101 | P 2 | TWD | 17 | VH2 | -0.84 | TEH | TEC | | | 54 | COLD | 600UL |
| 94 | 84 | 0.31 | 158 | P 2 | TWD | 12 | VH3 | +0.84 | TEH | TEC | | | 8 | COLD | 600UL |
| 94 | 116 | 0.35 | 70 | P 2 | TWD | 15 | 01H | +0.81 | TEC | TEH | | | 1 | HOT | 600UL |
| 94 | 138 | 0.30 | 79 | P 2 | TWD | 12 | VSM | +0.19 | TEH | TEC | | | 19 | COLD | 600UL |

SG88 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 95 | 39 | 0.30 | 123 | P 2 | TWD | 13 | VSM | +0.69 | TEH | TEC | | | 54 | COLD | 600UL |
| 96 | 30 | 0.27 | 109 | P 2 | TWD | 12 | 06H | +0.80 | TEH | TEC | | | 54 | COLD | 600UL |
| 96 | 50 | 0.46 | 54 | P 2 | TWD | 18 | VC2 | +0.80 | TEC | TEH | | | 8 | HOT | 600UL |
| 96 | 150 | 0.53 | 116 | P 2 | TWD | 19 | VH2 | -0.96 | TEH | TEC | | | 20 | COLD | 600UL |
| 97 | 51 | 0.32 | 73 | P 2 | TWD | 13 | 08C | -0.82 | TEC | TEH | | | 7 | HOT | 600UL |
| 97 | 97 | 0.41 | 24 | P 1 | SCI | | TSH | -0.11 | TSH | TSH | 0.23 | 0.17 | 78 | HOT | 580PP |
| 98 | 74 | 0.27 | 163 | P 2 | TWD | 11 | VC2 | +0.78 | TEH | TEC | | | 8 | COLD | 600UL |
| 98 | 88 | 0.28 | 140 | P 2 | TWD | 11 | VH2 | -0.63 | TEH | TEC | | | 10 | COLD | 600UL |
| 99 | 51 | 0.39 | 90 | P 2 | TWD | 15 | VC2 | -0.76 | TEC | TEH | | | 7 | HOT | 600UL |
| 99 | 121 | 0.27 | 115 | P 2 | TWD | 12 | VH2 | -0.89 | TEC | TEH | | | 1 | HOT | 600UL |
| 99 | 123 | 0.19 | 113 | P 2 | TWD | 9 | VC2 | +0.55 | TEC | TEH | | | 5 | HOT | 600UL |
| 100 | 120 | 0.28 | 65 | P 2 | TWD | 13 | 05H | -0.24 | TEC | TEH | | | 1 | HOT | 600UL |
| 100 | 122 | 0.26 | 69 | P 2 | TWD | 10 | VH3 | -0.84 | TEC | TEH | | | 6 | HOT | 600UL |
| 101 | 27 | 0.31 | 56 | P 2 | TWD | 13 | VH2 | +0.75 | TEH | TEC | | | 54 | COLD | 600UL |
| 101 | 147 | 0.52 | 148 | P 2 | TWD | 19 | VSM | -0.66 | TEH | TEC | | | 19 | COLD | 600UL |
| 102 | 26 | 0.39 | 45 | P 2 | TWD | 16 | 06H | +0.83 | TEH | TEC | | | 55 | COLD | 600UL |
| 105 | 133 | 0.15 | 70 | 2 | SAI | | 08H | -0.41 | 08H | 08H | 0.30 | 0.46 | 155 | HOT | 580PP |
| 106 | 30 | 0.35 | 125 | P 2 | TWD | 15 | 06H | +0.84 | TEH | TEC | | | 54 | COLD | 600UL |
| 107 | 97 | 0.23 | 140 | P 2 | TWD | 10 | VH3 | -0.84 | TEH | TEC | | | 11 | COLD | 600UL |
| 107 | 115 | 0.27 | 35 | P 2 | TWD | 8 | VH2 | +0.86 | 07H | TEC | | | 33 | COLD | 600UL |
| 107 | 125 | 0.21 | 112 | P 2 | TWD | 7 | DBH | -1.61 | TEC | TEH | | | 6 | HOT | 600UL |
| 108 | 36 | 0.35 | 65 | P 2 | TWD | 15 | DBC | -1.64 | TEH | TEC | | | 55 | COLD | 600UL |
| 110 | 138 | 0.37 | 141 | P 2 | TWD | 14 | VC3 | -0.88 | TEH | TEC | | | 19 | COLD | 600UL |
| 111 | 37 | 0.61 | 37 | P 2 | TWD | 22 | DBH | +1.07 | TEH | TEC | | | 54 | COLD | 600UL |
| 111 | 57 | 0.38 | 54 | P 2 | TWD | 15 | VH3 | -0.80 | TEC | TEH | | | 7 | HOT | 600UL |
| 111 | 93 | 0.22 | 78 | P 2 | TWD | 9 | 05H | +0.93 | TEH | TEC | | | 11 | COLD | 600UL |
| 111 | 101 | 0.23 | 89 | P 2 | TWD | 10 | DBH | -0.91 | TEH | TEC | | | 44 | COLD | 600UL |
| 112 | 92 | 0.40 | 48 | P 2 | TWD | 16 | VH2 | -0.77 | TEH | TEC | | | 11 | COLD | 600UL |
| 112 | 144 | 1.00 | 165 | P 2 | TWD | 28 | DBH | +2.04 | TEH | TEC | | | 20 | COLD | 600UL |
| 113 | 37 | 0.31 | 118 | P 2 | TWD | 13 | VH2 | -0.97 | TEH | TEC | | | 55 | COLD | 600UL |
| 113 | 39 | 0.45 | 130 | P 2 | TWD | 18 | DBH | +1.79 | TEH | TEC | | | 55 | COLD | 600UL |
| 113 | 41 | 0.54 | 113 | P 2 | TWD | 20 | VH2 | -0.59 | TEH | TEC | | | 53 | COLD | 600UL |
| 113 | 99 | 0.31 | 138 | P 2 | TWD | 12 | VH2 | -0.84 | TEH | TEC | | | 12 | COLD | 600UL |
| 114 | 96 | 0.30 | 156 | P 2 | TWD | 12 | VH3 | -0.79 | TEH | TEC | | | 12 | COLD | 600UL |
| 114 | 108 | 0.14 | 126 | P 1 | SCI | | TSH | +0.03 | TSH | TSH | 0.00 | 0.18 | 86 | HOT | 580PP |
| 114 | 110 | 0.32 | 94 | P 2 | TWD | 14 | DBH | -1.75 | TEC | TEH | | | 1 | HOT | 600UL |
| 116 | 102 | 0.42 | 125 | P 2 | TWD | 17 | DBH | +0.65 | TEH | TEC | | | 11 | COLD | 600UL |

SG88 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 118 | 88 | 0.40 | 125 | P 2 | TWD | 15 | VH1 | -0.71 | TEH | TEC | | | 10 | COLD | 600UL |
| | | 0.36 | 121 | P 2 | TWD | 14 | VH1 | +0.71 | TEH | TEC | | | 10 | COLD | 600UL |
| 119 | 39 | 0.27 | 152 | P 2 | TWD | 11 | VH1 | -0.92 | TEH | TEC | | | 54 | COLD | 600UL |
| 119 | 41 | 0.34 | 138 | P 2 | TWD | 12 | VH1 | -0.82 | TEH | TEC | | | 52 | COLD | 600UL |
| 119 | 55 | 0.35 | 95 | P 2 | TWD | 14 | DBH | +1.69 | TEC | TEH | | | 7 | HOT | 600UL |
| 119 | 59 | 0.40 | 132 | P 2 | TWD | 14 | VH1 | -1.01 | TEC | TEH | | | 3 | HOT | 600UL |
| 119 | 61 | 0.36 | 136 | P 2 | TWD | 13 | VH1 | -1.02 | TEC | TEH | | | 3 | HOT | 600UL |
| 119 | 65 | 0.32 | 126 | P 2 | TWD | 12 | VH1 | -1.17 | TEC | TEH | | | 3 | HOT | 600UL |
| 119 | 67 | 0.41 | 136 | P 2 | TWD | 15 | VH1 | -0.99 | TEC | TEH | | | 3 | HOT | 600UL |
| 119 | 79 | 0.50 | 114 | P 2 | TWD | 19 | DBH | +2.00 | TEH | TEC | | | 8 | COLD | 600UL |
| 119 | 95 | 0.47 | 104 | P 2 | TWD | 18 | DBH | -1.32 | TEH | TEC | | | 11 | COLD | 600UL |
| 119 | 101 | 0.39 | 113 | P 2 | TWD | 15 | DBH | -1.85 | TEH | TEC | | | 11 | COLD | 600UL |
| 120 | 38 | 0.43 | 115 | P 2 | TWD | 17 | DBC | +1.83 | TEH | TEC | | | 55 | COLD | 600UL |
| 120 | 72 | 0.65 | 76 | P 2 | TWD | 22 | 09C | -1.10 | TEH | TEC | | | 5 | COLD | 600UL |
| 120 | 74 | 0.30 | 103 | P 2 | TWD | 12 | 10H | -1.25 | TEH | TEC | | | 7 | COLD | 600UL |
| 120 | 80 | 0.33 | 78 | P 2 | TWD | 13 | DBH | -1.90 | TEH | TEC | | | 8 | COLD | 600UL |
| 120 | 86 | 0.25 | 65 | P 2 | TWD | 9 | DBH | -1.69 | TEH | TEC | | | 9 | COLD | 600UL |
| | | 0.39 | 100 | P 2 | TWD | 14 | 10H | +1.45 | TEH | TEC | LOCOK | | 9 | COLD | 600UL |
| 120 | 88 | 0.39 | 65 | P 2 | TWD | 14 | 03H | -0.15 | TEH | TEC | | | 9 | COLD | 600UL |
| 120 | 92 | 0.27 | 116 | P 2 | TWD | 11 | 10H | +0.11 | TEH | TEC | | | 11 | COLD | 600UL |
| | | 0.36 | 82 | P 2 | TWD | 14 | DBH | -2.10 | TEH | TEC | | | 11 | COLD | 600UL |
| 120 | 120 | 0.30 | 122 | P 2 | TWD | 13 | VH1 | +0.90 | TEC | TEH | | | 1 | HOT | 600UL |
| 120 | 138 | 0.54 | 62 | P 2 | TWD | 19 | DBH | -1.62 | TEH | TEC | | | 20 | COLD | 600UL |
| 121 | 39 | 0.44 | 38 | P 2 | TWD | 18 | 03C | -0.94 | TEH | TEC | | | 55 | COLD | 600UL |
| 121 | 41 | 0.52 | 146 | P 2 | TWD | 19 | VH1 | -0.83 | TEH | TEC | | | 53 | COLD | 600UL |
| | | 0.31 | 47 | P 2 | TWD | 13 | VH1 | +0.76 | TEH | TEC | | | 53 | COLD | 600UL |
| 121 | 57 | 0.36 | 98 | P 2 | TWD | 15 | VH1 | -1.05 | TEC | TEH | | | 8 | HOT | 600UL |
| 121 | 67 | 0.21 | 41 | P 2 | TWD | 8 | DBH | -1.51 | TEC | TEH | | | 4 | HOT | 600UL |
| 121 | 75 | 0.43 | 133 | P 2 | TWD | 16 | VH1 | -0.78 | TEH | TEC | | | 8 | COLD | 600UL |
| 121 | 95 | 0.62 | 118 | P 2 | TWD | 21 | VH1 | -0.86 | TEH | TEC | | | 12 | COLD | 600UL |
| 121 | 97 | 0.47 | 138 | P 2 | TWD | 16 | 10H | +0.00 | TEH | TEC | | | 12 | COLD | 600UL |
| 121 | 99 | 0.57 | 151 | P 2 | TWD | 19 | VH1 | -0.73 | TEH | TEC | | | 12 | COLD | 600UL |
| 121 | 125 | 0.26 | 96 | P 2 | TWD | 12 | 10H | +0.70 | TEC | TEH | | | 5 | HOT | 600UL |
| 122 | 94 | 0.30 | 143 | P 2 | TWD | 12 | DBH | +2.22 | TEH | TEC | | | 12 | COLD | 600UL |
| 122 | 96 | 0.52 | 131 | P 2 | TWD | 19 | DBH | +1.85 | TEH | TEC | | | 12 | COLD | 600UL |
| 122 | 112 | 0.20 | 91 | P 2 | TWD | 9 | 10H | -1.16 | TEC | TEH | | | 1 | HOT | 600UL |
| 122 | 114 | 0.34 | 84 | P 2 | TWD | 14 | 10H | +0.86 | TEC | TEH | | | 1 | HOT | 600UL |
| 122 | 124 | 0.46 | 126 | P 2 | TWD | 19 | DBH | +1.85 | TEC | TEH | | | 5 | HOT | 600UL |
| 123 | 41 | 0.45 | 135 | P 2 | TWD | 17 | VH1 | -0.87 | TEH | TEC | | | 53 | COLD | 600UL |
| 123 | 55 | 0.47 | 100 | P 2 | TWD | 17 | VH1 | +0.00 | TEC | TEH | | | 7 | HOT | 600UL |

SG88 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 123 | 65 | 0.36 | 127 | P 2 | TWD | 13 | DBH | +0.02 | TEC | TEH | | | 3 | HOT | 600UL |
| | | 0.57 | 122 | P 2 | TWD | 19 | VH1 | -0.91 | TEC | TEH | | | 3 | HOT | 600UL |
| 123 | 67 | 0.44 | 137 | P 2 | TWD | 15 | VH1 | -0.88 | TEC | TEH | | | 3 | HOT | 600UL |
| 123 | 71 | 0.38 | 133 | P 2 | TWD | 13 | VH1 | -0.84 | TEH | TEC | | | 5 | COLD | 600UL |
| 123 | 77 | 0.28 | 102 | P 2 | TWD | 12 | VH2 | -0.79 | TEH | TEC | | | 7 | COLD | 600UL |
| 123 | 85 | 0.46 | 145 | P 2 | TWD | 17 | VH1 | -0.81 | TEH | TEC | | | 8 | COLD | 600UL |
| 123 | 97 | 0.50 | 144 | P 2 | TWD | 17 | VH1 | -0.84 | TEH | TEC | | | 43 | COLD | 600UL |
| 123 | 109 | 0.43 | 107 | P 2 | TWD | 17 | VH1 | -1.07 | TEC | TEH | | | 1 | HOT | 600UL |
| 123 | 111 | 0.46 | 67 | P 2 | TWD | 18 | DBH | +1.73 | TEC | TEH | | | 1 | HOT | 600UL |
| | | 0.40 | 91 | P 2 | TWD | 17 | VH1 | -0.99 | TEC | TEH | | | 1 | HOT | 600UL |
| | | 0.27 | 106 | P 2 | TWD | 12 | 10H | -0.99 | TEC | TEH | | | 1 | HOT | 600UL |
| 123 | 115 | 0.37 | 95 | P 2 | TWD | 15 | VH1 | -1.04 | TEC | TEH | | | 1 | HOT | 600UL |
| 123 | 117 | 0.46 | 122 | P 2 | TWD | 19 | VH1 | -0.96 | TEC | TEH | | | 1 | HOT | 600UL |
| 123 | 121 | 0.47 | 94 | P 2 | TWD | 19 | VH1 | -0.99 | TEC | TEH | | | 1 | HOT | 600UL |
| 124 | 64 | 0.31 | 53 | P 2 | TWD | 13 | 10H | -0.97 | TEC | TEH | | | 4 | HOT | 600UL |
| 124 | 76 | 0.31 | 112 | P 2 | TWD | 12 | VH1 | -0.79 | TEH | TEC | | | 7 | COLD | 600UL |
| 125 | 57 | 0.32 | 81 | P 2 | TWD | 14 | VC3 | +0.73 | TEC | TEH | | | 8 | HOT | 600UL |
| 125 | 83 | 0.39 | 145 | P 2 | TWD | 15 | VH1 | -0.84 | TEH | TEC | | | 8 | COLD | 600UL |
| | | 0.77 | 135 | P 2 | TWD | 25 | DBH | +2.05 | TEH | TEC | | | 8 | COLD | 600UL |
| 125 | 85 | 0.42 | 128 | P 2 | TWD | 16 | VH1 | -0.82 | TEH | TEC | | | 7 | COLD | 600UL |
| | | 0.25 | 122 | P 2 | TWD | 11 | VH2 | -0.91 | TEH | TEC | | | 7 | COLD | 600UL |
| 125 | 91 | 0.25 | 134 | P 2 | TWD | 10 | DBH | +1.83 | TEH | TEC | | | 11 | COLD | 600UL |
| 125 | 97 | 0.58 | 131 | P 2 | TWD | 20 | VH1 | -0.96 | TEH | TEC | | | 12 | COLD | 600UL |
| 126 | 62 | 0.70 | 109 | P 2 | TWD | 23 | 10H | -0.98 | TEC | TEH | | | 4 | HOT | 600UL |
| 126 | 86 | 0.46 | 137 | P 2 | TWD | 17 | DBH | +1.94 | TEH | TEC | | | 10 | COLD | 600UL |
| 126 | 90 | 0.42 | 122 | P 2 | TWD | 16 | DBH | +1.96 | TEH | TEC | | | 10 | COLD | 600UL |
| 126 | 92 | 0.27 | 135 | P 2 | TWD | 10 | VH1 | -0.84 | TEH | TEC | | | 12 | COLD | 600UL |
| 126 | 112 | 0.37 | 29 | P 2 | TWD | 16 | DBH | +1.75 | TEC | TEH | | | 1 | HOT | 600UL |
| 127 | 53 | 0.48 | 69 | P 2 | TWD | 18 | VH1 | -0.92 | TEC | TEH | | | 7 | HOT | 600UL |
| 127 | 59 | 0.43 | 106 | P 2 | TWD | 15 | VH1 | -1.02 | TEC | TEH | | | 3 | HOT | 600UL |
| 127 | 67 | 0.36 | 108 | P 2 | TWD | 13 | VH1 | -0.79 | TEC | TEH | | | 3 | HOT | 600UL |
| 127 | 75 | 0.42 | 152 | P 2 | TWD | 16 | VH1 | -0.94 | TEH | TEC | | | 7 | COLD | 600UL |
| | | 0.25 | 139 | P 2 | TWD | 11 | VH1 | +0.79 | TEH | TEC | | | 7 | COLD | 600UL |
| 127 | 87 | 0.44 | 111 | P 2 | TWD | 15 | 09H | -1.01 | TEH | TEC | | | 9 | COLD | 600UL |
| | | 0.49 | 127 | P 2 | TWD | 17 | 10H | -1.03 | TEH | TEC | | | 9 | COLD | 600UL |
| 127 | 95 | 0.33 | 149 | P 2 | TWD | 14 | VH1 | -0.92 | TEH | TEC | | | 11 | COLD | 600UL |
| 127 | 99 | 0.39 | 125 | P 2 | TWD | 16 | VH1 | -0.87 | TEH | TEC | | | 11 | COLD | 600UL |
| 127 | 101 | 0.19 | 103 | P 2 | TWD | 8 | VH3 | +0.78 | TEH | TEC | | | 11 | COLD | 600UL |
| 127 | 107 | 0.53 | 119 | P 2 | TWD | 18 | VH1 | -0.71 | TEC | TEH | | | 2 | HOT | 600UL |
| 127 | 109 | 0.27 | 102 | P 2 | TWD | 12 | VH1 | -0.98 | TEC | TEH | | | 1 | HOT | 600UL |
| | | 0.56 | 121 | P 2 | TWD | 21 | 09H | -0.99 | TEC | TEH | | | 1 | HOT | 600UL |

SG88 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 127 | 115 | 0.37 | 137 | P 2 | TWD | 15 | VH1 -0.93 | | TEC | TEH | | | 1 | HOT | 600UL |
| 127 | 121 | 0.32 | 122 | P 2 | TWD | 13 | VH1 -0.99 | | TEC | TEH | | | 1 | HOT | 600UL |
| 127 | 125 | 0.54 | 117 | P 2 | TWD | 18 | VH1 -0.86 | | TEC | TEH | | | 6 | HOT | 600UL |
| 128 | 60 | 0.54 | 110 | P 2 | TWD | 19 | 10H -0.97 | | TEC | TEH | | | 4 | HOT | 600UL |
| 128 | 68 | 0.30 | 27 | P 2 | TWD | 12 | DBH +1.51 | | TEC | TEH | | | 4 | HOT | 600UL |
| 128 | 88 | 0.64 | 108 | P 2 | TWD | 21 | 10H -1.10 | | TEH | TEC | | | 9 | COLD | 600UL |
| 128 | 108 | 0.29 | 119 | P 2 | TWD | 11 | VH1 -0.67 | | TEC | TEH | | | 2 | HOT | 600UL |
| 128 | 110 | 0.26 | 88 | P 2 | TWD | 10 | VH1 +0.78 | | TEC | TEH | | | 2 | HOT | 600UL |
| 129 | 47 | 0.67 | 143 | P 2 | TWD | 24 | VH3 -0.88 | | TEC | TEH | | | 8 | HOT | 600UL |
| 129 | 63 | 0.31 | 127 | P 2 | TWD | 12 | 10H -0.13 | | TEC | TEH | | | 4 | HOT | 600UL |
| 129 | 67 | 0.33 | 46 | P 2 | TWD | 13 | DBH -1.73 | | TEC | TEH | | | 4 | HOT | 600UL |
| 129 | 73 | 0.46 | 153 | P 2 | TWD | 18 | VH1 -0.75 | | TEH | TEC | | | 8 | COLD | 600UL |
| 129 | 75 | 0.57 | 87 | P 2 | TWD | 20 | VH1 -0.80 | | TEH | TEC | | | 8 | COLD | 600UL |
| 129 | 87 | 0.41 | 152 | P 2 | TWD | 15 | VH1 -0.91 | | TEH | TEC | | | 10 | COLD | 600UL |
| 129 | 95 | 0.50 | 125 | P 2 | TWD | 17 | DBH +2.09 | | TEH | TEC | | | 12 | COLD | 600UL |
| | | 0.54 | 133 | P 2 | TWD | 18 | VH1 -0.89 | | TEH | TEC | | | 12 | COLD | 600UL |
| 129 | 109 | 0.27 | 153 | P 2 | TWD | 10 | VH1 -0.76 | | TEC | TEH | | | 2 | HOT | 600UL |
| 129 | 119 | 0.51 | 83 | P 2 | TWD | 18 | VH1 -0.91 | | TEC | TEH | | | 2 | HOT | 600UL |
| 129 | 121 | 0.36 | 155 | P 2 | TWD | 13 | VH1 -0.81 | | TEC | TEH | | | 2 | HOT | 600UL |
| 130 | 70 | 0.45 | 88 | P 2 | TWD | 16 | VH1 -0.76 | | TEC | TEH | | | 3 | HOT | 600UL |
| 130 | 74 | 0.80 | 113 | P 2 | TWD | 26 | 10H -1.04 | | TEH | TEC | | | 8 | COLD | 600UL |
| 130 | 94 | 0.48 | 147 | P 2 | TWD | 16 | 10H -1.00 | | TEH | TEC | | | 12 | COLD | 600UL |
| 130 | 106 | 0.47 | 129 | P 2 | TWD | 17 | VH1 -0.79 | | TEH | TEC | | | 14 | COLD | 600UL |
| 130 | 128 | 0.52 | 80 | P 2 | TWD | 18 | VH2 -0.54 | | TEC | TEH | | | 6 | HOT | 600UL |
| 131 | 77 | 0.60 | 23 | P 2 | TWD | 21 | DBH +2.00 | | TEH | TEC | | | 13 | COLD | 600UL |
| 131 | 83 | 0.24 | 118 | P 2 | TWD | 10 | DBH -1.85 | | TEH | TEC | | | 13 | COLD | 600UL |
| 131 | 89 | 0.68 | 127 | P 2 | TWD | 23 | 10H +0.90 | | TEH | TEC | | | 13 | COLD | 600UL |
| 131 | 127 | 0.52 | 126 | P 2 | TWD | 19 | 03C +0.83 | | TEH | TEC | | | 17 | COLD | 600UL |
| 132 | 94 | 0.63 | 78 | P 2 | TWD | 22 | 10H +0.92 | | TEH | TEC | | | 13 | COLD | 600UL |
| 133 | 61 | 0.39 | 129 | P 2 | TWD | 15 | VH1 -0.98 | | TEH | TEC | | | 14 | COLD | 600UL |
| 133 | 75 | 0.49 | 143 | P 2 | TWD | 18 | DBH +1.91 | | TEH | TEC | | | 14 | COLD | 600UL |
| 133 | 83 | 0.41 | 148 | P 2 | TWD | 15 | 10H -1.02 | | TEH | TEC | | | 14 | COLD | 600UL |
| 133 | 87 | 0.45 | 85 | P 2 | TWD | 17 | VH1 -0.97 | | TEH | TEC | | | 14 | COLD | 600UL |
| 133 | 99 | 0.29 | 90 | P 2 | TWD | 11 | VH1 -0.89 | | TEH | TEC | | | 14 | COLD | 600UL |
| 133 | 109 | 0.12 | 143 | 2 | SAI | | 07H -7.41 | TO-9.41 | 07H | 07H | 0.40 | 2.00 | 159 | HOT | 580PP |
| | | 0.09 | 122 | 2 | SAI | | 07H -13.68 | TO-15.84 | 07H | 07H | 0.40 | 2.16 | 159 | HOT | 580PP |
| | | 0.18 | 122 | 2 | SAI | | 07H -16.47 | TO-22.50 | 07H | 07H | 2.00 | 4.90 | 159 | HOT | 580PP |
| 133 | 115 | 0.50 | 128 | P 2 | TWD | 18 | 10H +0.92 | | TEH | TEC | | | 17 | COLD | 600UL |
| 134 | 68 | 0.29 | 119 | P 2 | TWD | 11 | 10H -0.75 | | TEH | TEC | LAR | | 14 | COLD | 600UL |

SG88 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 134 | 84 | 0.34 | 38 | P 2 | TWD | 13 | 10H | -1.02 | TEH | TEC | | | 14 | COLD | 600UL |
| 134 | 86 | 0.51 | 104 | P 2 | TWD | 19 | 10H | -1.04 | TEH | TEC | | | 13 | COLD | 600UL |
| 134 | 100 | 0.44 | 159 | P 2 | TWD | 15 | 10H | +0.95 | TEH | TEC | | | 16 | COLD | 600UL |
| 135 | 81 | 0.61 | 140 | P 2 | TWD | 21 | VH1 | -0.83 | TEH | TEC | | | 14 | COLD | 600UL |
| 135 | 87 | 0.24 | 161 | P 2 | TWD | 10 | 10H | -0.94 | TEH | TEC | | | 13 | COLD | 600UL |
| 135 | 93 | 0.30 | 79 | P 2 | TWD | 12 | 10H | +0.88 | TEH | TEC | | | 13 | COLD | 600UL |
| 135 | 97 | 0.24 | 120 | P 2 | TWD | 10 | 10H | +0.94 | TEH | TEC | | | 13 | COLD | 600UL |
| | | 0.26 | 130 | P 2 | TWD | 10 | 10H | -1.06 | TEH | TEC | | | 13 | COLD | 600UL |
| 136 | 74 | 0.55 | 110 | P 2 | TWD | 20 | 10H | -1.01 | TEH | TEC | | | 13 | COLD | 600UL |
| 136 | 86 | 0.72 | 135 | P 2 | TWD | 23 | 10H | -1.07 | TEH | TEC | | | 14 | COLD | 600UL |
| 137 | 91 | 0.42 | 156 | P 2 | TWD | 16 | 10H | -1.08 | TEH | TEC | | | 14 | COLD | 600UL |
| 137 | 119 | 0.52 | 71 | P 2 | TWD | 17 | 01C | -0.99 | TEH | TEC | | | 18 | COLD | 600UL |
| 138 | 74 | 0.33 | 70 | P 2 | TWD | 13 | VH1 | -0.75 | TEH | TEC | | | 13 | COLD | 600UL |
| 138 | 78 | 0.38 | 94 | P 2 | TWD | 15 | VH1 | -0.71 | TEH | TEC | | | 13 | COLD | 600UL |
| 139 | 71 | 0.32 | 145 | P 2 | TWD | 13 | VH1 | -0.89 | TEH | TEC | | | 13 | COLD | 600UL |
| 139 | 105 | 0.49 | 131 | P 2 | TWD | 17 | 10H | +0.88 | TEH | TEC | | | 18 | COLD | 600UL |
| 140 | 88 | 0.27 | 147 | P 2 | TWD | 11 | DBH | +2.00 | TEH | TEC | | | 13 | COLD | 600UL |
| 141 | 65 | 0.48 | 139 | P 2 | TWD | 17 | 08C | +0.83 | TEH | TEC | | | 14 | COLD | 600UL |
| 141 | 67 | 0.68 | 123 | P 2 | TWD | 22 | VC1 | +0.85 | TEH | TEC | | | 14 | COLD | 600UL |
| 141 | 79 | 0.35 | 145 | P 2 | TWD | 14 | VC1 | +0.91 | TEH | TEC | | | 13 | COLD | 600UL |
| | | 0.87 | 75 | P 2 | TWD | 27 | DBC | +1.57 | TEH | TEC | | | 13 | COLD | 600UL |
| 142 | 72 | 0.71 | 87 | P 2 | TWD | 23 | DBC | +1.43 | TEH | TEC | | | 14 | COLD | 600UL |
| 142 | 82 | 0.76 | 134 | P 2 | TWD | 24 | DBC | +1.98 | TEH | TEC | | | 14 | COLD | 600UL |
| 142 | 86 | 0.26 | 154 | P 2 | TWD | 10 | DBH | +1.88 | TEH | TEC | | | 13 | COLD | 600UL |
| 142 | 90 | 0.28 | 129 | P 2 | TWD | 11 | DBH | +1.86 | TEH | TEC | | | 13 | COLD | 600UL |
| 142 | 104 | 0.34 | 19 | P 2 | TWD | 12 | DBH | +1.90 | TEH | TEC | | | 16 | COLD | 600UL |
| 142 | 110 | 0.54 | 54 | P 2 | TWD | 18 | DBH | +1.97 | TEH | TEC | | | 18 | COLD | 600UL |
| 143 | 73 | 0.19 | 64 | P 2 | TWD | 8 | 01H | -0.89 | TEH | TEC | | | 13 | COLD | 600UL |
| 143 | 87 | 0.43 | 121 | 2 | SAI | | 06H | +0.48 | 06H | 06H | 0.00 | 0.23 | 166 | HOT | 580PP |
| 143 | 89 | 0.24 | 49 | P 2 | TWD | 10 | DBH | -1.90 | TEH | TEC | | | 13 | COLD | 600UL |
| 143 | 109 | 0.30 | 136 | P 2 | TWD | 10 | DBH | -1.51 | TEH | TEC | | | 18 | COLD | 600UL |
| 144 | 74 | 0.57 | 106 | P 2 | TWD | 20 | VC1 | +0.90 | TEH | TEC | | | 14 | COLD | 600UL |
| 144 | 78 | 0.41 | 141 | P 2 | TWD | 15 | DBC | -1.58 | TEH | TEC | | | 14 | COLD | 600UL |
| 144 | 80 | 0.40 | 138 | P 2 | TWD | 16 | DBH | +1.99 | TEH | TEC | | | 13 | COLD | 600UL |
| 144 | 82 | 0.75 | 88 | P 2 | TWD | 25 | DBC | +1.48 | TEH | TEC | | | 13 | COLD | 600UL |
| 144 | 84 | 0.61 | 102 | P 2 | TWD | 21 | DBC | +1.31 | TEH | TEC | | | 13 | COLD | 600UL |
| 144 | 86 | 0.30 | 147 | P 2 | TWD | 12 | DBH | +1.90 | TEH | TEC | | | 13 | COLD | 600UL |
| 144 | 88 | 0.86 | 37 | P 2 | TWD | 27 | DBC | +1.38 | TEH | TEC | | | 13 | COLD | 600UL |
| 144 | 90 | 0.78 | 57 | P 2 | TWD | 24 | DBC | +1.27 | TEH | TEC | | | 14 | COLD | 600UL |

SG88 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 144 | 96 | 0.34 | 139 | P 2 | TWD | 14 | DBH | +2.16 | TEH | TEC | | | 13 | COLD | 600UL |
| 144 | 106 | 1.01 | 91 | P 2 | TWD | 28 | DBC | +1.84 | TEH | TEC | | | 18 | COLD | 600UL |
| 145 | 73 | 0.44 | 130 | P 2 | TWD | 16 | 10H | -1.12 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 1.01 | 106 | P 2 | TWD | 29 | DBH | +1.72 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 0.63 | 133 | P 2 | TWD | 21 | VC1 | +0.92 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 1.32 | 18 | P 2 | TWD | 33 | DBC | +1.57 | TEH | TEC | | | 14 | COLD | 600UL |
| 145 | 75 | 0.74 | 88 | P 2 | TWD | 23 | DBH | +1.89 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 0.44 | 139 | P 2 | TWD | 16 | VH1 | -0.89 | TEH | TEC | | | 14 | COLD | 600UL |
| 145 | 79 | 0.39 | 147 | P 2 | TWD | 14 | DBC | +1.25 | TEH | TEC | | | 14 | COLD | 600UL |
| 145 | 81 | 0.49 | 146 | P 2 | TWD | 18 | VH1 | -0.85 | TEH | TEC | | | 13 | COLD | 600UL |
| | | 0.81 | 84 | P 2 | TWD | 26 | DBC | -1.32 | TEH | TEC | | | 13 | COLD | 600UL |
| 145 | 83 | 0.32 | 147 | P 2 | TWD | 12 | DBH | -1.74 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 0.48 | 80 | P 2 | TWD | 17 | VC1 | +0.91 | TEH | TEC | | | 14 | COLD | 600UL |
| 145 | 89 | 0.48 | 94 | P 2 | TWD | 17 | VC1 | +0.83 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 0.29 | 106 | P 2 | TWD | 11 | DBH | -1.72 | TEH | TEC | | | 14 | COLD | 600UL |
| 145 | 91 | 1.13 | 21 | P 2 | TWD | 30 | DBC | +1.51 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 0.43 | 138 | P 2 | TWD | 16 | VH2 | +0.71 | TEH | TEC | | | 14 | COLD | 600UL |
| 146 | 100 | 0.82 | 145 | P 2 | TWD | 24 | DBH | -1.85 | TEH | TEC | | | 16 | COLD | 600UL |
| 147 | 85 | 0.79 | 96 | P 2 | TWD | 25 | DBC | +1.52 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 0.72 | 139 | P 2 | TWD | 23 | VC1 | -0.83 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 0.40 | 140 | P 2 | TWD | 15 | DBH | -2.04 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 0.36 | 56 | P 2 | TWD | 14 | VH1 | +0.79 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 0.80 | 111 | P 2 | TWD | 25 | VC1 | +0.14 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 1.23 | 130 | P 2 | TWD | 32 | VC1 | +0.83 | TEH | TEC | | | 14 | COLD | 600UL |
| 147 | 89 | 0.36 | 121 | P 2 | TWD | 14 | VC2 | +0.81 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 1.29 | 131 | P 2 | TWD | 32 | VC1 | +0.79 | TEH | TEC | | | 14 | COLD | 600UL |
| 147 | 91 | 0.58 | 145 | P 2 | TWD | 20 | VC1 | -0.82 | TEH | TEC | | | 14 | COLD | 600UL |
| 147 | 93 | 0.22 | 147 | P 2 | TWD | 9 | DBH | -1.75 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 1.05 | 116 | P 2 | TWD | 29 | VC1 | +0.90 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 0.38 | 123 | P 2 | TWD | 14 | VC1 | -0.54 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 0.29 | 106 | P 2 | TWD | 11 | DBC | -1.57 | TEH | TEC | | | 14 | COLD | 600UL |

Total Tubes : 465
Total Records: 556

**Appendix 4**

**Inspection Summary**

**Steam Generator E-089**

SG89 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 175 | 0.22 | 19 | P 2 | TWD | 10 | DBH +1.25 | | DBH | TEH | LAR | | 14 | HOT | 600UL |
| 2 | 154 | 0.23 | 107 | 2 | SVI | | TSH +7.15 | TO+7.39 | TSH | TSH | 0.39 | 0.35 | 133 | HOT | 580PP |
| 2 | 158 | 0.17 | 111 | 2 | SVI | | TSH +5.77 | TO+5.92 | TSH | TSH | 0.31 | 0.29 | 133 | HOT | 580PP |
| 4 | 120 | 0.43 | 79 | 2 | SAI | | 07H -0.02 | | 07H | DBH | 0.71 | 0.18 | 130 | HOT | 580PP |
| 6 | 60 | 0.37 | 48 | P 2 | TWD | 17 | 02H -1.35 | | TEC | TEH | LOCOK | | 19 | HOT | 600UL |
| 7 | 175 | 0.31 | 56 | P 2 | TWD | 16 | 02C +0.83 | | TEH | TEC | | | 24 | COLD | 600UL |
| 9 | 33 | .1.25 | 13 | 2 | SAI | | 06H +0.51 | | 06H | 06H | 0.00 | 0.35 | 123 | HOT | 580PP |
| 9 | 39 | -0.41 | 65 | P 2 | TWD | 18 | 03H +0.85 | | TEH | TEC | | | 46 | COLD | 600UL |
| 10 | 52 | 0.34 | 90 | P 2 | TWD | 16 | 01C +0.23 | | TEC | TEH | | | 9 | HOT | 600UL |
| 11 | 119 | 0.30 | 65 | P 2 | TWD | 13 | 07H +0.87 | | TEC | TEH | | | 24 | HOT | 600UL |
| 11 | 141 | 0.56 | 26 | P 1 | SCI | | TSH -0.08 | | TSH | TSH | 0.64 | 0.16 | 43 | HOT | 600PP |
| 13 | 119 | 0.24 | 92 | 2 | SAI | | 06H -0.18 | | 06H | 06H | 0.30 | 0.18 | 129 | HOT | 580PP |
| 13 | 139 | 0.33 | 19 | P 1 | SCI | | TSH -4.91 | | TSH | TSH | 0.19 | 0.19 | 39 | HOT | 600PP |
| 14 | 116 | 0.36 | 87 | P 2 | TWD | 14 | 07H -0.23 | | TEC | TEH | | | 23 | HOT | 600UL |
| 14 | 174 | 0.11 | 86 | 2 | SAI | | 03H -1.25 | | 03H | 03H | 0.00 | 0.28 | 137 | HOT | 580PP |
| 16 | 42 | 0.25 | 17 | P 1 | SCI | | TSH -0.07 | | TSH | TSH | 0.13 | 0.20 | 61 | HOT | 600PP |
| 16 | 58 | 0.42 | 96 | P 2 | TWD | 17 | 07H -0.16 | | TEC | TEH | | | 22 | HOT | 600UL |
| 18 | 16 | 0.21 | 136 | 2 | SAI | | 06H +0.36 | | 06H | 06H | 0.35 | 0.25 | 117 | HOT | 580PP |
| 19 | 121 | 0.23 | 110 | 2 | SAI | | 04H -0.51 | | 04H | 04H | 0.67 | 0.20 | 129 | HOT | 580PP |
| 19 | 173 | 0.11 | 146 | P 2 | TWD | 6 | VSM +0.81 | | TEH | TEC | | | 24 | COLD | 600UL |
| 20 | 58 | 0.46 | 128 | P 2 | TWD | 19 | 01H +0.93 | | TEC | TEH | | | 22 | HOT | 600UL |
| 21 | 113 | 0.30 | 130 | P 2 | TWD | 13 | 07C +0.80 | | STH | TEC | | | 41 | COLD | 600UL |
| 22 | 2 | 0.54 | 139 | P 2 | TWD | 21 | VSM -0.89 | | TEH | TEC | | | 46 | COLD | 600UL |
| 22 | 60 | 0.73 | 16 | 2 | SAI | | TSH -1.48 | | TSH | TSH | 0.87 | 0.16 | 77 | HOT | 600PP |
| 22 | 66 | 0.47 | 16 | 2 | SAI | | TSH -2.22 | | TSH | TSH | 0.49 | 0.16 | 82 | HOT | 600PP |
| 22 | 126 | 0.15 | 108 | 2 | SAI | | 02H +5.14 | | 02H | 02H | 0.12 | 0.22 | 129 | HOT | 580PP |
| 23 | 169 | 0.42 | 67 | P 2 | TWD | 18 | 02H +0.88 | | TEH | TEC | | | 25 | COLD | 600UL |
| 24 | 48 | 0.79 | 26 | P 1 | SCI | | TSH -0.09 | | TSH | TSH | 0.98 | 0.21 | 86 | HOT | 580PP |
| 24 | 54 | 0.23 | 116 | P 1 | SCI | | TSH +0.16 | | TSH | TSH | 0.36 | 0.29 | 81 | HOT | 600PP |
| 24 | 112 | 0.17 | 131 | P 1 | MCI | | TSH +0.00 | TO+0.12 | TSH | TSH | 0.17 | 0.17 | 60 | HOT | 600PP |
| 25 | 115 | 0.19 | 125 | P 1 | SCI | | TSH +0.14 | TO+0.31 | TSH | TSH | 0.35 | 0.17 | 60 | HOT | 600PP |
| 26 | 118 | 0.21 | 93 | P 1 | MCI | | TSH +0.12 | | TSH | TSH | 0.25 | 0.24 | 63 | HOT | 600PP |
| 28 | 118 | 0.11 | 99 | P 1 | SCI | | TSH +0.12 | | TSH | TSH | 0.29 | 0.31 | 64 | HOT | 600PP |
| 29 | 49 | 0.20 | 77 | P 1 | SCI | | TSH +0.04 | | TSH | TSH | 0.30 | 0.19 | 86 | HOT | 580PP |
| 29 | 115 | 0.56 | 18 | 2 | SAI | | TSH -0.80 | TO-0.89 | TSH | TSH | 0.58 | 0.45 | 60 | HOT | 600PP |
| 30 | 54 | 0.14 | 105 | P 1 | MCI | | TSH +0.12 | | TSH | TSH | 0.36 | 0.24 | 81 | HOT | 600PP |
| 30 | 108 | 0.25 | 20 | P 2 | TWD | 13 | 06C -0.86 | | TEC | TEH | | | 30 | HOT | 600UL |
| 31 | 65 | 0.18 | 106 | 2 | SAI | | TSH +1.09 | | TSH | TSH | 0.00 | 0.15 | 94 | HOT | 580PP |

SG89 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 31 | 71 | 0.54 | 77 | P 2 | TWD | 22 | DBH | -1.73 | TEH | TEC | | | 23 | COLD | 600UL |
| | | 0.29 | 147 | P 2 | TWD | 14 | DBC | -1.73 | TEH | TEC | | | 23 | COLD | 600UL |
| | | 0.26 | 111 | P 2 | TWD | 13 | DBC | +1.79 | TEH | TEC | | | 23 | COLD | 600UL |
| 31 | 117 | 0.31 | 142 | P 2 | TWD | 13 | 07C | +0.41 | TEC | TEH | | | 24 | HOT | 600UL |
| 34 | 54 | 0.86 | 13 | 2 | SAI | | 07H | -0.13 | 07H | 07H | 0.00 | 0.16 | 138 | HOT | 580PP |
| 35 | 105 | 0.72 | 23 | 2 | SAI | | TEH | +1.89 | TEH | TEH | 1.16 | 0.20 | 116 | HOT | 580PP |
| | | 2.04 | 29 | 2 | SAI | | TEH | +3.69 | TEH | TEH | 3.53 | 0.41 | 116 | HOT | 580PP |
| | | 1.44 | 22 | 2 | SAI | | TEH | +4.67 | TEH | TEH | 1.74 | 0.35 | 116 | HOT | 580PP |
| | | 1.33 | 26 | 2 | SAI | | TEH | +4.92 | TEH | TEH | 1.26 | 0.17 | 116 | HOT | 580PP |
| | | 2.17 | 30 | 2 | SAI | | TEH | +5.56 | TEH | TEH | 3.04 | 0.47 | 116 | HOT | 580PP |
| | | 2.73 | 26 | 2 | SAI | | TSH | -6.79 | TSH | TSH | 2.33 | 0.34 | 158 | HOT | 580PP |
| | | 3.87 | 32 | 2 | MAI | | TSH | -9.43 | TSH | TSH | 5.98 | 0.92 | 158 | HOT | 580PP |
| 37 | 75 | 0.72 | 104 | P 2 | TWD | 25 | DBC | -1.27 | TEC | TEH | | | 33 | HOT | 600UL |
| | | 0.45 | 130 | P 2 | TWD | 19 | DBC | +1.70 | TEC | TEH | | | 33 | HOT | 600UL |
| 37 | 107 | 0.40 | 16 | 2 | SAI | | TSH | -5.75 TO-5.83 | TSH | TSH | 0.28 | 0.34 | 60 | HOT | 600PP |
| 38 | 4 | 0.37 | 65 | P 2 | TWD | 16 | 02C | -0.94 | TEH | TEC | | | 51 | COLD | 600UL |
| | | 0.35 | 56 | P 2 | TWD | 15 | 01C | +0.06 | TEH | TEC | | | 51 | COLD | 600UL |
| 38 | 52 | 0.13 | 130 | 2 | SAI | | 02H | +6.61 | 02H | 02H | 0.39 | 0.62 | 135 | HOT | 580PP |
| 38 | 66 | 0.33 | 155 | P 2 | TWD | 14 | VSM | -0.72 | TEC | TEH | | | 15 | HOT | 600UL |
| 38 | 102 | 1.15 | 75 | P 2 | TWD | 34 | DBH | -1.75 | TEC | TEH | | | 40 | HOT | 600UL |
| | | 0.28 | 52 | P 2 | TWD | 13 | DBH | +1.69 | TEC | TEH | | | 40 | HOT | 600UL |
| 38 | 164 | 0.28 | 109 | 2 | SAI | | 06H | +0.20 | 06H | 06H | 0.52 | 0.15 | 136 | HOT | 580PP |
| 38 | 166 | 0.40 | 69 | P 2 | TWD | 17 | VSM | -0.82 | TEH | TEC | | | 25 | COLD | 600UL |
| 39 | 37 | 0.51 | 22 | P 1 | SCI | | TSH | -0.04 | TSH | TSH | 0.17 | 0.20 | 61 | HOT | 600PP |
| 39 | 53 | 0.34 | 96 | 2 | SAI | | TSH | +0.87 | TSH | TSH | 0.50 | 0.27 | 85 | HOT | 580PP |
| 39 | 73 | 0.66 | 118 | P 2 | TWD | 25 | DBC | -1.85 | TEH | TEC | | | 23 | COLD | 600UL |
| 40 | 62 | 0.32 | 28 | P 2 | TWD | 14 | DBC | -0.10 | TEC | TEH | | | 15 | HOT | 600UL |
| 41 | 73 | 0.11 | 15 | P 2 | TWD | 7 | DBC | -2.14 | TEH | TEC | | | 21 | COLD | 600UL |
| 41 | 75 | 0.49 | 74 | P 2 | TWD | 19 | DBC | +1.54 | TEC | TEH | | | 33 | HOT | 600UL |
| 41 | 103 | 0.40 | 16 | 2 | SAI | | TSH | -0.68 | TSH | TSH | 0.60 | 0.15 | 103 | HOT | 580PP |
| | | 0.29 | 142 | P 2 | TWD | 13 | VSM | +0.80 | TEC | TEH | | | 40 | HOT | 600UL |
| 41 | 159 | 0.34 | 78 | P 2 | TWD | 14 | 01H | +1.16 | TEH | TEC | | | 27 | COLD | 600UL |
| 42 | 110 | 0.67 | 74 | P 2 | TWD | 23 | VSM | -0.24 | TEC | TEH | | | 31 | HOT | 600UL |
| | | 0.87 | 116 | P 2 | TWD | 27 | VSM | +0.93 | TEC | TEH | | | 31 | HOT | 600UL |
| 42 | 168 | 0.53 | 148 | P 2 | TWD | 23 | VSM | +1.06 | TEH | TEC | | | 24 | COLD | 600UL |
| 42 | 170 | 0.74 | 92 | P 2 | TWD | 28 | VSM | -0.30 | TEH | TEC | | | 24 | COLD | 600UL |
| 43 | 79 | 0.81 | 74 | P 2 | TWD | 25 | DBH | +1.74 | TEC | TEH | | | 32 | HOT | 600UL |
| 43 | 101 | 0.72 | 65 | P 2 | TWD | 26 | DBC | +1.74 | TEC | TEH | | | 40 | HOT | 600UL |
| 44 | 18 | 0.35 | 150 | P 2 | TWD | 16 | VSM | -0.83 | TEH | TEC | | | 54 | COLD | 600UL |
| | | 0.18 | 53 | P 2 | TWD | 9 | VSM | +0.65 | TEH | TEC | LAR | | 54 | COLD | 600UL |
| 44 | 54 | 0.16 | 81 | 2 | SAI | | TSH | +1.33 | TSH | TSH | 0.40 | 0.14 | 90 | HOT | 580PP |
| 44 | 74 | 0.44 | 86 | P 2 | TWD | 17 | DBC | -1.70 | TEC | TEH | | | 33 | HOT | 600UL |
| | | 0.27 | 7 | P 2 | TWD | 12 | DBC | +1.94 | TEC | TEH | LAR | | 33 | HOT | 600UL |
| 44 | 100 | 1.13 | 107 | P 2 | TWD | 27 | DBC | +1.67 | TEC | TEH | | | 41 | HOT | 600UL |
| 44 | 108 | 0.94 | 119 | P 2 | TWD | 32 | VSM | -0.87 | TEC | TEH | | | 30 | HOT | 600UL |

SG89 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 44 | 112 | 0.45 | 143 | P 2 | TWD | 23 | VSM | -0.86 | TEC | TEH | | | 28 | HOT | 600UL |
| 45 | 73 | 0.20 | 133 | P 2 | TWD | 11 | DBC | -2.03 | TEH | TEC | | | 21 | COLD | 600UL |
| 45 | 99 | 0.57 | 46 | P 2 | TWD | 23 | DBC | +1.82 | TEC | TEH | | | 40 | HOT | 600UL |
| | | 0.96 | 71 | P 2 | TWD | 31 | DBH | -1.90 | TEC | TEH | | | 40 | HOT | 600UL |
| | | 0.89 | 57 | P 2 | TWD | 30 | DBC | -1.75 | TEC | TEH | | | 40 | HOT | 600UL |
| 45 | 103 | 0.43 | 120 | P 2 | TWD | 18 | VSM | +0.97 | TEC | TEH | | | 40 | HOT | 600UL |
| 45 | 145 | 0.28 | 55 | P 2 | TWD | 12 | VSM | -0.75 | TEH | TEC | | | 33 | COLD | 600UL |
| 45 | 167 | 0.51 | 54 | P 2 | TWD | 22 | VSM | +0.89 | TEH | TEC | | | 24 | COLD | 600UL |
| 46 | 104 | 0.69 | 136 | P 2 | TWD | 26 | VSM | -0.84 | TEC | TEH | | | 40 | HOT | 600UL |
| | | 0.41 | 154 | P 2 | TWD | 18 | VSM | +0.25 | TEC | TEH | | | 40 | HOT | 600UL |
| 46 | 128 | 0.30 | 115 | P 2 | TWD | 18 | VSM | -0.93 | TEC | TEH | | | 17 | HOT | 600UL |
| 46 | 156 | 0.41 | 122 | P 2 | TWD | 18 | VSM | -0.87 | TEH | TEC | | | 29 | COLD | 600UL |
| | | 0.22 | 144 | P 2 | TWD | 11 | VSM | +0.91 | TEH | TEC | | | 29 | COLD | 600UL |
| 46 | 162 | 0.29 | 103 | P 2 | TWD | 13 | VSM | +0.87 | TEH | TEC | | | 26 | COLD | 600UL |
| 47 | 33 | 0.46 | 39 | P 2 | TWD | 17 | DBH | +1.89 | TEH | TEC | | | 48 | COLD | 600UL |
| 47 | 45 | 1.69 | 23 | 2 | SAI | | TSH | -5.84 | TSH | TSH | 1.72 | 0.35 | 65 | HOT | 600PP |
| 47 | 49 | 0.41 | 136 | P 1 | MCI | | TSH | -0.00 | TSH | TSH | 0.43 | 0.53 | 85 | HOT | 580PP |
| 47 | 101 | 0.67 | 95 | P 2 | TWD | 25 | DBC | +1.75 | TEC | TEH | | | 40 | HOT | 600UL |
| 47 | 121 | 0.26 | 147 | P 2 | TWD | 8 | VSM | -0.97 | TEC | TEH | | | 23 | HOT | 600UL |
| 48 | 6 | 0.60 | 104 | P 2 | TWD | 23 | 08C | -1.85 | TEH | TEC | LOCOK | | 51 | COLD | 600UL |
| 48 | 8 | 0.24 | 110 | P 2 | TWD | 12 | 02C | +0.86 | TEH | TEC | | | 51 | COLD | 600UL |
| 48 | 34 | 0.27 | 33 | P 2 | TWD | 12 | VSM | -0.59 | TEH | TEC | | | 47 | COLD | 600UL |
| 48 | 66 | 0.76 | 157 | P 2 | TWD | 24 | VSM | -0.93 | TEC | TEH | | | 16 | HOT | 600UL |
| 48 | 98 | 0.73 | 137 | P 2 | TWD | 20 | DBH | +1.85 | TEC | TEH | | | 41 | HOT | 600UL |
| | | 1.55 | 119 | P 2 | TWD | 33 | DBH | +0.00 | TEC | TEH | LAR | | 41 | HOT | 600UL |
| 48 | 100 | 0.46 | 140 | P 2 | TWD | 14 | DBC | +1.77 | TEC | TEH | | | 41 | HOT | 600UL |
| 48 | 118 | 0.47 | 116 | P 2 | TWD | 23 | 04H | -1.04 | TEC | TEH | LAR | | 28 | HOT | 600UL |
| 49 | 49 | 0.31 | 59 | P 2 | TWD | 14 | 08H | +1.49 | TEC | TEH | LOCOK | | 19 | HOT | 600UL |
| 49 | 55 | 0.29 | 120 | P 2 | TWD | 11 | VSM | -0.70 | TEH | TEC | | | 62 | COLD | 580SF |
| 49 | 65 | 0.42 | 119 | P 2 | TWD | 16 | VSM | -0.74 | TEC | TEH | | | 16 | HOT | 600UL |
| 49 | 99 | 0.89 | 120 | P 2 | TWD | 23 | DBC | -1.56 | TEC | TEH | | | 41 | HOT | 600UL |
| | | 0.55 | 110 | P 2 | TWD | 16 | DBH | -1.79 | TEC | TEH | | | 41 | HOT | 600UL |
| 49 | 109 | 0.38 | 113 | P 2 | TWD | 15 | 08H | -1.06 | TEC | TEH | | | 31 | HOT | 600UL |
| 49 | 111 | 0.54 | 71 | P 2 | TWD | 24 | 08H | -1.27 | TEC | TEH | LOCOK | | 30 | HOT | 600UL |
| 49 | 113 | 0.42 | 44 | P 2 | TWD | 17 | 08H | -0.99 | STH | TEC | | | 43 | COLD | 600UL |
| 49 | 145 | 0.66 | 36 | P 2 | TWD | 24 | 08H | -1.07 | TEH | TEC | | | 33 | COLD | 600UL |
| 50 | 44 | 0.39 | 122 | P 2 | TWD | 16 | VSM | -0.83 | TEH | TEC | | | 4 | COLD | 600UL |
| 50 | 52 | 0.17 | 130 | P 1 | SCI | | TSH | -0.00 | TSH | TSH | 0.00 | 0.26 | 86 | HOT | 580PP |
| 50 | 58 | 0.42 | 101 | P 2 | TWD | 17 | 02H | -1.19 | TEC | TEH | | | 22 | HOT | 600UL |
| 50 | 64 | 0.44 | 59 | P 2 | TWD | 17 | 08H | +1.02 | TEC | TEH | | | 16 | HOT | 600UL |

SG89 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 74 | 0.38 | 105 | P 2 | TWD | 16 | DBC | +1.54 | TEC | TEH | | | 33 | HOT | 600UL |
| | | 0.26 | 142 | P 2 | TWD | 11 | DBC | -1.70 | TEC | TEH | | | 33 | HOT | 600UL |
| 50 | 76 | 0.45 | 103 | P 2 | TWD | 18 | DBC | -1.72 | TEC | TEH | | | 33 | HOT | 600UL |
| 50 | 82 | 0.72 | 71 | P 2 | TWD | 23 | DBC | +1.79 | TEC | TEH | | | 32 | HOT | 600UL |
| | | 0.30 | 114 | P 2 | TWD | 11 | DBH | -1.73 | TEC | TEH | | | 32 | HOT | 600UL |
| | | 0.29 | 152 | P 2 | TWD | 12 | DBC | -1.89 | TEC | TEH | | | 32 | HOT | 600UL |
| 50 | 98 | 1.14 | 133 | P 2 | TWD | 34 | DBH | -1.67 | TEC | TEH | | | 40 | HOT | 600UL |
| 50 | 100 | 0.38 | 86 | P 2 | TWD | 17 | 01H | +0.93 | TEC | TEH | | | 40 | HOT | 600UL |
| 51 | 61 | 0.40 | 155 | P 2 | TWD | 18 | 08C | -0.73 | TEC | TEH | | | 21 | HOT | 600UL |
| 51 | 75 | 0.54 | 115 | P 2 | TWD | 20 | DBC | -1.80 | STH | TEC | | | 42 | COLD | 600UL |
| 51 | 95 | 0.40 | 76 | P 2 | TWD | 18 | DBC | +1.80 | TEC | TEH | | | 40 | HOT | 600UL |
| 51 | 97 | 0.86 | 58 | P 2 | TWD | 29 | DBC | -2.00 | TEC | TEH | | | 40 | HOT | 600UL |
| | | 0.41 | 61 | P 2 | TWD | 18 | DBH | -2.00 | TEC | TEH | | | 40 | HOT | 600UL |
| 51 | 99 | 1.02 | 97 | P 2 | TWD | 32 | DBC | -2.00 | TEC | TEH | | | 40 | HOT | 600UL |
| | | 0.56 | 116 | P 2 | TWD | 22 | VSM | +0.84 | TEC | TEH | | | 40 | HOT | 600UL |
| | | 0.30 | 68 | P 2 | TWD | 14 | VH3 | +0.78 | TEC | TEH | | | 40 | HOT | 600UL |
| | | 0.40 | 29 | P 2 | TWD | 18 | VC3 | +0.82 | TEC | TEH | | | 40 | HOT | 600UL |
| | | 0.13 | 78 | P 2 | TWD | 6 | VC3 | -0.60 | TEC | TEH | | | 40 | HOT | 600UL |
| 52 | 18 | 0.45 | 135 | P 2 | TWD | 19 | VH3 | -1.04 | TEH | TEC | | | 54 | COLD | 600UL |
| 52 | 76 | 0.34 | 61 | P 2 | TWD | 13 | DBC | -1.50 | TEC | TEH | | | 32 | HOT | 600UL |
| 52 | 80 | 0.47 | 79 | P 2 | TWD | 17 | DBC | -2.00 | TEC | TEH | | | 32 | HOT | 600UL |
| 52 | 84 | 0.27 | 42 | P 2 | TWD | 10 | DBH | -1.76 | TEC | TEH | | | 32 | HOT | 600UL |
| 52 | 92 | 0.76 | 146 | P 2 | TWD | 20 | DBC | +1.86 | TEC | TEH | | | 41 | HOT | 600UL |
| | | 1.41 | 109 | P 2 | TWD | 31 | DBH | -1.64 | TEC | TEH | | | 41 | HOT | 600UL |
| | | 0.44 | 109 | P 2 | TWD | 13 | DBH | +1.43 | TEC | TEH | | | 41 | HOT | 600UL |
| 52 | 96 | 0.39 | 151 | P 2 | TWD | 12 | DBH | -1.40 | TEC | TEH | | | 41 | HOT | 600UL |
| 53 | 77 | 0.39 | 106 | P 2 | TWD | 14 | DBC | -1.80 | TEC | TEH | | | 32 | HOT | 600UL |
| 53 | 83 | 0.87 | 82 | P 2 | TWD | 26 | DBC | -1.82 | TEC | TEH | | | 32 | HOT | 600UL |
| | | 0.35 | 58 | P 2 | TWD | 13 | DBH | +1.71 | TEC | TEH | | | 32 | HOT | 600UL |
| 53 | 141 | 0.34 | 84 | P 2 | TWD | 14 | VC3 | +0.83 | TEH | TEC | | | 33 | COLD | 600UL |
| 54 | 82 | 1.18 | 81 | P 2 | TWD | 33 | DBC | +1.71 | TEC | TEH | | | 33 | HOT | 600UL |
| 54 | 92 | 0.63 | 131 | P 2 | TWD | 24 | DBC | +1.88 | TEC | TEH | | | 40 | HOT | 600UL |
| | | 1.43 | 88 | P 2 | TWD | 37 | DBH | -1.61 | TEC | TEH | | | 40 | HOT | 600UL |
| 54 | 94 | 0.94 | 124 | P 2 | TWD | 24 | DBH | -1.32 | TEC | TEH | | | 41 | HOT | 600UL |
| 54 | 128 | 0.30 | 60 | P 2 | TWD | 18 | 02H | -1.24 | TEC | TEH | | | 17 | HOT | 600UL |
| 55 | 69 | 0.17 | 107 | 2 | SAI | | TSH | +0.85 | TSH | TSH | 0.00 | 0.15 | 94 | HOT | 580PP |
| 55 | 81 | 1.07 | 120 | P 2 | TWD | 31 | DBC | -1.65 | TEC | TEH | | | 33 | HOT | 600UL |
| 55 | 83 | 1.24 | 106 | P 2 | TWD | 34 | DBC | -1.74 | TEC | TEH | | | 33 | HOT | 600UL |
| 55 | 95 | 1.42 | 73 | P 2 | TWD | 37 | DBC | +1.93 | TEC | TEH | | | 40 | HOT | 600UL |
| 55 | 151 | 0.40 | 67 | P 2 | TWD | 18 | VH3 | +0.85 | TEH | TEC | | | 31 | COLD | 600UL |
| 56 | 34 | 0.38 | 35 | P 2 | TWD | 17 | VC3 | +0.80 | TEH | TEC | | | 47 | COLD | 600UL |
| | | 0.42 | 122 | P 2 | TWD | 18 | VH3 | -0.65 | TEH | TEC | | | 47 | COLD | 600UL |
| | | 0.38 | 57 | P 2 | TWD | 16 | VH3 | +0.76 | TEH | TEC | | | 47 | COLD | 600UL |
| 56 | 64 | 0.23 | 120 | P 2 | TWD | 11 | VH3 | -0.96 | TEC | TEH | | | 15 | HOT | 600UL |
| 56 | 82 | 0.39 | 50 | P 2 | TWD | 15 | VH3 | +0.80 | TEC | TEH | | | 32 | HOT | 600UL |

SG89 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.85 | 92 | P 2 | TWD | 26 | VH3 -0.76 | | TEC | TEH | | | 32 | HOT | 600UL |
| 56 | 84 | 0.57 | 141 | P 2 | TWD | 21 | DBC -1.80 | | STH | TEC | | | 42 | COLD | 600UL |
| | | 0.44 | 104 | P 2 | TWD | 17 | DBH +1.82 | | STH | TEC | | | 42 | COLD | 600UL |
| 56 | 88 | 1.29 | 116 | P 2 | TWD | 34 | DBH +1.75 | | TEC | TEH | | | 33 | HOT | 600UL |
| 56 | 90 | 0.36 | 113 | P 2 | TWD | 14 | DBC +1.61 | | TEC | TEH | | | 37 | HOT | 600UL |
| | | 1.43 | 66 | P 2 | TWD | 35 | DBH -1.24 | | TEC | TEH | | | 37 | HOT | 600UL |
| | | 0.29 | 150 | P 2 | TWD | 11 | DBH +1.41 | | TEC | TEH | | | 37 | HOT | 600UL |
| 56 | 94 | 0.65 | 60 | P 2 | TWD | 25 | DBH -1.75 | | TEC | TEH | | | 40 | HOT | 600UL |
| 56 | 104 | 0.50 | 159 | P 2 | TWD | 17 | DBC -0.47 | | TEC | TEH | | | 41 | HOT | 600UL |
| 56 | 108 | 0.32 | 58 | P 2 | TWD | 13 | VSM +0.65 | | TEC | TEH | | | 31 | HOT | 600UL |
| 56 | 146 | 0.52 | 25 | P 2 | TWD | 20 | VH3 -0.68 | | TEH | TEC | | | 30 | COLD | 600UL |
| 56 | 152 | 0.35 | 78 | P 2 | TWD | 16 | DBH +1.02 | | TEH | TEC | | | 29 | COLD | 600UL |
| 56 | 158 | 0.48 | 87 | P 2 | TWD | 21 | VH3 -0.63 | | TEH | TEC | | | 29 | COLD | 600UL |
| 56 | 162 | 0.66 | 99 | P 2 | TWD | 24 | VH3 -0.85 | | TEH | TEC | | | 27 | COLD | 600UL |
| 57 | 69 | 0.14 | 113 | 2 | MAI | | TSH +2.02 | TO+2.96 | TSH | TSH | 0.24 | 0.21 | 93 | HOT | 580PP |
| 57 | 79 | 0.54 | 84 | P 2 | TWD | 19 | DBC -1.90 | | TEC | TEH | | | 32 | HOT | 600UL |
| 57 | 81 | 0.13 | 105 | 2 | SAI | | TSH +1.22 | | TSH | TSH | 0.00 | 0.22 | 98 | HOT | 580PP |
| 57 | 83 | 0.98 | 72 | P 2 | TWD | 28 | DBC -1.82 | | TEC | TEH | | | 32 | HOT | 600UL |
| 57 | 105 | 0.27 | 18 | P 1 | SCI | | TSH -0.12 | | TSH | TSH | 0.40 | 0.19 | 102 | HOT | 580PP |
| 58 | 16 | 0.55 | 127 | P 2 | TWD | 22 | VH3 -0.71 | | TEH | TEC | | | 54 | COLD | 600UL |
| 58 | 82 | 0.35 | 106 | P 2 | TWD | 15 | DBH +1.54 | | TEC | TEH | | | 33 | HOT | 600UL |
| 58 | 88 | 1.49 | 112 | P 2 | TWD | 36 | DBH +1.72 | | TEC | TEH | | | 32 | HOT | 600UL |
| 58 | 90 | 0.77 | 73 | P 2 | TWD | 28 | DBH -1.83 | | TEC | TEH | | | 36 | HOT | 600UL |
| 59 | 25 | 0.56 | 135 | P 2 | TWD | 24 | VH3 -0.73 | | TEH | TEC | | | 50 | COLD | 600UL |
| 59 | 99 | 0.26 | 103 | P 1 | SCI | | TSH +0.12 | | TSH | TSH | 0.00 | 0.36 | 102 | HOT | 580PP |
| 59 | 143 | 0.25 | 149 | P 2 | TWD | 12 | VH3 -0.71 | | TEH | TEC | | | 33 | COLD | 600UL |
| 60 | 88 | 0.69 | 146 | P 2 | TWD | 22 | DBH +1.40 | | TEC | TEH | | | 32 | HOT | 600UL |
| 60 | 94 | 0.37 | 134 | P 2 | TWD | 16 | DBC -2.02 | | TEC | TEH | | | 40 | HOT | 600UL |
| 61 | 87 | 0.53 | 83 | P 1 | SCI | | TSH +0.04 | | TSH | TSH | 0.53 | 0.90 | 98 | HOT | 580PP |
| 61 | 93 | 0.27 | 132 | P 1 | SCI | | TSH +0.05 | | TSH | TSH | 0.00 | 0.19 | 106 | HOT | 580PP |
| 62 | 84 | 0.43 | 151 | P 2 | TWD | 17 | DBC -1.93 | | TEC | TEH | | | 33 | HOT | 600UL |
| | | 0.71 | 122 | P 2 | TWD | 24 | DBH -1.81 | | TEC | TEH | | | 33 | HOT | 600UL |
| 62 | 90 | 0.21 | 137 | P 1 | SCI | | TSH +0.11 | | TSH | TSH | 0.25 | 0.16 | 102 | HOT | 580PP |
| 62 | 94 | 0.69 | 147 | P 2 | TWD | 19 | DBC +1.90 | | TEC | TEH | | | 41 | HOT | 600UL |
| 62 | 126 | 0.22 | 78 | P 2 | TWD | 10 | VH3 +0.77 | | TEC | TEH | | | 18 | HOT | 600UL |
| 63 | 35 | 0.25 | 150 | P 2 | TWD | 10 | VH3 -0.54 | | TEH | TEC | | | 48 | COLD | 600UL |
| 63 | 45 | 0.34 | 66 | P 2 | TWD | 15 | VSM -0.76 | | TEH | TEC | | | 4 | COLD | 600UL |
| 63 | 61 | 0.41 | 50 | P 2 | TWD | 17 | 03H -0.95 | | TEC | TEH | | | 22 | HOT | 600UL |
| 63 | 79 | 0.82 | 86 | P 2 | TWD | 27 | DBC -1.86 | | TEC | TEH | | | 33 | HOT | 600UL |
| 63 | 83 | 0.78 | 149 | P 2 | TWD | 26 | DBC -1.93 | | TEC | TEH | | | 33 | HOT | 600UL |

SG89 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 63 | 87 | 0.68 | 128 | P 2 | TWD | 24 | DBH | -1.60 | STH | TEC | | | 42 | COLD | 600UL |
| 63 | 91 | 0.28 | 24 | 2 | SAI | | TSH | -0.97 | TSH | TSH | 0.71 | 0.23 | 102 | HOT | 580PP |
| 63 | 145 | 0.43 | 57 | P 2 | TWD | 16 | VH3 | +0.85 | TEH | TEC | | | 30 | COLD | 600UL |
| 64 | 10 | 0.52 | 137 | P 2 | TWD | 21 | 03C | -0.97 | TEH | TEC | | | 51 | COLD | 600UL |
| 64 | 82 | 0.65 | 115 | P 2 | TWD | 23 | DBC | +1.89 | TEC | TEH | | | 33 | HOT | 600UL |
| 64 | 84 | 0.41 | 102 | P 2 | TWD | 15 | DBH | +1.87 | TEC | TEH | | | 32 | HOT | 600UL |
| 64 | 136 | 0.31 | 140 | P 2 | TWD | 15 | VC3 | -1.16 | TEH | TEC | | | 35 | COLD | 600UL |
| 65 | 37 | 0.41 | 89 | P 2 | TWD | 19 | VSM | -0.70 | TEH | TEC | | | 45 | COLD | 600UL |
| 65 | 79 | 0.18 | 87 | 2 | SAI | | TSH | +1.80 | TSH | TSH | 0.00 | 0.19 | 98 | HOT | 580PP |
| | | 0.39 | 146 | P 2 | TWD | 15 | DBC | -1.50 | TEC | TEH | | | 32 | HOT | 600UL |
| 65 | 81 | 0.24 | 114 | 2 | MAI | | TSH | +0.65 | TSH | TSH | 0.39 | 0.36 | 98 | HOT | 580PP |
| 65 | 89 | 0.66 | 113 | P 2 | TWD | 26 | DBH | +1.83 | TEC | TEH | | | 36 | HOT | 600UL |
| 65 | 155 | 0.42 | 70 | P 2 | TWD | 17 | VH3 | -0.72 | TEH | TEC | | | 28 | COLD | 600UL |
| 66 | 80 | 0.23 | 65 | P 2 | TWD | 9 | DBC | +1.90 | TEC | TEH | | | 32 | HOT | 600UL |
| 66 | 84 | 0.45 | 32 | P 2 | TWD | 18 | DBH | -1.89 | TEC | TEH | | | 33 | HOT | 600UL |
| 66 | 94 | 0.45 | 44 | P 2 | TWD | 19 | DBC | +1.75 | TEC | TEH | | | 40 | HOT | 600UL |
| 66 | 138 | 0.31 | 113 | P 2 | TWD | 16 | 08C | -0.97 | TEH | TEC | | | 34 | COLD | 600UL |
| 66 | 144 | 0.46 | 72 | P 2 | TWD | 21 | VH3 | -0.94 | TEH | TEC | | | 32 | COLD | 600UL |
| | | 0.52 | 100 | P 2 | TWD | 23 | VSM | -0.85 | TEH | TEC | | | 32 | COLD | 600UL |
| | | 0.58 | 77 | P 2 | TWD | 25 | 06C | -0.87 | TEH | TEC | | | 32 | COLD | 600UL |
| 67 | 31 | 0.82 | 89 | 2 | SAI | | 04H | +0.59 | 04H | 04H | 0.75 | 0.38 | 122 | HOT | 580PP |
| 67 | 83 | 0.23 | 132 | P 2 | TWD | 11 | DBH | -1.97 | TEC | TEH | | | 33 | HOT | 600UL |
| | | 0.70 | 128 | P 2 | TWD | 24 | DBC | -1.95 | TEC | TEH | | | 33 | HOT | 600UL |
| 68 | 84 | 0.18 | 25 | P 2 | TWD | 7 | VSM | -0.75 | TEC | TEH | | | 32 | HOT | 600UL |
| 68 | 90 | 0.70 | 113 | P 2 | TWD | 26 | DBC | -1.97 | TEC | TEH | | | 36 | HOT | 600UL |
| 68 | 112 | 0.11 | 115 | 2 | SAI | | 01H | +6.27 | 01H | 01H | 0.20 | 0.30 | 124 | HOT | 580PP |
| 68 | 128 | 0.36 | 71 | P 2 | TWD | 16 | VH3 | -0.79 | TEC | TEH | | | 18 | HOT | 600UL |
| 68 | 162 | 0.48 | 114 | P 2 | TWD | 19 | VH3 | -0.78 | TEH | TEC | | | 27 | COLD | 600UL |
| 69 | 151 | 0.37 | 55 | P 2 | TWD | 15 | VH3 | -0.74 | TEH | TEC | | | 30 | COLD | 600UL |
| | | 0.31 | 43 | P 2 | TWD | 13 | VH3 | +0.89 | TEH | TEC | | | 30 | COLD | 600UL |
| 70 | 38 | 0.40 | 117 | P 2 | TWD | 17 | VC3 | +0.70 | TEH | TEC | | | 4 | COLD | 600UL |
| 70 | 66 | 0.38 | 23 | P 1 | SCI | | TSH | +0.07 | TSH | TSH | 0.15 | 0.21 | 90 | HOT | 580PP |
| 70 | 76 | 0.39 | 77 | P 2 | TWD | 16 | VSM | +1.00 | TEC | TEH | | | 33 | HOT | 600UL |
| 70 | 112 | 0.53 | 133 | P 2 | TWD | 19 | 03C | -0.06 | TEC | TEH | | | 29 | HOT | 600UL |
| 70 | 144 | 0.38 | 119 | P 2 | TWD | 18 | VC3 | -0.75 | TEH | TEC | | | 32 | COLD | 600UL |
| 70 | 152 | 0.35 | 105 | P 2 | TWD | 13 | VH3 | -0.92 | TEH | TEC | | | 30 | COLD | 600UL |
| 71 | 63 | 0.30 | 18 | P 1 | SCI | | TSH | -0.18 | TSH | TSH | 0.00 | 0.17 | 90 | HOT | 580PP |
| 71 | 79 | 0.53 | 147 | P 2 | TWD | 20 | DBC | -1.66 | TEC | TEH | | | 33 | HOT | 600UL |
| 71 | 91 | 0.26 | 144 | P 2 | TWD | 13 | DBC | -2.10 | TEC | TEH | | | 36 | HOT | 600UL |
| 71 | 97 | 1.02 | 62 | P 2 | TWD | 33 | VSM | -0.02 | TEC | TEH | | | 36 | HOT | 600UL |

SG89 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71 | 143 | 0.46 | 113 | P 2 | TWD | 18 | VH3 | -0.82 | TEH | TEC | | | 33 | COLD | 600UL |
| | | 0.31 | 91 | P 2 | TWD | 13 | 04C | -0.20 | TEH | TEC | | | 33 | COLD | 600UL |
| 71 | 147 | 0.74 | 102 | P 2 | TWD | 28 | VH3 | -0.84 | TEH | TEC | | | 31 | COLD | 600UL |
| | | 0.45 | 117 | P 2 | TWD | 20 | VC3 | -0.84 | TEH | TEC | | | 31 | COLD | 600UL |
| 72 | 26 | 0.60 | 147 | P 2 | TWD | 26 | VC3 | +0.89 | TEH | TEC | | | 50 | COLD | 600UL |
| 72 | 78 | 0.21 | 145 | P 2 | TWD | 9 | VH3 | +0.83 | TEC | TEH | | | 32 | HOT | 600UL |
| | | 0.18 | 152 | P 2 | TWD | 7 | VC3 | +0.83 | TEC | TEH | | | 32 | HOT | 600UL |
| | | 0.48 | 71 | P 2 | TWD | 17 | VH3 | -0.89 | TEC | TEH | | | 32 | HOT | 600UL |
| 72 | 80 | 0.31 | 110 | P 2 | TWD | 12 | VC3 | +0.97 | TEC | TEH | | | 32 | HOT | 600UL |
| 72 | 84 | 0.27 | 118 | P 2 | TWD | 10 | VH3 | -0.79 | TEC | TEH | | | 32 | HOT | 600UL |
| | | 0.37 | 113 | P 2 | TWD | 14 | DBC | -2.00 | TEC | TEH | | | 32 | HOT | 600UL |
| 72 | 90 | 0.31 | 82 | P 2 | TWD | 15 | DBC | -1.61 | TEC | TEH | | | 36 | HOT | 600UL |
| 72 | 114 | 0.29 | 47 | P 2 | TWD | 17 | VC3 | +0.83 | TEC | TEH | | | 28 | HOT | 600UL |
| 72 | 126 | 0.40 | 91 | P 2 | TWD | 22 | VSM | -0.77 | TEC | TEH | | | 17 | HOT | 600UL |
| 72 | 156 | 0.22 | 65 | P 2 | TWD | 10 | VC3 | -0.83 | TEH | TEC | | | 28 | COLD | 600UL |
| 73 | 13 | 0.41 | 80 | P 2 | TWD | 18 | VH3 | +0.90 | TEH | TEC | | | 54 | COLD | 600UL |
| 73 | 103 | 0.49 | 127 | P 2 | TWD | 18 | 02H | -1.25 | TEC | TEH | | | 37 | HOT | 600UL |
| 73 | 105 | 1.05 | 63 | P 2 | TWD | 29 | VSM | -0.77 | TEC | TEH | | | 37 | HOT | 600UL |
| | | 0.79 | 29 | P 2 | TWD | 25 | VH3 | -0.43 | TEC | TEH | | | 37 | HOT | 600UL |
| | | 1.62 | 113 | P 2 | TWD | 37 | VC3 | -0.73 | TEC | TEH | | | 37 | HOT | 600UL |
| 74 | 44 | 0.68 | 136 | P 2 | TWD | 25 | VH3 | -0.74 | TEH | TEC | | | 4 | COLD | 600UL |
| 74 | 54 | 0.20 | 150 | P 2 | TWD | 9 | DBH | -2.01 | TEC | TEH | | | 22 | HOT | 600UL |
| 74 | 56 | 0.31 | 81 | P 2 | TWD | 14 | DBH | +1.31 | TEC | TEH | | | 22 | HOT | 600UL |
| 74 | 72 | 0.32 | 86 | P 1 | SCI | | TSH | +0.05 | TSH | TSH | 0.69 | 0.22 | 98 | HOT | 580PP |
| 74 | 96 | 0.44 | 44 | P 2 | TWD | 20 | 02H | -1.18 | TEC | TEH | | | 36 | HOT | 600UL |
| 74 | 132 | 0.27 | 99 | P 2 | TWD | 11 | VC3 | -0.90 | TEH | TEC | | | 37 | COLD | 600UL |
| 74 | 148 | 0.37 | 149 | P 2 | TWD | 14 | VH3 | -0.85 | TEH | TEC | | | 30 | COLD | 600UL |
| | | 0.36 | 59 | P 2 | TWD | 13 | VSM | -0.85 | TEH | TEC | | | 30 | COLD | 600UL |
| 74 | 156 | 0.57 | 128 | P 2 | TWD | 23 | VH3 | -0.92 | TEH | TEC | | | 29 | COLD | 600UL |
| | | 0.57 | 103 | P 2 | TWD | 23 | VSM | -0.86 | TEH | TEC | | | 29 | COLD | 600UL |
| | | 0.61 | 67 | P 2 | TWD | 24 | VC3 | -0.80 | TEH | TEC | | | 29 | COLD | 600UL |
| 74 | 160 | 0.54 | 135 | P 2 | TWD | 21 | VC3 | -0.85 | TEH | TEC | | | 26 | COLD | 600UL |
| | | 1.17 | 106 | P 2 | TWD | 33 | VH3 | -0.81 | TEH | TEC | | | 26 | COLD | 600UL |
| 75 | 51 | 0.20 | 116 | P 2 | TWD | 9 | DBH | -1.93 | TEC | TEH | | | 20 | HOT | 600UL |
| 75 | 79 | 0.53 | 120 | P 2 | TWD | 20 | DBC | -1.81 | TEC | TEH | | | 33 | HOT | 600UL |
| 75 | 85 | 1.11 | 24 | P 2 | TWD | 32 | DBC | +1.62 | TEC | TEH | | | 33 | HOT | 600UL |
| 75 | 87 | 0.41 | 152 | P 2 | TWD | 17 | DBC | -1.93 | TEC | TEH | | | 33 | HOT | 600UL |
| 75 | 105 | 0.18 | 88 | P 1 | SCI | | TSH | +0.09 | TSH | TSH | 0.17 | 0.11 | 103 | HOT | 580PP |
| | | 0.46 | 98 | P 2 | TWD | 20 | VSM | -0.20 | TEC | TEH | | | 36 | HOT | 600UL |
| | | 0.48 | 124 | P 2 | TWD | 21 | VH3 | -0.79 | TEC | TEH | | | 36 | HOT | 600UL |
| 75 | 111 | 0.62 | 124 | P 2 | TWD | 22 | VH3 | +0.10 | TEC | TEH | | | 31 | HOT | 600UL |
| | | 0.90 | 125 | P 2 | TWD | 28 | VC3 | +1.02 | TEC | TEH | | | 31 | HOT | 600UL |
| 76 | 42 | 0.33 | 132 | P 2 | TWD | 17 | DBC | -1.55 | TEH | TEC | | | 3 | COLD | 600UL |
| 76 | 78 | 0.45 | 126 | P 2 | TWD | 16 | VC3 | +0.91 | TEC | TEH | | | 32 | HOT | 600UL |
| | | 0.21 | 159 | P 2 | TWD | 8 | VC3 | -0.97 | TEC | TEH | | | 32 | HOT | 600UL |

SG89 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 76 | 114 | 0.37 | 92 | P 2 | TWD | 20 | VH3 -0.66 | TEC | TEH | | | 28 | HOT | 600UL |
| 76 | 142 | 0.27 | 98 | P 2 | TWD | 12 | 08C -0.53 | TEH | TEC | | | 33 | COLD | 600UL |
| 77 | 27 | 0.30 | 98 | P 2 | TWD | 14 | DBC -1.98 | TEH | TEC | | | 49 | COLD | 600UL |
| 77 | 43 | 0.35 | 154 | P 2 | TWD | 15 | VH3 +0.81 | TEH | TEC | | | 4 | COLD | 600UL |
| 77 | 113 | 0.27 | 97 | P 2 | TWD | 11 | VH3 -0.99 | TEC | TEH | | | 29 | HOT | 600UL |
| 77 | 137 | 0.65 | 85 | P 2 | TWD | 26 | VSM -0.85 | TEH | TEC | | | 34 | COLD | 600UL |
| 77 | 139 | 0.35 | 137 | P 2 | TWD | 18 | VH3 -0.83 | TEH | TEC | | | 32 | COLD | 600UL |
| | | 0.68 | 140 | P 2 | TWD | 28 | VC3 +0.87 | TEH | TEC | | | 32 | COLD | 600UL |
| 78 | 44 | 0.40 | 142 | P 2 | TWD | 17 | VSM -0.83 | TEH | TEC | | | 4 | COLD | 600UL |
| 78 | 122 | 0.24 | 129 | P 2 | TWD | 12 | 08H +0.87 | TEC | TEH | | | 18 | HOT | 600UL |
| 78 | 130 | 0.32 | 67 | P 2 | TWD | 13 | VSM -0.89 | TEH | TEC | | | 36 | COLD | 600UL |
| 78 | 150 | 0.59 | 55 | P 2 | TWD | 22 | VH3 -0.73 | TEH | TEC | | | 30 | COLD | 600UL |
| 79 | 43 | 0.33 | 61 | P 2 | TWD | 17 | VH3 -0.61 | TEH | TEC | | | 3 | COLD | 600UL |
| 79 | 121 | 0.68 | 101 | P 2 | TWD | 30 | VH3 -0.95 | TEC | TEH | | | 17 | HOT | 600UL |
| 80 | 86 | 0.43 | 57 | P 2 | TWD | 16 | 01H -1.07 | TEC | TEH | | | 32 | HOT | 600UL |
| 80 | 106 | 0.24 | 46 | P 2 | TWD | 12 | VH3 +0.89 | TEC | TEH | | | 40 | HOT | 600UL |
| 80 | 152 | 0.51 | 114 | P 2 | TWD | 22 | VSM +0.85 | TEH | TEC | | | 31 | COLD | 600UL |
| | | 0.77 | 130 | P 2 | TWD | 28 | VSM -0.85 | TEH | TEC | | | 31 | COLD | 600UL |
| | | 0.70 | 103 | P 2 | TWD | 26 | VC3 -0.87 | TEH | TEC | | | 31 | COLD | 600UL |
| | | 0.76 | 102 | P 2 | TWD | 28 | VC3 +0.83 | TEH | TEC | | | 31 | COLD | 600UL |
| 81 | 43 | 0.81 | 121 | P 2 | TWD | 28 | VSM -0.84 | TEH | TEC | | | 4 | COLD | 600UL |
| | | 0.51 | 115 | P 2 | TWD | 20 | VC3 -0.58 | TEH | TEC | | | 4 | COLD | 600UL |
| 81 | 55 | 0.34 | 85 | P 2 | TWD | 16 | VH3 -0.80 | TEC | TEH | | | 21 | HOT | 600UL |
| 81 | 75 | 0.21 | 86 | P 2 | TWD | 9 | VC3 +0.79 | TEC | TEH | | | 32 | HOT | 600UL |
| 81 | 79 | 0.47 | 85 | P 2 | TWD | 17 | VH3 -0.91 | TEC | TEH | | | 32 | HOT | 600UL |
| 81 | 85 | 0.27 | 42 | P 2 | TWD | 10 | VH3 +0.78 | TEC | TEH | | | 32 | HOT | 600UL |
| 81 | 105 | 0.24 | 118 | P 2 | TWD | 11 | VSM +0.93 | TEC | TEH | | | 40 | HOT | 600UL |
| | | 0.41 | 89 | P 2 | TWD | 18 | VH3 +0.83 | TEC | TEH | | | 40 | HOT | 600UL |
| 81 | 135 | 0.37 | 101 | P 2 | TWD | 18 | VH3 +0.87 | TEH | TEC | | | 34 | COLD | 600UL |
| 82 | 28 | 0.37 | 135 | P 2 | TWD | 16 | VH3 -0.72 | TEH | TEC | | | 49 | COLD | 600UL |
| 82 | 68 | 0.82 | 114 | P 2 | TWD | 27 | VH3 -0.84 | TEC | TEH | | | 10 | HOT | 600UL |
| | | 0.39 | 147 | P 2 | TWD | 16 | VH3 +0.78 | TEC | TEH | | | 10 | HOT | 600UL |
| 82 | 148 | 0.81 | 118 | P 2 | TWD | 29 | VH3 -0.81 | TEH | TEC | | | 31 | COLD | 600UL |
| 84 | 96 | 0.60 | 22 | P 1 | SCI | | TSH -0.12 | TSH | TSH | 0.35 | 0.21 | 103 | HOT | 580PP |
| 85 | 93 | 0.49 | 23 | P 1 | SCI | | TSH -0.09 | TSH | TSH | 0.00 | 0.19 | 107 | HOT | 580PP |
| 85 | 99 | 0.53 | 32 | P 2 | TWD | 19 | 02H -1.24 | TEC | TEH | | | 37 | HOT | 600UL |
| 85 | 119 | 0.38 | 24 | P 1 | SCI | | TSH -0.05 | TSH | TSH | 0.20 | 0.22 | 64 | HOT | 600PP |
| 85 | 123 | 0.34 | 13 | P 1 | SCI | | TSH -0.14 | TSH | TSH | 0.55 | 0.26 | 69 | HOT | 600PP |
| 86 | 82 | 0.67 | 24 | P 1 | MCI | | TSH -0.12 | TSH | TSH | 0.98 | 0.16 | 98 | HOT | 580PP |
| 88 | 36 | 0.40 | 77 | P 2 | TWD | 17 | VH2 -0.74 | TEH | TEC | | | 47 | COLD | 600UL |
| 88 | 40 | 0.39 | 111 | P 2 | TWD | 18 | VH2 -0.79 | TEH | TEC | | | 3 | COLD | 600UL |

SG89 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 88 | 58 | 0.41 | 92 | P 2 | TWD | 19 | VH2 -0.90 | TEC | TEH | | | 21 | HOT | 600UL |
| 88 | 68 | 0.28 | 102 | P 2 | TWD | 13 | VH2 -1.00 | TEC | TEH | | | 9 | HOT | 600UL |
| 88 | 140 | 0.55 | 122 | P 2 | TWD | 24 | VH2 +1.14 | TEH | TEC | | | 32 | COLD | 600UL |
| 89 | 85 | 0.32 | 44 | P 2 | TWD | 12 | VH2 -0.89 | TEC | TEH | | | 32 | HOT | 600UL |
| 90 | 24 | 0.36 | 86 | P 2 | TWD | 17 | VH2 -1.00 | TEH | TEC | | | 17 | COLD | 600UL |
| | | 0.38 | 26 | P 2 | TWD | 18 | VSM -0.79 | TEH | TEC | | | 17 | COLD | 600UL |
| 90 | 34 | 0.29 | 158 | P 2 | TWD | 15 | VH2 -0.92 | TEH | TEC | | | 17 | COLD | 600UL |
| 90 | 52 | 0.39 | 116 | P 2 | TWD | 16 | VH2 -0.99 | TEC | TEH | | | 1 | HOT | 600UL |
| 90 | 94 | 0.23 | 160 | P 2 | TWD | 11 | VSM -0.78 | TEH | TEC | | | 10 | COLD | 600UL |
| 90 | 140 | 0.31 | 121 | P 2 | TWD | 14 | VH2 -0.81 | TEH | TEC | | | 25 | COLD | 600UL |
| 90 | 144 | 0.48 | 34 | P 2 | TWD | 19 | VSM +0.89 | TEH | TEC | | | 25 | COLD | 600UL |
| 91 | 43 | 0.50 | 91 | P 2 | TWD | 20 | 06C -0.98 | TEH | TEC | | | 18 | COLD | 600UL |
| 91 | 145 | 0.32 | 116 | P 2 | TWD | 14 | VH2 -0.75 | TEH | TEC | | | 25 | COLD | 600UL |
| 91 | 151 | 0.39 | 52 | P 2 | TWD | 17 | VH2 -0.78 | TEH | TEC | | | 25 | COLD | 600UL |
| 93 | 23 | 1.08 | 90 | P 2 | TWD | 34 | 02C +0.87 | TEH | TEC | | | 17 | COLD | 600UL |
| 93 | 35 | 0.15 | 107 | 2 | MAI | | 05H +12.20 TO+20.90 | 05H | 06H | 0.00 | 8.70 | 156 | HOT | 580PP |
| | | 0.25 | 128 | 2 | MAI | | 05H +23.40 TO+33.80 | 05H | 06H | 0.00 | 10.40 | 156 | HOT | 580PP |
| 93 | 115 | 0.41 | 15 | 2 | SAI | | TSH -0.36 | TSH | TSH | 0.46 | 0.46 | 88 | HOT | 600PP |
| 94 | 26 | 0.46 | 102 | P 2 | TWD | 19 | VH2 +0.96 | TEH | TEC | | | 18 | COLD | 600UL |
| 94 | 50 | 0.25 | 105 | P 2 | TWD | 11 | 05C +0.00 | TEC | TEH | | | 2 | HOT | 600UL |
| 94 | 146 | 0.29 | 141 | P 2 | TWD | 13 | VH3 -0.87 | TEH | TEC | | | 25 | COLD | 600UL |
| 95 | 33 | 0.28 | 112 | 2 | SAI | | 05H +0.62 | 05H | 05H | 0.00 | 0.28 | 131 | HOT | 580PP |
| 96 | 48 | 0.34 | 89 | P 2 | TWD | 15 | VH2 -0.85 | TEC | TEH | | | 1 | HOT | 600UL |
| 97 | 37 | 0.52 | 85 | P 2 | TWD | 23 | VC3 +0.92 | TEH | TEC | | | 17 | COLD | 600UL |
| 97 | 41 | 0.40 | 40 | P 2 | TWD | 19 | VH2 +0.92 | TEH | TEC | | | 17 | COLD | 600UL |
| 97 | 47 | 0.34 | 92 | P 2 | TWD | 15 | VH2 +0.75 | TEC | TEH | | | 1 | HOT | 600UL |
| 98 | 136 | 0.36 | 59 | P 2 | TWD | 16 | VH2 +0.82 | TEH | TEC | | | 23 | COLD | 600UL |
| | | 0.29 | 88 | P 2 | TWD | 14 | VH2 -0.76 | TEH | TEC | | | 23 | COLD | 600UL |
| 100 | 26 | 0.36 | 103 | P 2 | TWD | 17 | VH2 +0.96 | TEH | TEC | | | 17 | COLD | 600UL |
| 100 | 46 | 0.25 | 146 | P 1 | MCI | | TSH +0.05 | TSH | TSH | 0.32 | 0.25 | 68 | HOT | 600PP |
| 101 | 35 | 0.36 | 49 | P 2 | TWD | 16 | VH3 -0.69 | TEH | TEC | | | 18 | COLD | 600UL |
| 101 | 143 | 0.44 | 67 | P 2 | TWD | 19 | VH2 -0.77 | TEH | TEC | | | 23 | COLD | 600UL |
| 102 | 38 | 0.46 | 123 | 2 | SAI | | 06H -0.59 | 06H | 06H | 0.29 | 0.62 | 131 | HOT | 580PP |
| 102 | 58 | 0.26 | 115 | P 2 | TWD | 11 | VC3 -0.73 | TEC | TEH | | | 44 | HOT | 600UL |
| | | 0.29 | 155 | P 2 | TWD | 11 | VC2 -0.88 | TEC | TEH | | | 44 | HOT | 600UL |
| | | 0.22 | 55 | P 2 | TWD | 10 | VC3 -0.92 | TSC | TEH | | | 6 | HOT | 600UL |
| 102 | 122 | 0.36 | 87 | P 2 | TWD | 20 | VC2 -0.80 | TEC | TEH | | | 7 | HOT | 600UL |
| 102 | 132 | 0.40 | 81 | P 2 | TWD | 18 | VH2 -0.79 | TEH | TEC | | | 23 | COLD | 600UL |
| 103 | 47 | 0.39 | 22 | P 2 | TWD | 16 | VH2 -0.91 | TEC | TEH | | | 2 | HOT | 600UL |
| 103 | 137 | 0.46 | 108 | P 2 | TWD | 20 | VH3 -0.79 | TEH | TEC | | | 23 | COLD | 600UL |

SG89 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 104 | 94 | 0.60 | 147 | P 2 | TWD | 24 | VSM -0.78 | | TEH | TEC | | | 9 | COLD | 600UL |
| 106 | 40 | 0.18 | 112 | 2 | MAI | | 06H +3.14 | TO+10.28 | 06H | 06H | 0.32 | 7.14 | 131 | HOT | 580PP |
| 106 | 62 | 0.36 | 94 | P 2 | TWD | 14 | VC2 -0.88 | | TEC | TEH | | | 6 | HOT | 600UL |
| 106 | 84 | 0.29 | 125 | P 2 | TWD | 13 | VH3 +0.87 | | TEH | TEC | | | 10 | COLD | 600UL |
| 106 | 104 | 0.32 | 74 | P 2 | TWD | 15 | VC2 -0.75 | | TEH | TEC | | | 46 | COLD | 600UL |
| 106 | 136 | 0.41 | 118 | P 2 | TWD | 18 | VH2 -0.75 | | TEH | TEC | | | 23 | COLD | 600UL |
| 107 | 35 | 0.32 | 82 | P 2 | TWD | 16 | DBC +1.81 | | TEH | TEC | | | 17 | COLD | 600UL |
| 107 | 103 | 0.49 | 38 | P 2 | TWD | 21 | VH2 -0.92 | | TEH | TEC | | | 11 | COLD | 600UL |
| 108 | 42 | 0.68 | 113 | P 2 | TWD | 27 | DBH -1.85 | | TEH | TEC | | | 17 | COLD | 600UL |
| | | 0.35 | 95 | P 2 | TWD | 17 | DBH +2.00 | | TEH | TEC | | | 17 | COLD | 600UL |
| 109 | 47 | 0.32 | 111 | P 2 | TWD | 15 | VC3 -0.94 | | TEC | TEH | | | 1 | HOT | 600UL |
| | | 0.37 | 122 | P 2 | TWD | 16 | VSM -1.00 | | TEC | TEH | | | 1 | HOT | 600UL |
| 109 | 55 | 0.28 | 83 | P 2 | TWD | 13 | VH2 -0.82 | | TEC | TEH | | | 1 | HOT | 600UL |
| 109 | 95 | 0.24 | 105 | P 2 | TWD | 11 | VSM +0.46 | | TEH | TEC | | | 10 | COLD | 600UL |
| 110 | 34 | 0.27 | 162 | P 2 | TWD | 12 | VH2 +0.94 | | TEH | TEC | | | 18 | COLD | 600UL |
| 110 | 36 | 0.10 | 81 | 2 | SAI | | 07H -11.50 | | 07H | 07H | 0.13 | 0.62 | 131 | HOT | 580PP |
| 111 | 43 | 0.57 | 51 | P 2 | TWD | 22 | VH3 -1.02 | | TEH | TEC | | | 18 | COLD | 600UL |
| 111 | 99 | 0.41 | 44 | P 2 | TWD | 18 | 09C +0.47 | | TEH | TEC | | | 10 | COLD | 600UL |
| 111 | 137 | 0.42 | 97 | P 2 | TWD | 18 | VH2 -0.77 | | TEH | TEC | | | 23 | COLD | 600UL |
| | | 0.35 | 91 | P 2 | TWD | 16 | VH2 +0.87 | | TEH | TEC | | | 23 | COLD | 600UL |
| 112 | 72 | 0.36 | 64 | P 2 | TWD | 17 | VH3 +0.80 | | TEH | TEC | | | 5 | COLD | 600UL |
| 112 | 128 | 0.22 | 99 | P 2 | TWD | 13 | VH2 +0.08 | | TEC | TEH | | | 7 | HOT | 600UL |
| 112 | 144 | 0.55 | 60 | P 2 | TWD | 22 | DBC +2.01 | | TEH | TEC | | | 23 | COLD | 600UL |
| 113 | 105 | 0.39 | 93 | P 2 | TWD | 16 | VH2 +0.87 | | TEH | TEC | | | 12 | COLD | 600UL |
| | | 0.38 | 56 | P 2 | TWD | 16 | VH3 +0.91 | | TEH | TEC | | | 12 | COLD | 600UL |
| 114 | 36 | 0.26 | 34 | P 2 | TWD | 13 | DBC -1.77 | | TEH | TEC | | | 17 | COLD | 600UL |
| 114 | 40 | 0.53 | 80 | P 2 | TWD | 23 | DBH +2.13 | | TEH | TEC | | | 17 | COLD | 600UL |
| 114 | 46 | 0.19 | 109 | 2 | SAI | | 07H -0.44 | | 07H | 07H | 0.21 | 0.30 | 131 | HOT | 580PP |
| 114 | 62 | 0.31 | 137 | P 2 | TWD | 12 | DBH -1.75 | | TEC | TEH | | | 6 | HOT | 600UL |
| 114 | 76 | 0.24 | 135 | P 1 | SCI | | TSH +0.02 | | TSH | TSH | 0.30 | 0.48 | 100 | HOT | 600PP |
| 114 | 136 | 0.34 | 146 | P 2 | TWD | 16 | VC3 +0.85 | | TEH | TEC | | | 23 | COLD | 600UL |
| 117 | 95 | 0.42 | 123 | P 2 | TWD | 19 | DBC +0.80 | | TEH | TEC | | | 9 | COLD | 600UL |
| 118 | 70 | 0.41 | 98 | P 2 | TWD | 17 | VH1 -0.83 | | TEC | TEH | | | 5 | HOT | 600UL |
| 118 | 84 | 0.38 | 66 | P 2 | TWD | 16 | VC2 +0.53 | | TEH | TEC | | | 10 | COLD | 600UL |
| 118 | 128 | 0.28 | 112 | P 2 | TWD | 12 | 05H +0.67 | | TEC | TEH | | | 8 | HOT | 600UL |
| 119 | 79 | 0.53 | 123 | P 2 | TWD | 22 | VH3 +0.86 | | TEH | TEC | | | 7 | COLD | 600UL |
| 119 | 119 | 0.49 | 50 | P 2 | TWD | 24 | 10H -1.01 | | TEC | TEH | LOCOK | | 3 | HOT | 600UL |
| 119 | 121 | 0.50 | 120 | P 2 | TWD | 26 | 10H -1.09 | | TEC | TEH | LOCOK | | 7 | HOT | 600UL |
| 120 | 42 | 0.45 | 114 | P 2 | TWD | 20 | VH1 -0.81 | | TEH | TEC | | | 17 | COLD | 600UL |

SG89 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 120 | 60 | 0.46 | 140 | P 2 | TWD | 19 | VH1 | -0.98 | TEC | TEH | | | 5 | HOT | 600UL |
| 120 | 62 | 0.26 | 152 | P 2 | TWD | 12 | VH1 | -0.96 | TEC | TEH | | | 5 | HOT | 600UL |
| 120 | 68 | 0.39 | 101 | P 2 | TWD | 16 | VH1 | -0.96 | TEC | TEH | | | 5 | HOT | 600UL |
| 120 | 72 | 0.43 | 144 | P 2 | TWD | 17 | 10H | -1.20 | TEH | TEC | | | 6 | COLD | 600UL |
| 120 | 74 | 0.68 | 112 | P 2 | TWD | 26 | 10H | -1.41 | TEH | TEC | LAR | | 7 | COLD | 600UL |
| 120 | 128 | 0.12 | 89 | 2 | SAI | | 02H | -14.73 | 02H | 02H | 0.49 | 0.33 | 137 | HOT | 580PP |
| | | 0.35 | 82 | P 2 | TWD | 20 | 08H | +0.79 | TEC | TEH | | | 7 | HOT | 600UL |
| | | 0.37 | 120 | P 2 | TWD | 21 | VH1 | -1.00 | TEC | TEH | | | 7 | HOT | 600UL |
| 121 | 39 | 0.33 | 76 | P 2 | TWD | 16 | 10H | -1.82 | TEH | TEC | LOCOK | | 17 | COLD | 600UL |
| 121 | 45 | 0.74 | 120 | P 2 | TWD | 28 | VC2 | -0.53 | TEH | TEC | LAR | | 17 | COLD | 600UL |
| 121 | 47 | 0.34 | 125 | P 2 | TWD | 15 | 10H | +0.74 | TEC | TEH | | | 1 | HOT | 600UL |
| 121 | 77 | 0.17 | 114 | 2 | SAI | | 03H | +0.38 | 03H | 03H | 0.17 | 0.47 | 121 | HOT | 580PP |
| 121 | 83 | 0.53 | 129 | P 2 | TWD | 22 | VC3 | -0.82 | TEH | TEC | | | 8 | COLD | 600UL |
| 121 | 109 | 0.57 | 82 | P 2 | TWD | 26 | 10H | -2.03 | TEC | TEH | LOCOK | | 3 | HOT | 600UL |
| 122 | 40 | 0.24 | 16 | P 2 | TWD | 12 | 02C | -0.17 | TEH | TEC | | | 17 | COLD | 600UL |
| 122 | 42 | 0.57 | 97 | P 2 | TWD | 22 | DBC | -2.19 | TEH | TEC | | | 18 | COLD | 600UL |
| 123 | 121 | 0.30 | 64 | P 2 | TWD | 17 | VH1 | -0.98 | TEC | TEH | | | 7 | HOT | 600UL |
| 124 | 48 | 0.55 | 103 | P 2 | TWD | 22 | VH1 | -0.96 | TEC | TEH | | | 1 | HOT | 600UL |
| 124 | 56 | 0.50 | 69 | P 2 | TWD | 19 | VH1 | -0.98 | TEC | TEH | | | 6 | HOT | 600UL |
| 125 | 53 | 0.37 | 138 | P 2 | TWD | 16 | VH1 | -0.96 | TEC | TEH | | | 1 | HOT | 600UL |
| 125 | 77 | 0.34 | 135 | P 2 | TWD | 16 | VH1 | +0.86 | TEH | TEC | | | 8 | COLD | 600UL |
| | | 0.25 | 41 | P 2 | TWD | 13 | VH1 | -0.81 | TEH | TEC | | | 8 | COLD | 600UL |
| 126 | 48 | 0.40 | 111 | P 2 | TWD | 16 | VH1 | -1.19 | TEC | TEH | | | 2 | HOT | 600UL |
| 126 | 50 | 0.28 | 112 | P 2 | TWD | 13 | VH1 | -1.12 | TEC | TEH | | | 1 | HOT | 600UL |
| 126 | 56 | 0.49 | 88 | P 2 | TWD | 20 | VH1 | -1.08 | TEC | TEH | | | 5 | HOT | 600UL |
| 126 | 126 | 0.36 | 91 | P 2 | TWD | 15 | VH1 | -1.24 | TEC | TEH | | | 8 | HOT | 600UL |
| 127 | 123 | 0.31 | 140 | P 2 | TWD | 18 | 09C | -1.18 | TEC | TEH | | | 7 | HOT | 600UL |
| 128 | 72 | 0.25 | 148 | P 2 | TWD | 11 | 10H | -1.05 | TEH | TEC | | | 6 | COLD | 600UL |
| | | 0.40 | 67 | P 2 | TWD | 16 | 10H | +0.85 | TEH | TEC | | | 6 | COLD | 600UL |
| 129 | 47 | 0.41 | 146 | P 2 | TWD | 18 | 10H | +0.74 | TEC | TEH | | | 1 | HOT | 600UL |
| 129 | 49 | 0.23 | 91 | P 2 | TWD | 11 | VH1 | +0.86 | TEC | TEH | | | 1 | HOT | 600UL |
| | | 0.35 | 79 | P 2 | TWD | 16 | VH1 | -0.84 | TEC | TEH | | | 1 | HOT | 600UL |
| 129 | 73 | 0.22 | 47 | P 2 | TWD | 11 | DBH | +1.80 | TEH | TEC | | | 8 | COLD | 600UL |
| 129 | 109 | 0.23 | 134 | P 2 | TWD | 14 | 10H | -0.94 | TEC | TEH | | | 3 | HOT | 600UL |
| 130 | 48 | 0.43 | 77 | P 2 | TWD | 18 | 02C | -0.08 | TEC | TEH | | | 1 | HOT | 600UL |
| 130 | 52 | 0.36 | 137 | P 2 | TWD | 16 | VH1 | -0.90 | TEC | TEH | | | 1 | HOT | 600UL |
| 130 | 54 | 0.45 | 128 | P 2 | TWD | 18 | VH1 | -0.86 | TEC | TEH | | | 1 | HOT | 600UL |
| 130 | 74 | 0.34 | 130 | P 2 | TWD | 16 | 10H | +0.92 | TEH | TEC | | | 8 | COLD | 600UL |
| 130 | 78 | 0.54 | 96 | P 2 | TWD | 22 | 10H | -1.04 | TEH | TEC | | | 8 | COLD | 600UL |
| 130 | 110 | 0.36 | 152 | P 2 | TWD | 15 | VH1 | -0.85 | TEC | TEH | | | 4 | HOT | 600UL |

SG89 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 130 | 116 | 0.46 | 74 | P 2 | TWD | 19 | VH1 | -0.90 | TEC | TEH | | | 4 | HOT | 600UL |
| 132 | 106 | 0.29 | 87 | P 2 | TWD | 13 | 10H | -1.18 | TEH | TEC | | | 15 | COLD | 600UL |
| 133 | 55 | 0.28 | 73 | P 2 | TWD | 12 | 02H | +0.26 | TEH | TEC | LAR | | 14 | COLD | 600UL |
| 133 | 81 | 0.55 | 108 | P 2 | TWD | 20 | VH1 | +0.85 | TEH | TEC | | | 14 | COLD | 600UL |
| 133 | 85 | 0.40 | 108 | P 2 | TWD | 16 | 06H | +0.83 | TEH | TEC | | | 14 | COLD | 600UL |
| 133 | 119 | 0.42 | 149 | P 2 | TWD | 19 | VH1 | +0.91 | TEH | TEC | | | 20 | COLD | 600UL |
| 133 | 125 | 0.28 | 44 | P 2 | TWD | 13 | 01C | +0.86 | TEH | TEC | | | 20 | COLD | 600UL |
| 134 | 52 | 0.34 | 92 | P 2 | TWD | 14 | VH1 | -0.77 | TEH | TEC | | | 14 | COLD | 600UL |
| 134 | 64 | 0.39 | 130 | P 2 | TWD | 16 | VC3 | -0.88 | TEH | TEC | | | 13 | COLD | 600UL |
| | | 0.37 | 98 | P 2 | TWD | 16 | VH3 | -0.92 | TEH | TEC | | | 13 | COLD | 600UL |
| 134 | 88 | 0.37 | 79 | P 2 | TWD | 15 | VH1 | +0.84 | TEH | TEC | | | 14 | COLD | 600UL |
| 134 | 124 | 0.22 | 75 | P 2 | TWD | 13 | VC3 | +0.62 | 01C | TEH | | | 76 | HOT | 600UL |
| 136 | 68 | 0.52 | 60 | P 2 | TWD | 21 | VH1 | -0.87 | TEH | TEC | | | 13 | COLD | 600UL |
| 136 | 88 | 0.41 | 81 | P 2 | TWD | 18 | 06H | +0.60 | TEH | TEC | | | 13 | COLD | 600UL |
| 137 | 69 | 0.39 | 51 | P 2 | TWD | 15 | VH1 | +0.59 | TEH | TEC | | | 14 | COLD | 600UL |
| 137 | 71 | 0.38 | 120 | P 2 | TWD | 15 | DBH | -1.77 | TEH | TEC | | | 14 | COLD | 600UL |
| 138 | 64 | 0.35 | 91 | P 2 | TWD | 14 | 10H | +0.75 | TEH | TEC | | | 14 | COLD | 600UL |
| 138 | 76 | 0.46 | 148 | P 2 | TWD | 18 | VH1 | -0.81 | TEH | TEC | | | 14 | COLD | 600UL |
| 138 | 92 | 0.54 | 77 | P 2 | TWD | 20 | 07C | +1.19 | TEH | TEC | | | 14 | COLD | 600UL |
| 138 | 104 | 0.30 | 108 | P 2 | TWD | 14 | VH1 | +0.84 | TEH | TEC | | | 15 | COLD | 600UL |
| 139 | 61 | 0.31 | 97 | P 2 | TWD | 13 | 09C | -1.04 | TEH | TEC | | | 14 | COLD | 600UL |
| 139 | 103 | 0.56 | 145 | P 2 | TWD | 23 | VH2 | +0.91 | TEH | TEC | | | 15 | COLD | 600UL |
| 140 | 100 | 0.27 | 145 | P 2 | TWD | 11 | VC1 | +0.85 | TEH | TEC | | | 16 | COLD | 600UL |
| 141 | 67 | 0.37 | 93 | P 2 | TWD | 15 | 09C | -1.08 | TEH | TEC | | | 14 | COLD | 600UL |
| 141 | 103 | 0.38 | 126 | P 2 | TWD | 16 | VH3 | -0.93 | TEH | TEC | | | 16 | COLD | 600UL |
| 141 | 109 | 0.53 | 89 | P 2 | TWD | 22 | VH3 | -0.02 | TEH | TEC | | | 15 | COLD | 600UL |
| 142 | 92 | 0.47 | 116 | P 2 | TWD | 18 | VH1 | -0.89 | TEH | TEC | | | 14 | COLD | 600UL |
| 143 | 71 | 0.57 | 108 | P 2 | TWD | 21 | VH1 | -0.90 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 0.45 | 93 | P 2 | TWD | 17 | VH1 | +0.75 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 0.48 | 65 | P 2 | TWD | 18 | DBH | +2.04 | TEH | TEC | | | 14 | COLD | 600UL |
| 143 | 73 | 0.24 | 134 | P 2 | TWD | 10 | DBC | +1.81 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 0.42 | 121 | P 2 | TWD | 16 | DBC | -1.81 | TEH | TEC | | | 14 | COLD | 600UL |
| 143 | 81 | 0.29 | 17 | P 2 | TWD | 12 | VC1 | -0.83 | TEH | TEC | | | 14 | COLD | 600UL |
| 143 | 87 | 0.29 | 128 | P 2 | TWD | 13 | 10C | +0.85 | TEH | TEC | | | 13 | COLD | 600UL |
| | | 0.54 | 74 | P 2 | TWD | 22 | DBC | +1.66 | TEH | TEC | | | 13 | COLD | 600UL |
| 143 | 103 | 0.57 | 109 | P 2 | TWD | 23 | DBH | +1.58 | TEH | TEC | | | 15 | COLD | 600UL |
| 143 | 109 | 0.75 | 76 | P 2 | TWD | 26 | DBC | -1.77 | TEH | TEC | | | 16 | COLD | 600UL |
| 144 | 74 | 0.86 | 119 | P 2 | TWD | 28 | VC1 | +0.94 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 0.28 | 103 | P 2 | TWD | 12 | DBC | -1.77 | TEH | TEC | | | 14 | COLD | 600UL |
| 144 | 102 | 0.29 | 115 | P 2 | TWD | 12 | DBH | -1.69 | TEH | TEC | | | 16 | COLD | 600UL |
| 145 | 75 | 0.56 | 118 | P 2 | TWD | 21 | DBH | +1.99 | TEH | TEC | | | 14 | COLD | 600UL |

SG89 - MAI, MCI, MMI, MVI, SAI, SCI, SVI, 0-100%TWD

QUERY: QueryM1

| ROW | LINE | VOLTS | DEG | CHN | IND | %TW | LOCATION | | EXT | EXT | UTIL 1 | UTIL 2 | CAL # | LEG | PROBE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 145 | 81 | 0.84 | 93 | P 2 | TWD | 29 | VH1 | +0.81 | TEH | TEC | | | 13 | COLD | 600UL |
| 145 | 89 | 0.46 | 88 | P 2 | TWD | 19 | VC2 | +0.88 | TEH | TEC | | | 13 | COLD | 600UL |
| 145 | 91 | 1.14 | 97 | P 2 | TWD | 33 | DBC | +1.77 | TEH | TEC | | | 14 | COLD | 600UL |
| 145 | 103 | 0.90 | 110 | P 2 | TWD | 29 | DBH | +1.81 | TEH | TEC | | | 16 | COLD | 600UL |
| 146 | 78 | 0.46 | 81 | P 2 | TWD | 18 | DBH | +1.90 | TEH | TEC | | | 14 | COLD | 600UL |
| 146 | 88 | 0.70 | 46 | P 2 | TWD | 24 | DBC | +1.65 | TEH | TEC | | | 14 | COLD | 600UL |
| 146 | 92 | 0.94 | 116 | P 2 | TWD | 29 | DBC | +1.79 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 0.29 | 128 | P 2 | TWD | 13 | DBH | +1.87 | TEH | TEC | | | 14 | COLD | 600UL |
| 146 | 94 | 0.93 | 60 | P 2 | TWD | 29 | DBC | +1.76 | TEH | TEC | | | 14 | COLD | 600UL |
| | | 0.44 | 99 | P 2 | TWD | 17 | DBH | +1.98 | TEH | TEC | | | 14 | COLD | 600UL |
| 146 | 98 | 0.44 | 55 | P 2 | TWD | 18 | 03H | -1.17 | TEH | TEC | | | 16 | COLD | 600UL |
| 147 | 81 | 1.26 | 80 | P 2 | TWD | 34 | DBC | +1.82 | TEH | TEC | | | 14 | COLD | 600UL |

Total Tubes : 417
Total Records: 506