

# PACIFIC GAS AND ELECTRIC COMPANY

## Gas Operations Support Team

### Data Response

**QUESTION(S) 4806.01:** Please provide all current standards, procedures, instructions, bulletins, guides, policies, documents, etc. that address how gas leaks are identified, classified and repaired in your Gas Transmission System. For a period of one year from the date of this request, please provide one copy of any of the above documents, whenever they are revised.

**RESPONSE(S) 4806.01:** Please see the documents listed below, which will be uploaded to the ftp site (zip files "03-12-14-01\_file01\_CONF.zip" through "03-12-14-01\_file12\_CONF.zip") due to file size. Please see attachment "Index of Attachments to Q1,2,21,22\_CONF.xlsx" (in zip file "03-12-14-01\_file01\_CONF.zip") for an index of all attachments included in the twelve zip files. If PG&E identifies any additional documents that are responsive to this request, then it will provide a supplemental response. PG&E will provide updated copies of any revised documents on a six month interval for a period of one year.

| Document Number | Document Title   | Document Type   | Publication Date |
|-----------------|--|-----------------|------------------|
| 322             | Clarification for Gas Transmission Stations Maintenance and Replacement of Maintenance Forms | Bulletin        | 2/1/2010         |
| 325             | Changes to Gas Transmission Station Maintenance and Addition of Leak Survey Form             | Bulletin        | 6/16/2010        |
| 326             | Rechecks of Graded Aboveground Gas Leaks   | Bulletin        | 4/6/2010         |
| A-36            | Design and Construction Requirements Gas Lines and Related Facilities                        | Design Standard | 10/15/1992       |
| A-60.2          | Type "A" Reinforcing Steel Sleeves   | Design Standard | 10/21/2002       |
| A-64            | Gas Line Patches and Half Soles  | Design Standard | 6/3/1998         |
| B-53.2          | Transmission Pressure Clamps   | Design Standard | 1/15/2014        |
| M-53            | Portable Combustible Gas Indicator Specification   | Design Standard | 10/1/2013        |
| M-53.2          | Portable Hydrogen Flame Ionization Gas Detector  | Design Standard | 10/1/2013        |
| M-53.4          | Mobile Leak Survey Hydrogen Flame Ionization and Detecto Pak - Infrared                      | Design Standard | 10/1/2013        |
| M-53.5          | Mobile Leak Survey Optical Methane Detection   | Design Standard | 10/1/2013        |
| M-53.6          | Remote Methane Leak Detector and Remote Methane Leak Detector-Intrinsically Safe             | Design Standard | 10/1/2013        |
| M-53.8          | Heath Detecto Pak-Infrared Leak Detector (DP-IR)   | Design Standard | 10/1/2013        |
| M-54.1          | Impact Bar Probe   | Design Standard | 3/26/2014        |
| M-55            | Dwyer Wind Meter   | Design Standard | 11/26/2012       |
| TD-4021P-03     | Gas Quality Control Leak Survey Next Day Assessment Procedure                                | Procedure       | 1/8/2014         |

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| TD-4110P-10   | Inside Gas Leak and Odor Investigation  | Procedure | 11/10/2010 |
| TD-4110P-13   | Outside Gas Leak and Odor Investigation   | Procedure | 11/10/2010 |
| TD-4110P-14   | Leak Indications from Non-Company Sources   | Procedure | 11/15/2010 |
| TD-4110P-17   | Maintenance and Construction Follow-Up Procedure for Responding to Customer-Reported Non-Hazardous Leaks                            | Procedure | 9/25/2013  |
| TD-4110P-18   | Subsurface Leak Investigation and Pinpointing for Repair  | Procedure | 5/15/2013  |
| TD-4110P-20   | Leak Survey of Inaccessible Pipelines Under Waterways   | Procedure | 8/16/2011  |
| TD-4110P-21   | Calibration Verification for Leak Survey Instruments  | Procedure | 5/15/2013  |
| TD-4110P-22   | Combustible Gas Indicator Operations and Maintenance  | Procedure | 11/13/2013 |
| TD-4110P-23   | Heath Remote Methane Leak Detector (RMLD) Operating Procedure   | Procedure | 5/15/2013  |
| TD-4110P-24   | Optical Methane Detector (OMD) Operating Procedures   | Procedure | 5/8/2013   |
| TD-4110P-25   | Heath Detecto Pak-Infrared (DP-IR) Leak Detector  | Procedure | 9/25/2013  |
| TD-4110P-26   | Mobile Leak Survey – DPIR and HFIs  | Procedure | 5/8/2013   |
| TD-4110P-27   | Heath Detecto-Pak III (DP-III) Hydrogen Flame Ionization (HFI) Leak Detector Operating and Maintenance Procedures                   | Procedure | 5/8/2013   |
| TD-4110P-28   | Heath Detecto-Pak 4 (DP-4) Hydrogen Flame Ionization (HFI) Leak Detector Operating and Maintenance Procedures                       | Procedure | 5/8/2013   |
| TD-4110P-30   | Aerial Leak Survey  | Procedure | 12/4/2013  |
| TD-4110S      | Gas Leak Survey and Detection Program   | Standard  | 5/8/2013   |
| TD-4151M-JA25 | Leak Testing Threaded Control Valves  | Job Aid   | 5/15/2013  |
| TD-4151M-JA45 | Leak Testing E and D Series Drilling Machines   | Job Aid   | 5/15/2013  |
| TD-4151M-JA46 | Leak Testing EH and DH Series Drilling Machines   | Job Aid   | 5/15/2013  |
| TD-4151M-JA68 | Leak Testing Threaded Stopping Machines   | Job Aid   | 5/15/2013  |
| TD-4151M-JA88 | Leak Testing Threaded Completion Machines   | Job Aid   | 5/15/2013  |
| TD-4413P-01   | Procedure for Reportable Gas Incidents  | Procedure | 9/4/2013   |
| TD-4413P-02   | Reporting Safety-Related Conditions, Pressure Test Failures and Leaks, Over-Pressurization Events, and Low Pressure System Problems | Procedure | 9/4/2013   |
| TD-4430P-02   | Gas Transmission Stations Inspection, Testing, and Maintenance Procedures   | Procedure | 1/1/2010   |
| TD-4470P-01   | Gas Crew Tracking Process for Gas Leak or Odor Investigation  | Procedure | 4/10/2013  |
| WP 4710-01    | Gas Pipeline Leak Response Procedures   | Procedure | 3/1/2008   |
| S4710         | Gas Pipeline Production Fluid and Liquid; Leak Response and Contaminated Soil Handling Requirements                                 | Standard  | 12/1/2007  |
| TD-6434P-01   | Gas Leak and Odor Investigation   | Procedure | 4/15/2013  |

|             |                                     |           |           |
|-------------|-------------------------------------|-----------|-----------|
| TD-6434P-02 | Gas Leak Grading for Field Services | Procedure | 4/15/2013 |
| TD-6434S    | Gas Leak and Odor Response          | Standard  | 5/8/2013  |

**QUESTION(S) 4806.02:** Please provide all current standards, procedures, instructions, bulletins, guides, policies, documents, etc. that address the repair/replacement of service lines (a.k.a. farm taps) and/or service risers, if any, in your Gas Transmission System. For a period of one year from the date of this request, please provide one copy of any of the above documents, whenever they are revised.

**RESPONSE(S) 4806.02:** PG&E interprets this question to apply to gas piping downstream of the point of regulation for the customer. Please see the documents listed below, which will be uploaded to the ftp site (zip files "03-12-14-01\_file01\_CONF.zip" through "03-12-14-01\_file12\_CONF.zip") due to file size. Please see attachment "Index of Attachments to Q1,2,21,22\_CONF.xlsx" (in zip file "03-12-14-01\_file01\_CONF.zip") for an index of all attachments included in the twelve zip files. If PG&E identifies any additional documents that would be responsive to this request, then it will provide a supplemental response. PG&E will provide updated copies of any revised documents on a six month interval for a period of one year.

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| A-34            | Piping Design and Test Requirements  | Design Standard | 3/29/2013        |
| A-36            | Design and Construction Requirements Gas Lines and Related Facilities            | Design Standard | 10-15-92         |
| A-60            | Gas Main Welding Sleeves (Type B Sleeves with Circumferential Welds)             | Design Standard | 11/15/2006       |
| A-60.2          | Type "A" Reinforcing Steel Sleeves   | Design Standard | 10/21/2002       |
| A-61            | Low-pressure Gas Main Welding Sleeve Fabricating, Installing and Purchasing Data | Design Standard | 6/4/1998         |
| A-63            | Gas Main Repair Can  | Design Standard | 10/28/2004       |
| A-64            | Gas Line Patches and Half Soles  | Design Standard | 6/3/1998         |
| A-68            | Leak Repair Tapes  | Design Standard | 3/28/2005        |
| A-93.1          | Installing and Maintaining a Polyethylene Gas Distribution System                | Design Standard | 2/26/2014        |
| M-53            | Portable Combustible Gas Indicator Specification                                 | Design Standard | 10/1/2013        |
| M-53.2          | Portable Hydrogen Flame Ionization Gas Detector                                  | Design Standard | 10/1/2013        |
| M-53.4          | Mobile Leak Survey Hydrogen Flame Ionization and Detecto Pak - Infrared          | Design Standard | 10/1/2013        |
| M-53.5          | Mobile Leak Survey Optical Methane Detection                                     | Design Standard | 10/1/2013        |
| M-53.6          | Remote Methane Leak Detector and Remote Methane Leak Detector-Intrinsically Safe | Design Standard | 10/1/2013        |

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| M-53.8        | Heath Detecto Pak-Infrared Leak Detector (DP-IR)  | Design Standard | 10/1/2013  |
| M-54.1        | Impact Bar Probe  | Design Standard | 3/26/2014  |
| M-55          | Dwyer Wind Meter  | Design Standard | 11/26/2012 |
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| TD-4100P-05   | Selection of Steel Gas Pipeline Repair Methods  | Procedure       | 11/27/2003 |
| TD-4110B-005  | Reporting Grade 1 Leaks on Mechanical Fittings  | Bulletin        | 12/23/2010 |
| TD-4110B-013  | Transition A-Form, A-1 Form and Inspection Only Form  | Bulletin        | 1/22/2014  |
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| TD-4110P-23   | Heath Remote Methane Leak Detector (RMLD) Operating Procedure   | Procedure       | 5/15/2013  |
| TD-4110P-24   | Optical Methane Detector (OMD) Operating Procedures   | Procedure       | 5/8/2013   |
| TD-4110P-25   | Heath Detecto Pak-Infrared (DP-IR) Leak Detector  | Procedure       | 9/25/2013  |
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| TD-4110P-28   | Heath Detecto-Pak 4 (DP-4) Hydrogen Flame Ionization (HFI) Leak Detector Operating and Maintenance Procedures     | Procedure       | 5/8/2013   |
| TD-4110P-30   | Aerial Leak Survey  | Procedure       | 12/4/2013  |
| TD-4110P-32   | Picarro Surveyor™ Cavity Ring-down Spectroscopy (CRDS) Operations and Maintenance and Performing Leak Survey      | Procedure       | 1/1/2014   |
| TD-4110S      | Gas Leak Survey and Detection Program   | Standard        | 5/8/2013   |
| TD-4125P-01   | Establishing and Maintaining Distribution MAOP Records  | Procedure       | 3/31/2010  |
| TD-4151M-JA25 | Leak Testing Threaded Control Valves  | Job Aid         | 5/15/2013  |
| TD-4151M-JA45 | Leak Testing E and D Series Drilling Machines   | Job Aid         | 5/15/2013  |
| TD-4151M-JA46 | Leak Testing EH and DH Series Drilling Machines   | Job Aid         | 5/15/2013  |
| TD-4151M-JA68 | Leak Testing Threaded Stopping Machines   | Job Aid         | 5/15/2013  |
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| TD-4470P-01  | Gas Crew Tracking Process for Gas Leak or Odor Investigation   | Procedure                          | 4/10/2013  |
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| S4710        | Gas Pipeline Production Fluid and Liquid; Leak Response and Contaminated Soil Handling Requirements  | Standard                           | 12/1/2007  |
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| TD-6434P-02  | Gas Leak Grading for Field Services  | Procedure                          | 4/15/2013  |
| TD-6434S     | Gas Leak and Odor Response   | Standard                           | 5/8/2013   |
| 259          | Vertical Separation Requirements for Gas Distribution Facilities   | Bulletin (on Standard 463-4)       | 6/09/2008  |
| TD-0470B-001 | Recognizing High Pressure Regulator (HPR)-Type Customer Stations with Three or More Services as HPR-District Regulator Stations                  | Bulletin (on Design Standard H-10) | 02/11/2011 |
| TD-4540P-03  | Maintenance of Farm Tap Regulator Sets   | Utility Procedure                  | 10/16/2013 |
| 463-4        | Cover and Clearance Requirements for Transmission Lines, Mains, and Service Lines  | Standard                           | 5/1/1983   |
| 251          | Gas Transmission Line Tap Installation Guidelines  | Bulletin                           | 1/16/2008  |
| H-10         | High-Pressure Regulator-Type Stations and Farm Tap Regulator Sets  | Design Standard                    | 10/9/2013  |
| 6421         | Specifications for Furnishing and Delivery of Pre-Fabricated Metal-Cased Plastic 3/4 in. x 5/8 in. O.D. (1/2"CTS SDR7) Gas Service Risers        | EMS                                | 10/28/2010 |
| A-91         | Prefabricated Risers   | Design Standard                    | 9/25/2013  |
| 7030         | Specifications for Furnishing and Delivery of Pre-Fabricated Metal-Cased Plastic 1-1/4 in. x 1-1/9 in. OD (1 in. CTS SDR 9.3) Gas Service Risers | EMS                                | 3/15/2010  |
| 4078         | Specifications for Furnishing and Delivery of Pre-Fabricated Non Corrodible Gas Service Riser Kits   | EMS                                | 7/16/2004  |
| TD-4150P-02  | Valve Changer 3/4 inch through 1 1/4 inch Service Riser Thread Replacement   | Procedure                          | 1/29/2014  |
| TD-4150P-03  | Valve Changer 3/4 inch through 1 1/4 Extended Service Riser Thread Replacement   | Procedure                          | 12/11/2013 |
| 4765         | Specifications for Furnishing and Delivery of Pre-fabricated Metal-cased Polyethylene (PE) 2"x2" (2" IPS SDR 11) Gas Service Risers              | EMS                                | 6/19/2013  |

**QUESTION(S) 4806.07:** How many services (a.k.a. farm taps, services to buildings and/or residences) do you have in your transmission system?

**RESPONSE(S) 4806.07:** PG&E's records currently indicate there are 2,737 farm taps connected to its gas transmission system.

**QUESTION(S) 4806.12:** Please describe the process you use to identify and then repair leaks. This question applies to how leak surveyors and leak repair crews are managed. For example, do you perform leak surveys of areas with teams and then send in multiple crews to repair all the leaks in the area, or do you identify and repair one leak at a time.

**RESPONSE(S) 4806.12:** Transmission gas assets are surveyed using foot, mobile and aerial survey methods. Operator Qualified (OQ) leak surveyors are managed through the Leak Management organization, but leak surveyors are located in the local districts where the work is to be performed. Leak surveyors are assigned plat maps to survey and as they find leaks, they are processed according to Utility Operations Standard S4110, attached as "*S4110\_CONF.pdf*". Other than Grade 1 (immediate response) gas leaks, leaks are processed and entered into a repository. Grade 1 leaks are addressed immediately by construction crews. As the various non-Grade 1 leaks approach their repair date, the repairs are scheduled and are then completed by construction crews.

**QUESTION(S) 4806.14:** Please describe your leak grading system. In your system, are Non-Hazardous leaks called Grade 3? Do you have any other Non-Hazardous designations?

**RESPONSE(S) 4806.14:** CPUC G.O. 112-E requires PG&E to regularly inspect its gas pipeline system to assure reliable and safe operation. Most leaks are quite small and do not constitute an immediate hazard to the public. To assist in prioritizing leak repair, PG&E has developed the following leak classification criteria:

Grade 1: Grade 1 leaks (also referred to as a "hazardous" leak) represent existing or probable hazards to persons or property and require immediate repair or continuous action until conditions are no longer hazardous.

Grade 2+: Grade 2+ (Priority Grade 2) leaks fall below Grade 1 criteria and above Grade 2 criteria. These leaks are non-hazardous to persons or property at the time of detection, but still require a scheduled priority repair within 90 days or less.

Grade 2: Grade 2 leaks are non-hazardous to persons or property at the time of detection, but still require a scheduled repair because they present probable future hazards. Grade 2 leaks must be repaired within 15 months.

Grade 3: Grade 3 leaks are non-hazardous at the time of detection and can reasonably be expected to remain non-hazardous. Such leaks are recorded and monitored at each subsequent survey.

Other than a Grade 1 leak being designated as hazardous, all other leak grades (2+, 2 and 3) are considered non-hazardous. Please see the job aid attached as "*LeakGradingJobAid.pdf*" for detailed leak grading criteria.

**QUESTION(S) 4806.15:** Do you monitor Non-Hazardous leaks or do you repair them? Please explain your policy.

**RESPONSE(S) 4806.15:** While Grade 1 leaks are addressed immediately, leaks found on transmission assets that are graded as non-hazardous, or Grades 2+, 2 and 3, are required to be communicated to the leak surveyor's supervisor as they are identified. All non-Grade 1 leaks which

appear to be within a High Consequence Area (HCA) require an evaluation of the pipe condition within 5 calendar days of discovery to determine whether the transmission pipe is the source of the leak. If the gas transmission pipe is the source of the leak, then action is required to complete necessary repairs as soon as practical. For those leaks identified outside an HCA, the same repair or recheck due dates discussed in PG&E’s response to Question 14 above are applied.

**QUESTION(S) 4806.17:** During the years 2011 to 2013 how many Dig-Ins did you have (by year)?

**RESPONSE(S) 4806.17:** The number of dig-ins reported for PG&E’s gas pipelines operating over 60 psig, based on PG&E’s gas leak database (IGIS), are shown below.

| Transmission Dig-ins by Year |      |      |      |
|------------------------------|------|------|------|
| Year                         | 2011 | 2012 | 2013 |
| Count                        | 6    | 6    | 7    |

**QUESTION(S) 4806.18:** How many miles of transmission line do you have in your system?

**RESPONSE(S) 4806.18:** PG&E’s records indicate there are 5,791 miles of gas transmission pipelines (which includes 54.7 miles of StanPac pipeline operated by Standard Pacific Gas Line Inc., a subsidiary of PG&E Corporation). PG&E reported this data in its 2013 PHMSA Annual report in March 2014.

### Gas Distribution Section

Note: Exclude Picarro Pilot Projects and Dig-Ins Unless Specifically Mentioned

**QUESTION(S) 4806.21:** Please provide all current standards, procedures, instructions, bulletins, guides, policies, documents, etc. that address how gas leaks are identified, classified and repaired in your Gas Distribution System. For a period of one year from the date of this request, please provide one copy of any of the above documents, whenever they are revised.

**RESPONSE(S) 4806.21:** Please see the documents listed below, which will be uploaded to the ftp site (zip files “03-12-14-01\_file01\_CONF.zip” through “03-12-14-01\_file12\_CONF.zip”) due to file size. Please see attachment “Index of Attachments to Q1,2,21,22\_CONF.xlsx” (in zip file “03-12-14-01\_file01\_CONF.zip”) for an index of all attachments included in the twelve zip files. If PG&E identifies any additional documents that would be responsive to this request, then it will provide a supplemental response. PG&E will provide updated copies of any revised documents on a six month interval for a period of one year.

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| TD-4110P-25   | Heath Detecto Pak-Infrared (DP-IR) Leak Detector  | Procedure | 9/25/2013  |
| TD-4110P-26   | Mobile Leak Survey – DPIR and HFIs  | Procedure | 5/8/2013   |
| TD-4110P-27   | Heath Detecto-Pak III (DP-III) Hydrogen Flame Ionization (HFI) Leak Detector Operating and Maintenance Procedures                   | Procedure | 5/8/2013   |
| TD-4110P-28   | Heath Detecto-Pak 4 (DP-4) Hydrogen Flame Ionization (HFI) Leak Detector Operating and Maintenance Procedures                       | Procedure | 5/8/2013   |
| TD-4110P-30   | Aerial Leak Survey  | Procedure | 12/4/2013  |
| TD-4110P-32   | Picarro Surveyor™ Cavity Ring-down Spectroscopy (CRDS) Operations and Maintenance and Performing Leak Survey                        | Procedure | 1/1/2014   |
| TD-4110S      | Gas Leak Survey and Detection Program   | Standard  | 5/8/2013   |
| TD-4125P-01   | Establishing and Maintaining Distribution MAOP Records  | Procedure | 3/31/2010  |
| TD-4151M-JA25 | Leak Testing Threaded Control Valves  | Job Aid   | 5/15/2013  |
| TD-4151M-JA45 | Leak Testing E and D Series Drilling Machines   | Job Aid   | 5/15/2013  |
| TD-4151M-JA46 | Leak Testing EH and DH Series Drilling Machines   | Job Aid   | 5/15/2013  |
| TD-4151M-JA68 | Leak Testing Threaded Stopping Machines   | Job Aid   | 5/15/2013  |
| TD-4151M-JA88 | Leak Testing Threaded Completion Machines   | Job Aid   | 5/15/2013  |
| TD-4413P-01   | Procedure for Reportable Gas Incidents  | Procedure | 9/4/2013   |
| TD-4413P-02   | Reporting Safety-Related Conditions, Pressure Test Failures and Leaks, Over-Pressurization Events, and Low Pressure System Problems | Procedure | 9/4/2013   |
| TD-4470P-01   | Gas Crew Tracking Process for Gas Leak or Odor Investigation  | Procedure | 4/10/2013  |
| WP 4710-01    | Gas Pipeline Leak Response Procedures   | Procedure | 3/1/2008   |
| S4710         | Gas Pipeline Production Fluid and Liquid; Leak Response and Contaminated Soil Handling Requirements                                 | Standard  | 12/1/2007  |
| TD-6434P-01   | Gas Leak and Odor Investigation   | Procedure | 4/15/2013  |
| TD-6434P-02   | Gas Leak Grading for Field Services   | Procedure | 4/15/2013  |

|          |                            |          |          |
|----------|----------------------------|----------|----------|
| TD-6434S | Gas Leak and Odor Response | Standard | 5/8/2013 |
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**QUESTION(S) 4806.22:** Please provide all current standards, procedures, instructions, bulletins, guides, policies, documents, etc. that address the repair/replacement of service lines and/or risers in your Gas Distribution System. For a period of one year from the date of this request, please provide one copy of any of the above documents, whenever they are revised.

**RESPONSE(S) 4806.22:** Please see the documents listed below, which will be uploaded to the ftp site (zip files "03-12-14-01\_file01\_CONF.zip" through "03-12-14-01\_file12\_CONF.zip") due to file size. Please see attachment "Index of Attachments to Q1,2,21,22\_CONF.xlsx" (in zip file "03-12-14-01\_file01\_CONF.zip") for an index of all attachments included in the twelve zip files. If PG&E identifies any additional documents that would be responsive to this request, then it will provide a supplemental response. PG&E will provide updated copies of any revised documents on a six month interval for a period of one year.

| Document Number | Document Title   | Document Type   | Publication Date |
|-----------------|--|-----------------|------------------|
| 326             | Rechecks of Graded Aboveground Gas Leaks   | Bulletin        | 4/6/2010         |
| A-34            | Piping Design and Test Requirements  | Design Standard | 3/29/2013        |
| A-36            | Design and Construction Requirements Gas Lines and Related Facilities            | Design Standard | 10/15/1992       |
| A-60            | Gas Main Welding Sleeves (Type B Sleeves with Circumferential Welds)             | Design Standard | 11/15/2006       |
| A-60.2          | Type "A" Reinforcing Steel Sleeves   | Design Standard | 10/21/2002       |
| A-61            | Low-pressure Gas Main Welding Sleeve Fabricating, Installing and Purchasing Data | Design Standard | 6/4/1998         |
| A-63            | Gas Main Repair Can  | Design Standard | 10/28/2004       |
| A-64            | Gas Line Patches and Half Soles  | Design Standard | 6/3/1998         |
| A-68            | Leak Repair Tapes  | Design Standard | 3/28/2005        |
| A-93.1          | Installing and Maintaining a Polyethylene Gas Distribution System                | Design Standard | 2/26/2014        |
| M-53            | Portable Combustible Gas Indicator Specification                                 | Design Standard | 10/1/2013        |
| M-53.2          | Portable Hydrogen Flame Ionization Gas Detector                                  | Design Standard | 10/1/2013        |
| M-53.4          | Mobile Leak Survey Hydrogen Flame Ionization and Detecto Pak - Infrared          | Design Standard | 10/1/2013        |
| M-53.5          | Mobile Leak Survey Optical Methane Detection                                     | Design Standard | 10/1/2013        |
| M-53.6          | Remote Methane Leak Detector and Remote Methane Leak Detector-Intrinsically Safe | Design Standard | 10/1/2013        |
| M-53.8          | Heath Detecto Pak-Infrared Leak Detector (DP-IR)                                 | Design Standard | 10/1/2013        |

|              |   |                 |            |
|--------------|---|-----------------|------------|
| M-54.1       | Impact Bar Probe  | Design Standard | 3/26/2014  |
| M-55         | Dwyer Wind Meter  | Design Standard | 11/26/2012 |
| TD-4021P-03  | Gas Quality Control Leak Survey Next Day Assessment Procedure   | Procedure       | 1/8/2014   |
| TD-4021P-04  | Gas Quality Control Repaired and Zeroed-out Leak Assessment   | Procedure       | 1/8/2014   |
| TD-4100P-05  | Selection of Steel Gas Pipeline Repair Methods  | Procedure       | 11/27/2003 |
| TD-4110B-005 | Reporting Grade 1 Leaks on Mechanical Fittings  | Bulletin        | 12/23/2010 |
| TD-4110B-013 | Transition A-Form, A-1 Form and Inspection Only Form  | Bulletin        | 1/22/2014  |
| TD-4110B-015 | OQ 04-01 Requirement Changes for Leak Survey and Leak Investigation   | Bulletin        | 2/7/2014   |
| TD-4110B-016 | Changes to Survey Requirements of Specially Designated Areas  | Bulletin        | 3/21/2014  |
| TD-4110P-01  | Leak Survey Process   | Procedure       | 5/22/2013  |
| TD-4110P-02  | Leak Survey Qualification Strategy  | Procedure       | 5/15/2013  |
| TD-4110P-03  | Performing and Documenting Leak Survey  | Procedure       | 5/22/2013  |
| TD-4110P-08  | Leak Survey After Significant Events  | Procedure       | 5/15/2013  |
| TD-4110P-09  | Leak Grading and Response   | Procedure       | 9/25/2013  |
| TD-4110P-10  | Inside Gas Leak and Odor Investigation  | Procedure       | 11/10/2010 |
| TD-4110P-13  | Outside Gas Leak and Odor Investigation   | Procedure       | 11/10/2010 |
| TD-4110P-14  | Leak Indications from Non-Company Sources   | Procedure       | 11/15/2010 |
| TD-4110P-17  | Maintenance and Construction Follow-Up Procedure for Responding to Customer-Reported Non-Hazardous Leaks          | Procedure       | 9/25/2013  |
| TD-4110P-18  | Subsurface Leak Investigation and Pinpointing for Repair  | Procedure       | 5/15/2013  |
| TD-4110P-20  | Leak Survey of Inaccessible Pipelines Under Waterways   | Procedure       | 8/16/2011  |
| TD-4110P-21  | Calibration Verification for Leak Survey Instruments  | Procedure       | 5/15/2013  |
| TD-4110P-22  | Combustible Gas Indicator Operations and Maintenance  | Procedure       | 11/13/2013 |
| TD-4110P-23  | Heath Remote Methane Leak Detector (RMLD) Operating Procedure   | Procedure       | 5/15/2013  |
| TD-4110P-24  | Optical Methane Detector (OMD) Operating Procedures   | Procedure       | 5/8/2013   |
| TD-4110P-25  | Heath Detecto Pak-Infrared (DP-IR) Leak Detector  | Procedure       | 9/25/2013  |
| TD-4110P-26  | Mobile Leak Survey – DPIR and HFIs  | Procedure       | 5/8/2013   |
| TD-4110P-27  | Heath Detecto-Pak III (DP-III) Hydrogen Flame Ionization (HFI) Leak Detector Operating and Maintenance Procedures | Procedure       | 5/8/2013   |
| TD-4110P-28  | Heath Detecto-Pak 4 (DP-4) Hydrogen Flame Ionization (HFI) Leak Detector Operating and Maintenance Procedures     | Procedure       | 5/8/2013   |
| TD-4110P-30  | Aerial Leak Survey  | Procedure       | 12/4/2013  |
| TD-4110P-32  | Picarro Surveyor™ Cavity Ring-down Spectroscopy (CRDS) Operations and Maintenance and Performing Leak Survey      | Procedure       | 1/1/2014   |
| TD-4110S     | Gas Leak Survey and Detection Program   | Standard        | 5/8/2013   |

|               |  |                 |            |
|---------------|--|-----------------|------------|
| TD-4125P-01   | Establishing and Maintaining Distribution MAOP Records   | Procedure       | 3/31/2010  |
| TD-4151M-JA25 | Leak Testing Threaded Control Valves   | Job Aid         | 5/15/2013  |
| TD-4151M-JA45 | Leak Testing E and D Series Drilling Machines  | Job Aid         | 5/15/2013  |
| TD-4151M-JA46 | Leak Testing EH and DH Series Drilling Machines  | Job Aid         | 5/15/2013  |
| TD-4151M-JA68 | Leak Testing Threaded Stopping Machines  | Job Aid         | 5/15/2013  |
| TD-4151M-JA88 | Leak Testing Threaded Completion Machines  | Job Aid         | 5/15/2013  |
| TD-4413P-01   | Procedure for Reportable Gas Incidents   | Procedure       | 9/4/2013   |
| TD-4413P-02   | Reporting Safety-Related Conditions, Pressure Test Failures and Leaks, Over-Pressurization Events, and Low Pressure System Problems              | Procedure       | 9/4/2013   |
| TD-4470P-01   | Gas Crew Tracking Process for Gas Leak or Odor Investigation   | Procedure       | 4/10/2013  |
| WP 4710-01    | Gas Pipeline Leak Response Procedures  | Procedure       | 3/1/2008   |
| S4710         | Gas Pipeline Production Fluid and Liquid; Leak Response and Contaminated Soil Handling Requirements  | Standard        | 12/1/2007  |
| TD-6434P-01   | Gas Leak and Odor Investigation  | Procedure       | 4/15/2013  |
| TD-6434P-02   | Gas Leak Grading for Field Services  | Procedure       | 4/15/2013  |
| TD-6434S      | Gas Leak and Odor Response   | Standard        | 5/8/2013   |
| 463-4         | Cover and Clearance Requirements for Transmission Lines, Mains, and Service Lines  | Standard        | 5/1/1983   |
| 251           | Gas Transmission Line Tap Installation Guidelines  | Bulletin        | 1/16/2008  |
| H-10          | High-Pressure Regulator-Type Stations and Farm Tap Regulator Sets  | Design Standard | 10/9/2013  |
| TD-4540P-03   | Maintenance of Farm Tap Regulator Sets   | Procedure       | 10/16/2013 |
| 6421          | Specifications for Furnishing and Delivery of Pre-Fabricated Metal-Cased Plastic 3/4 in. x 5/8 in. O.D. (1/2"CTS SDR7) Gas Service Risers        | EMS             | 10/28/2010 |
| A-91          | Prefabricated Risers   | Design Standard | 9/25/2013  |
| 7030          | Specifications for Furnishing and Delivery of Pre-Fabricated Metal-Cased Plastic 1-1/4 in. x 1-1/9 in. OD (1 in. CTS SDR 9.3) Gas Service Risers | EMS             | 3/15/2010  |
| 4078          | Specifications for Furnishing and Delivery of Pre-Fabricated Non Corrodible Gas Service Riser Kits   | EMS             | 7/16/2004  |
| TD-4150P-02   | Valve Changer 3/4 inch through 1 1/4 inch Service Riser Thread Replacement   | Procedure       | 1/29/2014  |
| TD-4150P-03   | Valve Changer 3/4 inch through 1 1/4 Extended Service Riser Thread Replacement   | Procedure       | 12/11/2013 |
| 4765          | Specifications for Furnishing and Delivery of Pre-fabricated Metal-cased Polyethylene (PE) 2"x2" (2" IPS SDR 11) Gas Service Risers              | EMS             | 6/19/2013  |

**QUESTION(S) 4806.31:** Please describe the process you use to identify and then repair leaks. This question applies to how leak surveyors and leak repair crews are managed. For example, do you perform leak surveys of areas with teams and then send in multiple crews to repair all the leaks in the area, or do you identify and repair one leak at a time.

**RESPONSE(S) 4806.31:** Distribution gas assets are surveyed using foot and mobile survey methods. Operator Qualified (OQ) leak surveyors are managed through the Leak Management organization, but leak surveyors are located in the local divisions where the work is to be performed. Leak surveyors are assigned plat maps to survey and as they find leaks, they are processed according to Utility Operations S4110, attached as “S4110\_CONF.pdf”. Other than Grade 1 (immediate response) gas leaks, all other leaks are processed and entered into a repository. Grade 1 leaks are addressed immediately by construction crews. As the various non-Grade 1 leaks approach their repair date, the repairs are scheduled and are then completed by construction crews.

**QUESTION(S) 4806.33:** Please describe your leak grading system. In your system, are Non-Hazardous leaks called Grade 3? Do you have any other Non-Hazardous designations?

**RESPONSE(S) 4806.33:** CPUC G.O. 112-E requires PG&E to regularly inspect its gas pipeline system to assure reliable and safe operation. Most leaks are quite small and do not constitute an immediate hazard to the public. To assist in prioritizing leak repair, PG&E has developed the following leak classification criteria:

Grade 1: Grade 1 leaks (also referred to as a “hazardous” leak) represent existing or probable hazards to persons or property and require immediate repair or continuous action until conditions are no longer hazardous.

Grade 2+: Grade 2+ (Priority Grade 2) leaks fall below Grade 1 criteria and above Grade 2 criteria. These leaks are non-hazardous to persons or property at the time of detection, but still require a scheduled priority repair within 90 days or less.

Grade 2: Grade 2 leaks are non-hazardous to persons or property at the time of detection, but still require a scheduled repair because they present probable future hazards. Grade 2 leaks must be repaired within 15 months.

Grade 3: Grade 3 leaks are non-hazardous at the time of detection and can reasonably be expected to remain non-hazardous. Such leaks are recorded and monitored at each subsequent survey.

Other than a Grade 1 leak being designated as hazardous, all other leak grades (2+, 2 and 3) are considered non-hazardous. Please see the job aid attached as “LeakGradingJobAid.pdf” for detailed leak grading criteria.

**QUESTION(S) 4806.34:** Do you monitor Non-Hazardous leaks or do you repair them? Please explain your policy.

**RESPONSE(S) 4806.34:** Please see PG&E’s response to Question 33 above. While Grade 1 leaks are addressed immediately, all other graded leaks are rechecked or repaired on or before their required due date.

**QUESTION(S) 4806.36:** During the years 2011 to 2013 how many Dig-Ins did you have (by year)?

**RESPONSE(S) 4806.36:** The number of dig-ins reported for PG&E’s gas pipelines operating under 60 psig, based on PG&E’s gas leak database (IGIS), are shown below.

|       | Distribution Dig-ins by Year |       |       |
|-------|------------------------------|-------|-------|
| Year  | 2011                         | 2012  | 2013  |
| Count | 1,591                        | 1,528 | 1,809 |

**QUESTION(S) 4806.37:** How many miles of distribution pipe do you have in your system?

**RESPONSE(S) 4806.37:** PG&E's records indicate there are 42,555 miles of gas distribution main in the gas distribution system. PG&E reported this data in its 2013 PHMSA Annual report in March 2014.

**QUESTION(S) 4806.38:** How many services do you have in your distribution system?

**RESPONSE(S) 4806.38:** PG&E's records indicate there are 3,370,469 gas services in the gas distribution system. PG&E reported this data in its 2013 PHMSA Annual report in March 2014.