EXHIBIT J

From: Gruen, Darryl [darryl.gruen@cpuc.ca.gov]
Sent: Thursday, April 12, 2012 3:08 PM
To: Donnelly, Katherine E; Cagen, Robert; Halligan, Julie; Malliett, Valerie (Intern); Johnson, Catherine A.; margaret@mfelts.com
Cc: PGE Jordan, Lise; Seager, Jonathan; Linn, Courtney J.
Subject: RE: I.11-02-016 PG&E's Data Request 4
Attachments: Rocklin_Office_Visit_20Oct2011.pdf; Attachment_1_MAOP.pdf; Pages_from_RH-3 1061 _GO112_ReusePipe.pdf; CPUC01-#579390-v1-I_11-02-016_Gas_Transmition.pdf

Good Afternoon:

Attached, please find CPSD's Data Response to PG&E's Data Request #4 in I.11-02-016. All attachments to the data response are attached to this email as well.

Darryl Gruen
Staff Counsel
California Public Utilities Commission
505 Van Ness Ave. - San Francisco, CA 94102
(415) 703-1973 - djg@cpuc.ca.gov

From: Donnelly, Katherine E [mailto:KED6@pge.com]
Sent: Thursday, March 29, 2012 1:29 PM
To: Cagen, Robert; Gruen, Darryl; Halligan, Julie; Malliett, Valerie (Intern); Johnson, Catherine A.; 'margaret@mfelts.com'
Cc: Jordan, Lise (Law); Seager, Jonathan; "Linn, Courtney J.' (clinn@orrick.com)'
Subject: I.11-02-016 PG&E's Data Request 4

Good Afternoon:

Attached please find Pacific Gas &Electric Company's Data Request #4 in I.11-02-016. Please provide your responses by April 12, 2012. When responding, please indicate the responsible witness.

If you have any questions, please contact Lise Jordan at (415) 973-6965 or LHJ2@pge.com .

Thank you,

Katie Donnelly
Rate Case Coordinator
Pacific Gas & Electric
77 Beale Street, 996 | San Francisco, CA 94105
p. 415.973.8225 | f. 415.973.3574 | ked6@pge.com

CPSD Gas Transmission System Records Investigation 11-02-016
Data Response 004

Recipient:	PG&E		
PG&E Data Request No.:	PGE-CPUC_004		
PG&E File Name:	GasTransmissionSystemRecordsOII_DR_PGE_CPUC_004_Response		
Request Date:	March 29, 2012	Submission Date:	April 12, 2012

Q 1 Regarding footnotes 3 & 4, please confirm that the document cited as NTSB_460802 is NTSB Exhibit 2-AF.

A 1 Yes.

Q 2 Regarding footnote 7, please provide a reference to and copies of all of the records and information relied upon to support the noted statement.

A 2 CPSD objects to this because it is unduly burdensome and oppressive. PG&E designed the ECTS system so that CPSD and its consultants could neither print nor save documents. To now ask CPSD to produce those same documents would require CPSD to do extensive research through PG&E's ECTS system, re-trace its initial research steps and find these records. PG&E is more than capable of accessing these documents, as it produced them on its ECTS system in the first place.

However, as we move forward, CPSD insists that PG&E enable Margaret Felts to do the following with ECTS. First, PG&E must give Ms. Felts the ability to print and save all documents she accesses in ECTS. Second, PG&E must improve Ms. Felts' search capabilities of ECTS by removing the requirement that she must identify a line number before searching for a particular document. Third, PG&E must improve Ms. Felts' search capabilities by providing allowing her to search using all of the search features of the ECTS database. A reasonable amount of time after these requirements are met, CPSD will respond to this data request.

Q 3 Regarding footnote 9, please identify and provide copies of all documents and any other material and information relied upon to support the statement "the authenticity of this document is questionable." Include in your response the specific rows and columns in Ms. Felts' Appendix 1 that "discuss" the questionable authenticity of this document.

A 3 On Appendix 1, See Line 14 Column M. Also see the attached document, file name Attachment_1_MAOP.pdf. This document was developed to support the table provided

as Appendix 1 but was not included in the final testimony. Instead, substantial portions of it were incorporated into the body of the testimony.

Q 4 Please provide copies of all MAOP uprating requests the Commission has received from PG&E from 1955 to September 8, 2010.

A 4 CPSD objects to this data request on the grounds that it is unduly burdensome and oppressive. PG&E stated that it already provided copies of all available MAOP uprating requests from 1948 to October 19, 2011 in response to Legal Division Data Request DR 7 Q 15. Therefore, PG&E already has these requests.

Q 5 Regarding page 8, line 2, please explain in detail the basis for the italicized portion of the following statement, "The Operating and Maintenance Instructions manual at the Milpitas Terminal was out of date on September 9, 2010, *possibly by as much as 19 years*...."

A 5 The figure was determined by subtracting 1991 from 2010.

Q 6 Regarding footnote 23, please identify by attachment number(s) the documents relied on to support the noted statement.

A 6 Footnote 23 incorrectly cites DR 15 Q 1 attachments. It should cite DR 30 Q 30 attachments. See attachments 49, 55 and 86.

Q 7 Regarding footnote 40, please specify the transcripts and the pages and lines in each such transcript that are being referred to in the footnote.

A 7 See Table 2, Supplemental Testimony (Exhibit 3), p. 15 line 8 (re footnotes 40-43).

Q 8 Regarding page 9, line 28 through page 10, line 3, please specifically identify in the San Francisco Gas Control room transcripts for September 9, 2010, the basis for the statement, "Based on the San Francisco Control Room transcripts for September 9, 2010, it seems there was confusion between the person at the Milpitas Terminal and the Control Room Operator about valve numbers at the Milpitas Terminal. At least some of the confusion experienced at the Milpitas Terminal and the Control Room during the emergency appears to have been related to inadequate reference documents."

A 8 See Table 2, Supplemental Testimony (Exhibit 3), p. 15 line 8 (re footnotes 40-43).

Q 9 Regarding page 12, lines 1-3, please state the basis and identify all supporting documents and information for the italicized portion of the following statement: "Control room operators failed to acknowledge the alarm and *did not recognize the drop in pressure until almost 30 minutes later, when someone from another location called in and asked them to look for the pressure drop on their SCADA screens.*"

A 9 See Table 2, Supplemental Testimony (Exhibit 3), p. 15 line 9.

Q 10 Regarding footnote 54, please specify the transcripts and the pages and lines in each such transcript that are being referred to in the footnote.

A 10 See Table 2, Supplemental Testimony (Exhibit 3), p. 16 line 1.

Q 11 Regarding footnote 55, please specify the pages and lines in the "SF Control Room transcript" that are being referred to in the footnote.

A 11 See Table 2, Supplemental Testimony (Exhibit 3), p. 16 line 2.

Q 12 Regarding footnote 56, please specify the pages and lines in the "SF Control Room transcript" that are being referred to in the footnote.

A 12 See Table 2, Supplemental Testimony (Exhibit 3), p. 16 line 2.

Q 13 Regarding footnote 83, please provide a list and copies of all documents relied upon to support the noted statement.

A 13 As this requires ECTS research, CPSD renews its objection that this request is unduly burdensome and oppressive for the same reasons articulated in response to question 2. Before CPSD begins to address this question, CPSD also insists that PG&E improve access to ECTS in all of the ways articulated in response to question 2. A reasonable amount of time after PG&E does this, CPSD will address the question.

Q 14 Regarding footnote 85, please provide a list and copies of all documents and information relied upon to support the noted statement.

A 14 As this requires ECTS research, CPSD renews its objection that this request is unduly

burdensome and oppressive for the same reasons articulated in response to question 2. Before CPSD begins to address this question, CPSD also insists that PG&E improve access to ECTS in all of the ways articulated in response to question 2. A reasonable amount of time after PG&E does this, CPSD will address the question.

Q 15 Regarding footnote 88, please identify the specific pages from the cited document to which the report is referring.

A 15 The quote can be found at page 1-1, line 1 of the Executive Summary of the referenced document.

Q 16 Regarding page 22, line 22, please state the basis and identify and provide copies of all supporting documents and information for the italicized portion of the statement, "PG&E has had this responsibility since it first started transporting gas as a public utility, *and perhaps before*."

A 16 Before PG&E first starts transporting gas as a public utility, it designs and constructs the pipelines to transport that gas.

Since 1951 Cal. Pub. Util. Code §451 has required that, "Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities. . .as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public." Moreover, beginning at least as early as 1912 and continuing until 1951, each version of the Cal. Pub. Util. Act §13(b) required that, "Every public utility shall furnish, provide and maintain such service, instrumentalities, equipment and facilities as shall promote the safety, health, comfort and convenience of its patrons, employees and the public. . ."

Therefore, these requirements have applied to PG&E's design and construction of gas pipelines since 1912.

Q 17 Regarding the statement on page 28, lines 21-22 ["This lack of information has resulted in the assignment of incorrect risk priorities (for replacement and assessments) to pipeline segments."], please identify all of the incorrect assignments of risk priorities referenced in this statement, and a detailed explanation for why CPSD believes the risk assignments are incorrect.

A 17 As this requires ECTS research, CPSD renews its objection that this request is unduly burdensome and oppressive for the same reasons articulated in response to question 2. Before CPSD begins to address this question, CPSD also insists that PG&E improve

access to ECTS in all of the ways articulated in response to question 2. A reasonable amount of time after PG&E does this, CPSD will address the question.

Q 18 Regarding footnote 124, please provide a list of all "Job Files" and "project and accounting documents" to which the report is referring.

A 18 As this requires ECTS research, CPSD renews its objection that this request is unduly burdensome and oppressive for the same reasons articulated in response to question 2. Before CPSD begins to address this question, CPSD also insists that PG&E improve access to ECTS in all of the ways articulated in response to question 2. A reasonable amount of time after PG&E does this, CPSD will address the question.

Q 19 Regarding footnote 129, please provide the specific page number(s) from the cited document that support the footnoted statement ("This concept seems to elude PG&E since it specifically excludes previous pipe history from its risk assessment models."). Please also identify and provide copies of all other documents and information on which the footnoted statement is based.

A 19 P2-158, see p. 91 where pipe age is based on the year installed.

Q 20 Regarding footnote 140, please identify and provide copies of all source documents and information relied upon to support the noted statement.

A 20 See personal notes from site visit to the PG&E Rocklin office. Personal notes say x-ray film is saved for 5-7 years. See file: Rocklin_Office_Visit 20Oct2011.pdf.

Q 21 Regarding footnote 141, please provide a list and copies of all documents to which the report is referring in the footnote.

A 21 As this requires ECTS research, CPSD renews its objection that this request is unduly burdensome and oppressive for the same reasons articulated in response to question 2. Before CPSD begins to address this question, CPSD also insists that PG&E improve access to ECTS in all of the ways articulated in response to question 2. A reasonable amount of time after PG&E does this, CPSD will address the question.

Q 22 Regarding footnote 150, and the statement on page 36, lines 23-24 which it supports ("In most instances, the pipe that was replaced was salvaged."), please provide a list and copies of all documents that were reviewed, and any and all additional documents and information on which the footnoted statement is based.

A 22 As this requires ECTS research, CPSD renews its objection that this request is unduly burdensome and oppressive for the same reasons articulated in response to question 2. Before CPSD begins to address this question, CPSD also insists that PG&E improve

access to ECTS in all of the ways articulated in response to question 2. A reasonable amount of time after PG&E does this, CPSD will address the question.

Q 23 Regarding the statement on p. 43, lines 6-8 ("This conclusion is based on weld radiography reports that show acceptance of marginal and bad welds on pipe that was subsequently salvaged and sent to the company storage yard for reuse elsewhere in the system."), please identify and provide a copy of all source documents and information relied upon to reach this conclusion.

A 23 See Table 2, Supplemental Testimony (Exhibit 3), p. 17 line 8.

Q 24 Regarding page 45, lines 3-5, please state the basis and identify and provide copies of all supporting documents and information for the italicized portion of the following statement: "In 1979, *in what appears to be an intentional effort to eliminate records that show the use of salvaged pipe*, PG&E's drafting instructions in Mapping Standards 410.21-1, section II.3, states "salvaged and abandoned mains – to be removed from plat sheets."

A 24 The quoted statement is self explanatory. To the extent this question asks for more than the answer provided here, CPSD objects to it as unduly burdensome and oppressive. PG&E is capable of accessing its own Mapping Standards.

Q 25 Regarding page 45, lines 6-9, please provide a list and copies of all documents reviewed, and any other information, on which the following statement is based: "Generally, based on reviewing thousands of documents in the Enterprise Compliance Tracking System (ECTS) database, it appears that sometime in the 1980's PG&E lost the ability to track salvaged pipe."

A 25 As this requires ECTS research, CPSD renews its objection that this request is unduly burdensome and oppressive for the same reasons articulated in response to question 2. Before CPSD begins to address this question, CPSD also insists that PG&E improve access to ECTS in all of the ways articulated in response to question 2. A reasonable amount of time after PG&E does this, CPSD will address the question.

Q 26 Regarding Ms. Felts' experience with Geographic Information Systems (GIS), please identify all engagements in which Ms. Felts evaluated in detail the development, implementation, and maintenance of a public or private organization's GIS system. For each engagement, please provide detailed information regarding the nature of the GIS system, when it was developed and implemented, what was its intended purpose, and Ms. Felts' assessment of the effectiveness of the GIS system. For each engagement, please provide copies of any reports, assessments, or other written product generated by Ms. Felts or her agents.

A 26 In 1989 Ms. Felts completed an 80 hour federal program management training course on the Management of Natural Resources that included training on the use of GIS to manage natural resources. The scope of the training included hands-on training in developing multi-layer GIS maps to reflect such things as streams, vegetation, roads, utilities, buildings, etc. Prior to leaving federal service, the engineering division under Ms. Felts' supervision was in the process of applying GIS to the management of contaminated ground and groundwater beneath McClellan AFB, which was an operating maintenance depot the size of a small city with all of the typical city infrastructure including gas, electric, phone utilities, road, residences, offices, airport, and continuous construction. As a consultant, Ms Felts has utilized GIS systems managed by various agencies to obtain information for clients, but never for purposes of developing or assessing their effectiveness.

Q 27 Regarding Ms Felts' experience in the discipline of records management and retention, please identify all engagements in which Ms. Felts evaluated in detail the development, implementation, and maintenance of a public or private organization's records management or records retention policy, practice, procedure or system. For each engagement, please provide detailed information regarding the nature of the records management or records retention policy, when it was developed and implemented, what was its intended purpose, and Ms. Felts' assessment of the effectiveness of the records management or records retention policy. For each engagement, please provide copies of any reports, assessments, or other written product generated by Ms. Felts or her agents.

A 27 Ms Felts' experience in records management is primarily related to recordkeeping requirements associated with environmental regulations. As a Division Chief of Engineering for the DoD Office of Environmental Management, Ms. Felts primary responsibility included developing the Administrative Record for McClellan AFB; and implementing DoD's policy and procedures to compile and maintain Administrative Records of its response and actions to comply with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986. Subsequently, as Deputy Director of the site mitigation branch of the CA Department of Toxic Substances Control, Ms Felts was responsible for enforcing the CERCLA regulations for developing and maintaining Administrative Records, and ensuring that state administered superfund sites were in compliance with these regulations. These records are comprehensive and include the entire history of a site that may well extend back to the early 1900's. Ms Felts is not aware of any Administrative Records for Superfund sites that have been closed or retired. It appears that these records will be maintained well into the future for public access. As a consultant, Ms Felts has had many opportunities to work with clients, to assess and organize records and to advise clients on records retention. Ms Felts has not written any reports or assessments for clients that are directly related to records retention policies.

As a litigation consultant, Ms Felts spent about 5 years performing research that led to thousands of hours in corporate and public archives, city and county recorders' offices, and various records centers. This extensive research gave Ms Felts an opportunity to see the quality and methods of recordkeeping across a wide range of entities. While a huge volume of records were copied, organized and provided to the client, no report was generated for the client.

Q 28 Is Appendix 8 in Report and Testimony of Margaret Felts the same as Appendix 9 of Records Management within the Gas Transmission Division of Pacific Gas and Electric Company report? If not, please identify all differences, and provide the native format of Appendix 8. Please also specify which parts of Appendix 8 reflect Table 8 and Table 8a.

A 28 Yes, the two attachments are the same document. Appendix 8 was provided for the convenience of the reader.

Q 29 Regarding Ms. Felts' experience in the discipline of integrity management, please identify all engagements in which Ms. Felts evaluated in detail the development, implementation, and maintenance of a gas utility's integrity management program. For each engagement, please provide detailed information regarding the nature of the integrity management program, when it was developed and implemented, and Ms. Felts' assessment of the effectiveness of the integrity management program. For each engagement, please provide copies of any reports, assessments, or other written product generated by Ms. Felts or her agents.

A 29 Ms Felts has extensive experience assessing the integrity of underground lines that carry liquids and above ground lines that carry gases, but she has not produced any reports, assessments or other written products about integrity management.

Q 30 Regarding page 16, please identify all natural gas utilities that had developed a specific program prior to the 1980s to inspect its pipelines and plan for orderly replacement, and describe in detail such programs.

A 30 CPSD has conducted no study to ascertain the inspection and replacement programs of any utility before 1980. To the extent that PG&E needs more information to address this question, PG&E is in a position to find it out. Further, the information sought is irrelevant to Phase 1 issues of this proceeding. CPSD objects to this question as unduly burdensome and oppressive.

Q 31 Regarding page 19, please identify and provide copies of all documents that support your conclusion that "assumptions were made to overcome the lack of actual data."

A 31 See PG&E's response to DR 4 Q 7-8: ". . . the TIMP rules acknowledge that operators will have gaps in their historic pipeline records, especially in the case of pipelines

installed prior to state or federal regulation, and thus require operators to make certain conservative assumptions when gaps exist. See, e.g. Chapter 1 at 1-34-1-35 & Chapter 2B at 2B-4 and 2B-7."

See PG&E response to DR 27 Q 12: ". . . Where pipe specification data is not available or cannot be conclusively verified, conservative assumptions are used . .. ."

See PG&E Response to DR 42 Q 13, Atch 01:

- The Third Party Threat shall be assumed to exist for all HCAs.
- Incorrect Operations Threat was assumed to exist for all HCAs.
- Weather and Outside Forces Threat shall be assumed . . .
- External Corrosion Threat was assumed to exist on all gas transmission pipelines.

See PG&E Response to DR 42 Q 4, Atch 01: "GIS does not include station piping, in some instances has blank fields, and in other instances relies on conservative assumptions where data is missing."

And, in response to Legal Division's DR 27 Q 13, which asked PG&E to state the number of miles of pipeline in PG&E's transmission system that have one or more assumed or unknown values in the GIS and the pipeline survey sheets, PG&E stated that "the total mileage . . . is approximately 5,324 miles."

Finally, Ms Felts bases this statement on her review of the 2009 Integrity Management Model provided as excel file: P3-20060_1_thru_3(N)_CONFIDENTIAL.

Q 32 Regarding page 21, please identify all regulatory requirements, interpretations, and other guidance documents from the CPUC, PHMSA, or any other agency the CPUC believes regulates pipeline operators that require an operator of a natural gas transmission pipeline to retain operating pressure data for the life of the pipeline.

A 32 This question is addressed to the CPUC. CPSD is a party in the recordkeeping OII and would not presume to represent the CPUC's beliefs in this matter. However, in good faith, CPSD will presume that PG&E intended to direct the question to CPSD. Therefore, CPSD answers as follows:

Many sections of the CFR require pressure records to be kept for the life of the pipeline. As one example, 49 CFR §192.917 requires operators to evaluate whether cyclic fatigue could lead to a failure of a deformation of a pipeline. Evaluating whether cyclic fatigue

could lead to a failure of a deformation of a pipeline requires examination of operating pressure records over the life of that pipeline. PG&E has access to the CFR, the California Public Utilities Code (including Section 451), ASME standards, and all other applicable regulations to address this question. Hence, to the extent this question asks for additional information, CPSD objects to this question as unduly burdensome and oppressive.

Q 33 Regarding page 26, please identify and provide copies of all documents that support the assertion that PG&E changed the weighting of threats due to the lack of historical records.

A 33 This assertion is supported by the transition of weighted data through several versions of the Bechtel model to the 2009 IM model. The beginning and end of this transition are stated in Ms Felts' report on pages 19 and 26 where the relative weighting of factors are shown. A citation for each list of factors is provided in the respective footnotes on those pages.

Q 34 Regarding page 28, please state whether PG&E is required to maintain the physical piece of paper upon which a specification is originally recorded, in lieu of a database, chart, or other summary document that contains the specification. If your contention is that PG&E is required to maintain the original record, please identify all regulations, interpretations, and other guidance documents issued by the CPUC or PHMSA that support your contention.

A 34 This question misses the point of Page 28 of Ms.Felts' testimony. Page 28 of Ms. Felts' testimony quotes PG&E's Senior Project Engineer to state, "there are certain data elements listed as required for which the information is not available in the records." The testimony goes on to state, "Because PG&E is missing historical data about its pipelines, it must use erroneous and incomplete (assumed and/or of unknown quality) information in its integrity management risk assessment models." Hence, PG&E's information repositories such as databases, charts, or other summary documents have not contained all of the information in the initial records.

Moreover, as provided in the report of Dr. Duller and Ms. North (Page 8-130), the GARP principle of availability states that, "An organization shall maintain records in a manner that ensures timely, efficient, and accurate retrieval of needed information. (citing http://www.arma.org/garp/availability.cfm)" This is also a requirement of California Public Utilities Code Section 451. (This particular portion of the data response is sponsored by Dr. Duller and Ms. North).

To the extent that this question asks for additional information, CPSD objects to this question as unduly burdensome and oppressive. PG&E is capable of doing legal research

itself to find further information about all regulations, interpretations, and other guidance documents issued by CPUC or PHMSA.

Q 35 Regarding page 32, please identify all pipeline facility records that were required to be retained between 1912 and 1961. For each of these records, please identify all related regulatory requirements, interpretations, and other guidance documents issued by the CPUC or PHMSA.

A 35 Between 1912 and 1961 PG&E had a legal duty to retain accurate, complete and accessible records for the life of the facility that included, but were not necessarily limited to records necessary for the safe operation of all of its gas transmission pipeline facilities; records that showed pressure of gas transmission lines; records that showed hydrotesting; records that showed weld defects; records that showed leaks; and all other records identified as necessary to retain in each of CPSD's exhibits in this proceeding. The regulatory requirements for these records include, but are not necessarily limited to ASME standards, the Code of Federal Regulations, California Public Utilities Code Section 451 and its predecessors, General Order 28, and any other General Orders that applied during that period. To the extent that PG&E requests additional information, CPSD objects to this question as unduly burdensome and oppressive.

Q 36 Regarding page 34, please identify all regulatory requirements, interpretations, and guidance documents issued by the CPUC or PHMSA that require an operator of a natural gas transmission pipeline to retain girth weld x-ray film.

A 36 Ms Felts did not state in her testimony that an operator is required to retain girth weld x-ray film for any specific length of time.

Q 37 Regarding page 35, please identify all regulatory requirements, interpretations, and guidance documents issued by the CPUC or PHMSA between 1955 and 2010 that require(d) an operator of a natural gas transmission pipeline to retain weld maps.

A 37 Ms Felts did not state in her testimony that an operator is required to retain weld maps for any specific length of time.

Q 38 Regarding page 40, please identify all regulatory requirements, interpretations, and guidance documents issued by the CPUC or PHMSA that require non-hazardous leak indications identified on or near gas transmission facilities to be repaired.

A 38 There is no statement in Ms Felts testimony on page 40 regarding a requirement to repair non-hazardous leak indications.

Q 39 Regarding page 43, please identify and provide copies of all source documents and information relied upon to support the statement "Reusing pipe is an acceptable practice

as long as the salvaged pipe is inspected and tested as necessary to confirm the integrity of the pipe for reuse within the design requirements for new installation."

A 39 This statement is opinion based on Ms Felts' engineering experience. The general acceptance of reused pipe that has been properly inspected was also clearly stated in GO-112 adopted in 1960. The sections regarding the reuse of pipe were adopted from existing ASA/ASME rules at that time. See Sections 811.25- 811.27, file: Pages_from_RH-3 1061_GO_112_ReusePipe.pdf.

From: Gruen, Darryl [darryl.gruen@cpuc.ca.gov]
Sent: Tuesday, April 24, 2012 5:17 PM
To: PGE Jordan, Lise; Linn, Courtney J (Law)
Cc: Cagen, Robert; Johnson, Catherine A.; margaret@mfelts.com; Morris, Harvey Y.
Subject: FW: Footnote 7 document list
Attachments: Felts_Footnote7.docx

Hi Lise and Courtney:

Attached, please find a list of MAOP numbers. These are some of the MAOP numbers Ms. Felts found in support of Footnote 7 in her Revised March 16, 2012 testimony. This is what we can provide in response to Data Response 4, Question 2 at this time.

Darryl Gruen
Staff Counsel
California Public Utilities Commission
505 Van Ness Ave. - San Francisco, CA 94102
(415) 703-1973 - djg@cpuc.ca.gov

From: Gruen, Darryl [darryl.gruen@cpuc.ca.gov]
Sent: Friday, May 11, 2012 5:02 PM
To: PGE Jordan, Lise; Linn, Courtney J.
Cc: Cagen, Robert; margaret@mfelts.com
Subject: FW: PG&E conversation ECTS and MAOP Numbers CONFIDENTIAL
Attachments: Felts_PGE_DR_4_Q22_Footnote150.pdf

Good Afternoon:

Attached, please find the list of MAOP numbers in ECTS that Ms. Felts has to date in response to PG&E's Data Request 4, Question 22.

CPSD requests that for these MAOP numbers and all others that CPSD provides to PG&E, that PG&E send the actual document corresponding with each MAOP number back to CPSD as a digital file. Please include the MAOP number as part of the file name of each digital file provided. This request applies to MAOP numbers that CPSD has provided in response to Data Request 4, Question 2.

Darryl Gruen
Staff Counsel
California Public Utilities Commission
505 Van Ness Ave. - San Francisco, CA 94102
(415) 703-1973 - djg@cpuc.ca.gov

From:	Gruen, Darryl [darryl.gruen@cpuc.ca.gov]
Sent:	Thursday, June 07, 2012 9:47 AM
To:	robert.cagen@cpuc.ca.gov; catherine.johnson@cpuc.ca.gov; PGE Jordan, Lise; Julie Halligan; Kinosian, Robert; Linn, Courtney J (Law); Malkin, Joseph M (Law); Malliett, Valerie (Intern); Margaret Felts; Pendleton, Jonathan (Law)
Subject:	Supplemental Data Response to PG&E Data Request 4
Attachments:	Felts_PGE_DR_4_Q22_Footnote150.pdf; Felts_PGE_DR_4_Q22_Footnote150_(2).pdf; I1102016_Data_Response_-_PG&E.pdf

Good Morning:

Attached, please find CPSD's supplemental data response number 1 to PG&E's Data Request (DR) 4, which includes two attachments for the answer to DR 4, Question 22. Please contact us with any questions.

Darryl Gruen
Staff Counsel
California Public Utilities Commission
505 Van Ness Ave. - San Francisco, CA 94102
(415) 703-1973 - djg@cpuc.ca.gov

PACIFIC GAS AND ELECTRIC COMPANY
Gas Transmission System Records
Investigation 11-02-016
Data Response

The following are supplemental responses provided to PG&E's Data Request 4. As explained in CPSD's letter to PG&E on April 20, 2012, Ms. Felts was unable to save or print any documents in ECTS in order to address. Hence, it was unduly burdensome to address the questions in PG&E's Data Request 4 that requested Ms. Felts to provide ECTS numbers from the ECTS system. Given that PG&E recently allowed Ms. Felts to save and print documents found in ECTS, CPSD now provides the following supplemental responses to Data Request 4, as modified.

Q 2 Regarding footnote 7, please provide a reference to and copies of all of the records and information relied upon to support the noted statement.

The sentence citing footnote 7 states: "Without records about the source, specifications, or history of the pipe, it was possible for pipe to be salvaged, sent out to be re-wrapped and delivered to the construction site without anyone knowing or being able to observe the condition of the pipe."

Footnote 7 states: "Based on author's review of PG&E records in the ECTS database."

A2 A list of MAOP document numbers in PG&E's ECTS database was previously provided. Additional relevant document numbers that support this statement include:

MAOP06001800
MAOP06001801
MAOP06001842
MAOP06001796
MAOP11062606
MAOP06002451

Q 17 Regarding the statement on page 28, lines 21-22 *["This lack of information has resulted in the assignment of incorrect risk priorities (for replacement and assessments) to pipeline segments."*], please identify all of the incorrect assignments of risk priorities referenced in this statement, and a detailed explanation for why CPSD believes the risk assignments are incorrect.

A17 To provide context and clarity about what lack of information Ms. Felts' refers to, CPSD quotes the passage of Ms. Felts' report here, which includes page 28, lines 1-22.

"PG&E has not maintained important historical records that included design, construction, leak, repair and operational data, among other things. As a result, PG&E lacks critical information required to make its integrity management risk assessment models useful in managing risk as they are intended. In an illustration of the effect of decades of failed record maintenance, PG&E's Senior Project Engineer succinctly stated the problems posed for him by inadequate records. The following passage is quoted from a May 13, 2010 memo to file:

> "In RMP-13 "Procedure For Stress Corrosion Cracking Direct Assessment . . . there are certain data elements listed as required for which the information is not available in the records. This includes elements such as operating stress levels, hydrostatic test history, pipe manufacturer, and year installed. These requirements will be revised [from "required"] to the "desired" category in the next procedure revision to reflect the reality of available records not containing the needed information. The operating stress levels are not available because of missing pipe data. With every available excavation that is conducted on these or related segments, we will acquire the pipe information and update our records."**111 112**

Because PG&E is missing historical data about its pipelines, it must use erroneous and incomplete (assumed and/or of unknown quality) information in its integrity management risk assessment models. This lack of information has resulted in the assignment of incorrect risk priorities (for replacement and assessments) to pipeline segments. Footnote 111 states, "P3-27238, Compliance Documentation, 2006 SCCDA Program, p. 22." This is a reference that indicates a PG&E memo that was quoted.

Footnote 112 states, "P2-164 "RMP" is the designation given to a risk management procedure. This RMP-13 sets out requirements for the data required by the integrity management risk assessment model to determine risks associated with Stress Corrosion Cracking. In each such procedure there is a standard sheet that lists the various types of data they must collect. Each data element in the risk assessment model is identified as "required" (R), desired" (D), "considered" (C), or "not required" (NR). Theoretically, the model will not run without all of the required data elements entered. The problem can be avoided where required data cannot be found by simply changing the category for that data element from R to one of the other categories. The same data element sheet is used for various purposes associated with the TIMP model to identify the types of data (elements) and to assign the appropriate R, D, C or NR codes to each element. Each sheet is unique to the part of the program (and model) it is intended to support." Again, this is a citation to a PG&E document.

To see CPSD's answer to this question, please refer to Ms Felts Response to PG&E's DR 7 Q4, part (3).

Q 18 Regarding footnote 124, please provide a list of all "Job Files" and "project and accounting documents" to which the report is referring.

The sentence citing footnote 124 states, "Each Job File was labeled with the Job File number assigned to the project by the accounting department."

***Footnote* 124 states,"**Based on review of PG&E's Job Files that include project and accounting records."

A18 Although no note appears in Ms Felts' site visit records, Ms Felts recalls being told that GM Job File numbers were assigned through the SAP system (accounting) to projects once they were approved for a certain level or type of expenditure. During her review of records in ECTS, she noticed that some projects begin with one number (such as a work order, estimate number, or PSRS number) and later have an assigned GM number attached to the project file. For instance, see MAOP05305072, "G.M Assignment Letter." Based on the structure of the portal to ECTS created for Ms Felts' access to review ECTS records, most of the project files currently in the ECTS system have Job File numbers that are GM numbers. Beyond this general understanding, Ms Felts is not aware of any specific documents that specify the Job File number assignment system in PG&E and did not specifically review accounting policy documents during her review of PG&E records.

Q 22 Regarding footnote 150, and the statement on page 36, lines 23-24 which it supports ("In most instances, the pipe that was replaced was salvaged."), please provide a list and copies of all documents that were reviewed, and any and all additional documents and information on which the footnoted statement is based.

The sentence citing footnote 150 states, "In most instances, the pipe that was replaced was salvaged."

***Footnote 150 further states,** "Based on the author's review of thousands of historical documents in PG&E's ECTS database."*

A22 As indicated by footnote 150, this statement is a statement of general impression based on a review of records in the ECTS data base. It appears to be impossible to search or sort ECTS records by date. Therefore, even if there was enough time to perform the task, it is impossible for Ms Felts to discover and review *all records* during a specific time period in a data base containing over 3 million records.

However, a list of example documents is provided as the attachment entitled, **Felts_PGE_DR_4_Q22_Footnote150**. Additional relevant document numbers are provided in the attached file: **Felts_PGE_DR_4_Q22_Footnote150 (2).**

Q 25 Regarding page 45, lines 6-9, please provide a list and copies of all documents reviewed, and any other information, on which the following statement is based: "*Generally, based on reviewing thousands of documents in the Enterprise Compliance Tracking System (ECTS) database, it appears that sometime in the 1980's PG&E lost the ability to track salvaged pipe.*"

A 25 This statement is based primarily on the review Face Sheets, Journal Records, Transport Tags, miscellaneous accounting documents and various drawings in Job Files for Lines 300 A/B, 101, 107, 109, and 132 over the lives of those pipelines. A complete list of all documents reviewed was not kept. As indicated CPSD's letter provided to PG&E on April 20, 2012, PG&E did not provide a "Save" or "Print" capability for Ms. Felts to use during her initial review and it was impractical to try to write down the MAOP number for every page of every document reviewed in the ECTS system that resulted in Ms Felts' impression. That said, documents like the ones listed in response to PG&E's DR4 Q22 above show that PG&E was tracking salvaged pipe from original purchase to installation, salvage, reconditioning, and reuse in years before about 1985. Ms Felts concludes that PG&E had to have a detailed tracking system in engineering and/or accounting in order to make the detailed notes on the documents viewed.

In reviewing Job Files from the mid 1980's to present, Ms Felts noticed that references to the history of pipe installed, salvaged, or abandoned, no longer appeared on the documents in the Job Files for these later years. In response to numerous data requests from the Legal Division, PG&E acknowledged that it has not kept track of salvaged pipe within its system and has only recently begun to develop such records.

From:	Gruen, Darryl [darryl.gruen@cpuc.ca.gov]
Sent:	Thursday, June 21, 2012 1:52 PM
To:	robert.cagen@cpuc.ca.gov; catherine.johnson@cpuc.ca.gov; PGE Jordan, Lise; Julie Halligan; Kinosian, Robert; Linn, Courtney J (Law); Malkin, Joseph M (Law); Malliett, Valerie (Intern); Margaret Felts; Pendleton, Jonathan (Law)
Subject:	I.11-02-016 CPSD Supplemental Data Response to PG&E Data Request Number 4, Questions 13, 14, and 21
Attachments:	I1102016 CPSD Supplemental Data Resp to PG&E Data Req..pdf

Good Afternoon:

Attached, please find CPSD's data response to PG&E Data Request Number 4. Please contact us if there are any questions.

Darryl Gruen
Staff Counsel
California Public Utilities Commission
505 Van Ness Ave. - San Francisco, CA 94102
(415) 703-1973 - djg@cpuc.ca.gov

CPSD Supplemental Response to
PG&E Data Request 4, Questions 13, 14 and 21
Date: June 21, 2012

DR 4 Q 13: Relevant section:

"Leak History: Bechtel reported that PG&E's engineers expressed little confidence in the accuracy of leak data, believing the leak history was under-recorded. Bechtel states that its experience is that the number of leaks experienced by any given transmission line segment rarely exceeds two and uses this assumption in the model. *However, PG&E's job file records show many segments with many more than two leaks." **footnote 83: See list examples listed above in this report. Also based on the authors review of thousands of PG&E's documents in the ECTS database.***

Q 13: Regarding footnote 83, please provide a list and copies of all documents relied upon to support the noted statement.

A 13: The examples "listed above" referenced in the footnote can be found in Section 3.1 of Ms Felts' March 13, 2012 Revised Testimony. Examples of documents found in the PG&E data base are provided below:

MAOP00393026

MAOP04010172

MAOP04010173

MAOP04174323

MAOP11138135

MAOP11138136

MAOP22028355

MAOP11138135

DR 4 Q 14: Relevant section:

"So, for assessing PG&E's pipelines, Bechtel's assumptions about low numbers of leaks in PG&E's pipes proved to be incorrect. (Yet, the same assumption exists in its TIMP model today.) In 1994 PG&E begins stating in its reports that it began keeping leak records in 1971. *PG&E collected leak data on A-Forms, also known as Form 62-4637, much earlier than 1971, but failed to keep it in an accessible manner" **footnote 85: P3-10005(b), p. 118 and also from author's review of PG&E records in the course of preparing this testimony.***

Q 14: Regarding footnote 85, please provide a list and copies of all documents and information relied upon to support the noted statement.

A 14: Records reviewed by Ms Felts that led to her statement include those produced from the Milpitas Terminal, ECTS records of Job Files, and P2-1149, P2-481, P3-10041, P3-22198(b), P3-26957 and other A-Form file folders provided by PG&E

Electronic records provided by PG&E from the Milpitas Terminal showed no organized, recorded history of leaks for pipelines that were historically associated with the Milpitas Terminal.

Felts' review of ECTS job files revealed notes of leak history on Face Sheets and associated project justification pages, but no A-Forms or formal leak reports were included in the Job Files. Examples of Face Sheets showing leak information that PG&E had been collecting are provided in response to DR 4 Q 13.

Ms Felts statement that PG&E collected leak data on "A-Forms" much earlier than 1971 may be too narrowly framed. Several forms were used over time, including 62-6358, 62-4837, 62-4225, 62-4637, 62-4183, 62-3117, 62-4060, and 75-478. These form numbers are examples and are not intended to represent a complete list of all of the form numbers used by PG&E to report or document leaks. Some PG&E offices also kept records of leaks in log form. An example can be seen in file Number P3-22198(b) on file page 3.

DR4 Q 21: Relevant section:

> "And, despite PG&E's policies to create and manage weld records, few weld records can be found in PG&E Job Files. *The weld records that are found are generally copies of weld inspection logs that were prepared for an inspection but were never completed with the inspection results." footnote 141:* ***From review of ECTS records.***

Q 21: Regarding footnote 141, please provide a list and copies of all documents to which the report is referring in the footnote.

A 21: During Ms Felts initial review of ECTS records in 2011, the referenced weld inspection logs that were incomplete were generally found in Non-PFL(non-pipeline feature) records, although a few were categorized as X-Ray records. Because there was no substantive content in these records, Ms Felts did not record the associated MAOP record numbers. Ms Felts'continued review of ECTS records in recent weeks with the better access provided by PG&E reveals the addition of thousands of Non-PFL records each for many of the pipeline projects she previously reviewed. Without key-word search capability, it is virtually impossible to locate all of the records Ms Felts initially viewed. However, an example of such documents can be found beginning at MAOP05268942, Job File 123902, X-Ray Documents. Ms Felts notes that PG&E's continued addition of records to ECTS has included many more completed X-Ray logs for older projects. Nevertheless, many Job files still lack any records in the X-Ray. For example, see Jobs 170265, 166040, 170283, 1958719, 4701843, 47277, 4736906, 485834, 494276, 7001206, 7002171, 73429, 85737, 94733, 1997626, 434703 (4257G), 457741, 134192, 137729, 149174, 153310, 165606, 40000, 413861, and 84621. This list of job numbers is provided as a list of examples and it not intended to represent a complete list of all PG&E jobs that lack X-Ray records.

Recipient:	PG&E		
CPSD Data Response:	CPSD Response to PGE-CPUC_007 Questions 1-7		
PG&E File Name:	GasTransmissionSystemRecordsOII_DR_PGE_CPUC_007		
Request Date:	April 23, 2012	Due Date:	May 14, 2012

Q 1: Please provide copies of all notes, memoranda, or work papers prepared by Ms Felts in connection with her engagement as an expert witness in this proceeding, including all notes taken during site visits and during her searches in ECTS.

A 1: Ms Felts kept hand written notes in a bound book. These notes were taken during site visits. Copies are provided under filenames: **Felts_SiteVisit_Notes_2011.pdf**, and **Felts_SiteVisit_Notes_2__2011.pdf**

All notes from ECTS searches, which were MAOP numbers plus notes about access issues, were reduced to screen shots of the MAOP pages that Ms Felts considered and worked with in preparation of her testimony. During this process, each item on a page was lined out when an electronic file (screen shot) was made when it was determined that the reference document was useful, or the file name was simply lined out and ignored if the reference was not useful. When a page was completely lined out, it was discarded. The quality of the screen shots is such that the MAOP number can be viewed, but in most cases the content of the page cannot be read because the size of the document is so small. A list of MAOP numbers for all of the pages saved is provided as filename: **Felts_MAOP_numbers.pdf.** CPSD requests that PG&E provide copies of all pages on the list.

In more recent months, Ms. Felts kept some ECTS notes on 3X5 note cards as temporary reminders until documents were either looked up or determined to be irrelevant. Copies of surviving note cards, plus a couple of pages of notes are provided as filename: **Felts_ Note_Cards_2012.pdf.**

Q 2: On page 38 of the Felts report, Ms Felts writes: "The operating pressure history over the life of the pipe is a critical record for any piping, including natural gas." Please explain the reasons that lifetime pressure history is "critical." Please identify any regulation or professional standard supporting this explanation.

A 2: The complete quote on page 37 of Ms Felts' testimony is "The operating pressure history over the life of the pipe is a critical record for any piping, including natural gas *pipelines*."

In the absence of accurate operating pressure history for the entire life of a pipe, PG&E cannot calculate the stresses a pipe has been subjected to with any level of certainty or accuracy. Failure to properly calculate and monitor stress in pipeline materials can lead to complacency, inadequate integrity management and pipe replacement, and inadequate

testing and maintenance. These inadequacies can lead to pipeline failures, including leaks and explosions. In its own integrity management program, PG&E recognizes the importance of having operating pressure historical records. See PG&E document NSEG 132-2006, GTR0173458- GTR0173524, page GRT0173483, Appendix F Pre-Assessment Interview, which includes question number 3 under General Maintenance Practices: "Past Operating History – check with Gas Control for operating history with regard to pressures and outages that were taken for repairs." Note also that in this particular document no entry has been made to indicate that such a review was undertaken.

The California Public Utilities Code Section 451 provides that, "Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities, including telephone facilities, as defined in Section 54.1 of the Civil Code, as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public."

Failure to retain operating pressure records is a violation of California Public Utilities Code Section 451.

This answer also incorporates by reference the references listed below in the answer to PG&E DR 7 Question 5.

Q 3: On page 39 of the Felts report, the CPSD writes: "Information about past leaks in existing pipelines is a category of data fundamental to predicting likely leaks in those pipelines in the future." Please explain: (1) the reasons that information about past leaks is "fundamental" rather than "helpful" in predicting likely future leaks; and (2) the reasons the CPSD believes that decades-old leak data may be predictive.

A 3:

1) The term "fundamental" is defined as, "relating to the basic nature or character of something (as in a fundamental flaw or weakness)".[1] Similarly, the term "helpful" is defined as, "giving or rendering aid or assistance; of service".[2]

Of course, Ms Felts agrees that having records of past leaks on its pipelines would be *helpful* in predicting likely leaks in those pipelines in the future. However, PG&E's information about past leaks in existing pipelines does not merely aid PG&E in predicting likely leaks in a pipeline, but relates to the basic nature or character of the pipeline. This point is illustrated in several ways below.

---

[1] *MacMillan American English Dictionary, 2012.*

[2] http://dictionary.reference.com/browse/helpful?s=t

First, if PG&E had found leaks in a pipe caused by corrosion, such leaks would identify fundamental characteristics relating to the installation and service of the pipe to be considered in predicting potential leaks in pipe made of similar materials located nearby, or in sections of nearby pipe that was subsequently salvaged and reused elsewhere in the system, and anywhere else in the pipeline system that is subject to the same environmental conditions.

Second, if PG&E finds leaks in a particular type of weld in pipe of a known vintage, such leaks would identify fundamental characteristics regarding the basic character or nature of that kind of weld that should be considered in predicting potential leaks in welds in pipe of that same vintage found elsewhere in the pipeline system. Specifically, if the leaks were found in longitudinal welds, such leaks would identify fundamental characteristics to be considered in predicting potential leaks in welds in pipe of the same original purchase and installation that were subsequently reused elsewhere in PG&E's high pressure gas pipeline system.

2) CPSD believes that decades-old leak data has predictive value because PG&E still has decades-old pipe in its pipeline system. PG&E itself has stated that, " . . . the first comprehensive federal pipeline safety law did not take effect until 1970 — by which time approximately two-thirds of PG&E's current gas transmission pipelines already had been installed."

The ASME standards support CPSD's belief. Since at least 1955, ASME standards have consistently required that "Records should be made covering all leaks discovered and repairs made. All pipeline breaks should be reported in detail. These records along with leakage survey records, line patrol records and other records relating to routine or unusual inspections should be kept in the file of the operating company involved, as long as the section of line involved remains in service."[3]

We also refer to the Bechtel report of 1988 which states the importance of leaks in determining the PG&E Pipeline Replacement Priority Analysis, the apparent pre-cursor to the current IM analysis:

> "A pipeline segment, for this study, is defined as a section of gas transmission line for which the physical characteristics, installation date, test data or class location differ from adjacent sections of pipeline. Statistically, the probability that a leak will occur is time-dependent. The leak probability can be represented as follows:

[3] Appendix 8 of the Felts report references a list of the ASME standards that require keeping leak records for the life of the facility.

Leak Probability =leaks/time period"

Q 4: On page 39 of the Felts report, the CPSD writes: "Obviously, entering an incorrect pressure will contribute to an inaccurate risk ranking of pipeline segments by model." Please explain (1) the reasons Ms Felts considers "assumed" pressure to be "incorrect" (2) the specific reasons Ms Felts believes that using assumed values in risk models will yield an "inaccurate risk ranking" and (3) the specific segments Ms Felts believes to have been incorrectly prioritized based on the use of assumptions.

A 4:

1) Properly quoted, Page 39 of the Felts report states, "Obviously, entering an incorrect pressure will contribute to an inaccurate risk ranking of pipeline segments by the model." Hence, Ms Felts is referring to PG&E's model, not to a generic one.

"Assumed" is defined as:

1. Taken up or used so as to deceive; pretended: *an assumed name.*
2. Taken for granted; supposed: *an assumed increase in population.*
The American Heritage® Dictionary of the English Language

1. false; fictitious *an assumed name*
2. taken for granted *an assumed result*
3. usurped; arrogated *an assumed authority*

Collins English Dictionary – Complete and Unabridged © HarperCollins Publishers 1991, 1994, 1998, 2000, 2003

If PG&E can accurately provide correct pressures, they would not be assumed. The fact that PG&E enters "assumed" figures is an indication of lack of adequate pressure records to provide entries that could be considered accurate. Without accurate historical records, it is impossible for PG&E to guarantee that the figure they enter into their model does in fact accurately reflect the operating pressure history of the pipeline.

2) This question mischaracterizes Ms Felts' testimony. Ms Felts stated that "entering an incorrect pressure will ***contribute to*** an inaccurate risk ranking," not "***yield*** an inaccurate risk ranking." It is possible that entering an incorrect pressure in the PG&E model might not change the relative risk ranking of a pipe segment. For instance, a change of a few PSIG may not be sufficient for push the calculation high enough to bump the risk high enough to cause a change in ranking relative to other segments.

3) It is impossible to provide a meaningful answer to this question since each segment is ranked relative to all of the others. And since every mile of pipe has assumed or unknown values, often of multiple matters (age of pipe, cover, etc), a comparison of assumed pressure values and other unknown or assumed values is meaningless. Even if an answer was possible, it would mean culling through each assumed value PG&E has

provided and understanding how that value has affected the weighting in PG&E's current integrity management model. Nonetheless, CPSD provides some background and a couple of examples below to illustrate some of the overall problems with PG&E's integrity management model.

Essentially, the risk priority for all of the segments are incorrect due to the way PG&E's model works and the fact that PG&E uses assumed values in many instances in the model. For instance, PG&E's 2009 risk model[4] ("model") uses "operating pressure" as one of the criteria to determine a pipeline segment's overall risk rating, and its overall risk ranking. In the model, maximum operating pressure ("MOP") of a pipeline is the only variable that defines the "operating pressure" of a segment. The risk ranking of a pipeline, in turn, figures into determining priority of pipeline replacement. Both examples below illustrate how much MOP in a pipeline segment must change before having a significant impact on the overall risk ranking of a pipeline segment.

Example 1: In PG&E's model, the two highest risk segments are:

1) Line 210A, Segment 1175. This segment has the highest risk ranking of all PG&E pipeline segments because it contains a total risk rating of 2704, which is the highest risk rating of any segment in PG&E's transmission line system in 2009.

2) Line108, Segment 146.35. This segment has the second highest risk ranking, and contains a total risk rating of 2414 in 2009.

If the MOP of Line 108 is increased in the model by 84 psig,[5] then the total risk rating of Segment 146.35 increases from 2414 to 2758, making it the highest ranked segment based on risk. In this case only these two segments having the highest risk rankings are affected. Therefore, all segments below the second one keep their original ranking.

Example 2:

Line 132, Segment 180 has an MOP of 375. At that MOP, it has a risk rating of 927, which ranks it 2989th among all pipeline segments in PG&E's system in 2009. The table below shows how much the MOP would have to be increased for this segment to be raised within PG&E's top 1200-ranked pipeline segments according to risk.

MOP	Ranking (where the lowest number is the highest risk relative to the other segments in the system)
375	2989
400	2968
450	2073

[4] See P3-20060_1_thru_3(N)_CONDFIDENTIAL.

[5] The increase would be from the current MOP of 412 psig, to 496 psig.

500 2027

550 1141 Falls within the top 1200 segments

If the risk ranking of Line 132 Segment 180 changed from 2989 to 1141 due to the entry of 550 psig instead of 375 psig for MOP, then it follows that the risk rankings of all of the other 1,848 segments listed between numbers 1141 and 2989 would also change in the model. It is therefore impossible to identify the specific segments that have been incorrectly prioritized based on the use of assumptions because one change in any data entry can result in the incorrect prioritization for many, if not all, segments.

Please note that by using PG&E's IM model to answer this question, Ms Felts does not mean to imply that she agrees that the IM model design or resulting calculations accurately represent PG&E's pipeline system.

Q 5: On page 39 of the Felts report, the CPSD writes: "PG&E does not have the historical operating pressure records needed for its integrity management risk models. Because these pressure records are required elements for the integrity management risk assessment models . . ." Please identify the standard or regulation that requires all historical operating pressure records to be incorporated into integrity management models.

A 5:

See P2-390, page 26 where pipeline operating pressures are "Required". This requirement is part of the document entitled "Procedure for Dry Gas Internal Corrosion Direct Assessment. Procedure No. RMP-10 Integrity Management Program."

See P2-164 page 14 where records of operating stress levels are "Required". This requirement is part of the document entitled, "Procedure for Stress Corrosion Cracking Direct Assessment, Procedure No. RMP-13. Integrity Management Program."

Because both P2-390 and P2-164 are procedures, they are required to be followed by 49 CFR 192.13(c).

49 C.F.R. Subpart O § 192.917, including, but not limited to, subsection (e)(2), requiring assessment of cyclic fatigue.

Section 451 of the Public Utilities Code

Q 6: On page 39 of the revised Felts report, the CPSD alleges that PG&E "states that it cannot retrieve leak data prior to 1970." Please identify the specific statements upon which the CPSD has based this allegation.

A 6:

PG&E Response to DR 23Q15Supp01, footnote 1
P3-20038 page 18, last paragraph (states 1971)
PG&E June 2011 Filing, pages 2A-13, 6C-7, 7-5 through 7-6

Q 7: On page 41 of the Felts report, the CPSD refers to "Grade 3 and 4 leaks." Please explain what the CPSD believes a Grade 4 leak to be and the regulations, industry standards, PG&E internal policies or data responses that discuss them.

A 7: Leak grades are 1, 2 and 3 as described in PG&E's S.P. 460.21-4. In addition, PG&E adds a grade 2+ which is defined on some of PG&E's leak forms as a way to assign priority to a grade 2 leak. (example is on P3-22944) Some of the numbers on page 40 of Ms Felts' Revised Testimony referencing the grade of leaks are erroneous. The referenced attachment, response to DR 23 Q 16, provides a table showing four categories of leaks: 1, 2+, 2 and 3.

The sentences on Page 40 should read as follows (corrections in bold and underlined)

"Although they are the primary record regarding leaks, PG&E's A-Form reports are poorly managed, inconsistent, and incomplete. Leaks reported from leak surveys, employees, and third parties are reported on A-Forms. The leaks are graded from 1 to **3**, with grade 1 being the most critical, requiring immediate attention. Grade **2** and **3** leaks can remain in the system, unattended for months, even years. These leaks are monitored for a change in grade. In the records, it appears some of these leaks "disappear" after subsequent surface testing reveals no reading on a test instrument.**164.** As of November 10, 2011, PG&E reported for its transmission lines no active Grade 1 leaks, 16 active Grade **2+** leaks, 145 active Grade **2** leaks and 609 Grade **3** leaks.**165**"