Pacific Gas and Electric Company®

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May 22, 2014

Ms. Liza Malashenko
Safety and Enforcement Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Re: State of California – Public Utilities Commission
Safety Review Report of PG&E's PSEP Update Application (A.13-10-017)

Dear Ms. Malashenko:

Pursuant to Decision (D.) 12-12-30, the Safety and Enforcement Division (SED) of the CPUC conducted a safety review of PG&E's Maximum Allowable Operating Pressure (MAOP) Validation project and PG&E's Pipeline Safety Enhancement Plan (PSEP), in November 2013 and in January 2014, respectively. On April 25, 2014, the SED submitted their safety report, identifying various findings and recommendations.

PG&E would like to thank the SED for its thorough review and for hosting a workshop to review the report findings on May 5, 2014. Attached is PG&E's response to the CPUC safety report, containing PG&E's reply to the findings and proposed actions moving forward. The format of PG&E's response reflects the structure of SED's Safety Review Report: the first section details PG&E's response to the MAOP findings and the second section details PG&E's response to the PSEP Update findings.

Please contact Redacted for any questions you may have regarding this response.

Sincerely,

/S/
Sumeet Singh

cc: Dennis Lee, CPUC
Ken Bruno, CPUC
Carolina Contreras, CPUC
Traci Bone, CPUC
Nathaniel Skinner, CPUC
Pearlie Sabino, CPUC
Tom Roberts, CPUC
Bill Gibson, PG&E
Frances Yee, PG&E
Redacted

Attachments

Executive Summary

Pacific Gas and Electric Company's Pipeline Safety Enhancement Plan (PSEP) is an essential part of the company's commitment to rigorous safety standards, improved operations, and better service for its customers and the public. PG&E is working with the CPUC on our plan to meet new, stronger safety standards and welcomes the Commission's feedback on how to improve.

PG&E presents its response to the Safety Enforcement Division's (SED) Safety Review Report evaluating PG&E's Maximum Allowable Operating Pressure (MAOP) validation practices and its Pipeline Safety Enhancement Plan (PSEP) Update Application. Overall, the findings were encouraging but also identified opportunities for continued improvements:

- "The MAOP Validation Project results in a substantial improvement over the previous system of record by providing a level of detail not previously available." (Page 2 executive summary of the report) … "PG&E should diligently engage in continued efforts to improve the quality of pipeline data gathered through the PFLs…" (Page 33 Conclusion of the report)
- "No imminent safety concerns arose from SED's review." (Page 2 executive summary of the report)
- "SED's recommendations should not delay the continuation of the PSEP program…" (Page 2 executive summary of the report)

Although the report references PG&E's progress associated with the transmission pipeline records as an unprecedented effort, SED also identified areas for improvements. In the response that follows, PG&E largely agrees with the findings in some instances, has provided new or updated information in other instances, and presented a different opinion on certain engineering assumptions made by SED in a limited number of instances. We recognize there is always room for continuous improvement in records validation, and PG&E is diligently working to improve its records every day and will continue to do so on a going forward basis. Last year, PG&E met the National Transportation Safety Board's (NTSB's) recommendation to validate the safe operating pressure for all transmission pipelines in densely populated areas using traceable, verifiable and complete records.

Below are key items identified by SED and PG&E's response:

MAOP:

- Pipeline Segments Operating "One Class out" under 49 CFR 192.611 to Validate MAOP: Since the fall of 2013, PG&E has reviewed all features operating one class out and performed a historical Class Location study to determine if and when the Class Location changed. PG&E presented the results of the Class Location study to the SED in April 2014. PG&E is continuing to provide SED with the updates on progress associated with this issue.
- PG&E excluded taps from calculating MAOP: Taps are single features that connect a mainline to a branching "short." In situations where this feature was a two inch or less service tee, the service tee was reprioritized as part of the initial MAOP Validation process. PG&E is currently performing Maximum Allowable Operating Pressure (MAOP) calculations on these service tees and taking appropriate action if, or when, required.
- Evolution of the Procedure for the Resolution of Unknown Pipeline Features (PRUPF): When operational by the end of Quarter 3, 2014, PG&E's Gas Transmission Geospatial Information System (GT-GIS) will be able to update assumed values using the latest version of PRUPF (TD-4199P-01).

- MAOP to be established based on traceable, verifiable and complete (TVC) records: PG&E will strength test or replace all pipelines that do not have TVC records of a test, regardless of whether or not an MAOP per test exists in the PFL. Tests with non-TVC records may have been used to prioritize work, but not to determine scope. Additionally, in GT-GIS, MAOP per Test will only be calculated for strength tests with TVC records.
- MAOP of Record discrepancies: The MAOP catalog (Document 086868) is the "system of record" for the MAOP of Record. Moving forward, PG&E will keep the MAOP of Record in SAP. GT-GIS will be integrated with SAP such that automated validation of MAOP can be performed within one consolidated system, minimizing the possibility for error in the future.

PSEP:

- 62.11 segment miles identified as untested, class 3/4 or HCA not being addressed as part of PSEP Phase 1: These identified segment miles were outside the scope of Phase 1, but will be prioritized during PG&E's 2015 GT&S Rate Case period.
- Footage discrepancies: Footage discrepancies do not have an impact on the PSEP Decision Tree outcome.
- Not consistently using the adjusted test pressure: As a general practice, PG&E does use adjusted test pressure as a part of its procedure. These instances of not using the adjusted test pressure did not impact the Decision Tree outcome, as the focus of PSEP Phase I was on previously untested pipelines.
- Non-standard fittings: Decision Point 2B (i.e., non-standard fittings) was not eliminated from the Decision Tree, but due to the lack of available features information as part of the 2011 filing PG&E had to assume all outputs from Decision Tree action were "No." However, PG&E now has visibility into the location of known features, as a result of completing the MAOP validation PFLs, as a result of the MAOP Validation work and PG&E will address non-standard features as a part of work conducted during the 2015 GT&S Rate Case period. However, PG&E implemented a new program to remove all known remaining dresser couplings, type of non-standard fitting, as part of PSEP Phase I.
- Criteria differences between MAOP and PSEP: PG&E acknowledges that it did not use the strength test pressure reports (STPR) quality codes in the PFL to validate pressure tests for purposes of prioritizing work done under PSEP. However, for the purposes of prioritizing work under PSEP, pipeline segments without documented strength tests were prioritized before pipeline segments with at least some documentation of a strength test. PG&E will strength test all pipelines without TVC strength test records.

PG&E has made great progress since PSEP began and we will not waiver on our commitment to be the safest, most reliable gas company in the United States. Highlights of our work from the inception of PSEP to March 31, 2014 include:

- Completed the records collection and MAOP validation of PG&E's entire 6,750 mile transmission pipeline system
- Completed 541 miles of strength testing
- Replaced 105 miles of pipeline
- Upgraded 201 miles of pipeline to accept In-Line Inspection (ILI) technology, of which 90 miles have already been in-line inspected
- Automated 141 valves

Our detailed response to the SED Safety Report findings follows. The format of PG&E's response reflects the structure of SED's Safety Review Report: the first section details PG&E's response to the MAOP findings and the second section details PG&E's response to the PSEP Update findings.

Contents

MAOP RESPONSE

SED's Findings and Recommendations on the MAOP Validation Project

1. SED's General Observations

A. Based on PG&E's own definition, the operator lacks traceable, verifiable and complete records for all components in its transmission system.
B. PG&E's transmission system lacks valid pressure testing records to establish an MAOP based on pressure testing for all of the components in its system.
C. PFLs have not yet been built for regulator stations and their MAOP not yet validated. PG&E asserts undertaking this effort at present time.
D. PG&E excluded taps from calculating MAOP.

1.0 CPUC's Recommendation

(No recommendation provided)

1.0 PG&E's Response

In response to points A, B, C above: PG&E agrees with the Safety and Enforcement Division's (SED) observations. Where traceable, verifiable and complete (TVC) records are not available, conservative engineering assumptions are used in accordance with the approved CPUC decision. These observations are consistent with the Pipeline and Hazardous Materials Safety Administration's (PHMSA) draft Integrity Verification Process and our communications to the CPUC. Concerning point C, the stations effort was commenced in 2013 and is an on-going project as identified in PG&E's Gas Transmission and Storage (GT&S) Rate Case.

In response to point D above, taps are single features that connect a mainline to a branching "short." In situations where this feature was a two inch or less service tee, the service tee was reprioritized as part of the initial MAOP Validation process. PG&E is currently performing Maximum Allowable Operating Pressure (MAOP) calculations on these service tees and taking appropriate action if, or when, required.

1.0 Attachment(s)

No attachments accompany the above response.

1.0 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Validate MAOP of service tees.	2014, End of Quarter 2	Data Delivery & Quantitative Analysis (DDQA)

2. Compliance

2.1 Pipeline Segments Operating "One Class out" 49 CFR 192.611 to Validate MAOP

The MAOP of over 8 miles of pipeline corresponding to approximately 150 features contained in eight of the PFLs inspected by SED was validated by operating "one class out" under 49 CFR 192.611. PG&E's method for validating the MAOP systematically relies on using this section of the code to apply a lower factor of safety for those instances were a feature's MAOP of Design does not support the MAOP of Record and the class location, as installed, is unknown.

2.1 CPUC's Recommendation

PG&E may not validate MAOP based on operating one-class-out absent proof and determination of an actual class location change. Other than as a method of prioritizing work, PG&E must demonstrate that a class location change has occurred in order to validate MAOP based on operating one-class out under 49 CFR 192.611. SED's efforts to address matters related to PG&E's pipeline that is operating out-of- class are being orchestrated in coordination with other forums outside of PSEP Update application proceeding, such as the CPUC's own Order Instituting Investigation (I).11-11-009 on PG&E's Class Location issues.

2.1 PG&E's Response

During MAOP Validation, PG&E did not have historical Class Location records. As a result, PG&E assumed that the Class Location had changed in the past if the feature's hoop stress was non-commensurate with the current Class Location, and all other requirements of 49 CFR 192.611 were met to operate "one class out."

Since the fall of 2013, PG&E has reviewed all features operating one class out and performed a historical Class Location study to determine if and when the Class Location changed. PG&E presented the results of the Class Location study to the Safety and Enforcement Division (SED) in April 2014. PG&E is continuing to provide SED with the updates on progress associated with this issue.

In the Safety Review Report, SED did not specifically reference features and sections of pipelines that were allegedly operating out of class. PG&E located less than 4.5 miles of pipe in 4 PFLs that were potentially operating out of class in the PFLs reviewed by SED. This mileage was included as part of the historical class location study referenced above and was determined that the pipe is appropriately operating one class out, or in class, in accordance with the regulations as a result of a historical change in class location or validation of pipe specifications using H-forms or TVC documents that replace the conservative assumptions.

2.1 Attachment(s)

No attachments accompany the above response.

2.1 Next Steps

No further action required.

2.2 Post-1970 Pipeline lacking pressure test records

PG&E lacks pressure testing records for some of its pipeline components installed post-1970's. Example of such an instance, as encountered by SED, include: 173_MP0.0000- 17.5600_02Aug12

2.2 CPUC's Recommendation

PG&E must ensure that all transmission pipeline is hydrotested and demonstrate a reasonable plan to achieve doing so.

2.2 PG&E's Response

PG&E recognizes that it lacks pressure test records for some gas transmission pipelines consistent with prior CPUC communications. Therefore, in accordance with Commission Decision 11-06-017, PG&E has committed to strength testing or replacing all transmission pipelines that do not have TVC records of a strength test. (Regarding prioritization, please see PG&E's response to CPUC's finding "4.3 MAOP to be established based on TVC records.")

2.2 Attachment(s)

No attachments accompany the above response.

2.2 Next Steps

No further action required.

3. Engineering Assumptions to Resolve Unknowns

3.1 Evolution of the PRUPF

The PFLs have not all been revised to reflect the updates to the PRUPF procedure and assumptions based on that guideline are not all entirely consistent across PFLs. In certain instances, PFLs reflect a less conservative iteration of the PRUPF, as Staff found with Results No. 2, 10, and 11 under Appendix A.

3.1 CPUC's Recommendation

PG&E must update all component assumptions based on the latest and future iterations of the PRUPF to ensure consistency of these assumptions. Building the PRUPF into eGIS and conducting a systematic update appears to be a reasonable and more efficient means of updating - 15 - the component's assumptions. PG&E should provide SED with an estimated timeline and plan for implementation and completion of this effort along with updates of the progress, its completion, and results.

3.1 PG&E's Response

PG&E is developing its new Gas Transmission Geospatial Information System (GT-GIS) and expects it to be fully operational by end of Quarter 3, 2014. One of the requirements in GT-GIS is to be able to update assumed values using the latest version of TD-4199P-01, the "Procedure for the Resolution Of Unknown Pipeline Features (PRUPF)." This update will be completed within GT-GIS as it allows the ability to make updates on a system-wide basis in a streamlined manner.

3.1 Attachment(s)

No attachments accompany the above response.

3.1 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Update assumptions in GT-GIS based on latest version of TD-4199P-01.	2014, End of Quarter 4	Data Delivery & Quantitative Analysis (DDQA)

3.2 Assumptions for "Joint Ventures"

In these cases [where PG&E did not have control of the design and installation of a pipeline, e.g. Stanpac] PG&E appears to have relied on institutional knowledge of historical ownership to determine which assumption method to apply – whether installed by PG&E or purchased from other company - for resolution of unknown specifications.

3.2 CPUC's Recommendation

PG&E should ensure to document any general institutional knowledge used and guidelines provided to determine ownership of joint ventures that may have been used to determine which method would be applied to resolve unknowns. Any other guidance related to institutional knowledge of these pipelines used to determine feature specification should be documented.

3.2 PG&E's Response

Stanpac pipelines were not purchased from an operator. They were originally built by PG&E in a joint venture with Standard Oil (Chevron). PG&E owns 6/7th of Stanpac and Chevron owns 1/7th. Stanpac is the only joint venture operated by PG&E. PG&E is also responsible for the operations and maintenance of these pipelines. As a result of PG&E's substantial involvement, the "Pipe in Systems Purchased from Other Operators" section of TD-4199P-01 (PRUPF) does not apply to these pipelines. PG&E was involved in all of the design and construction of the Stanpac facilities and has records of these projects.

The joint venture is exceptional in PG&E's transmission system and as such, the MAOP Engineering work does not follow the process in TD-4199P-01 for purchased pipeline. While the history and the evolution of the Stanpac pipelines are well-documented and understood, it is true that TD-4199P-01 does not explicitly address these pipelines. PG&E intends to revise the procedure to include a section that addresses this matter.

3.2 Attachment(s)

No attachments accompany the above response.

3.2 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Revise TD-4199P-01 to include explicit guidance related to Stanpac pipelines	2014, End of Quarter 2	Data Delivery & Quantitative Analysis (DDQA)

3.3 Unknown Fitting Specifications

PG&E conducted a couple of studies to compare field verified feature specifications against PRUPF assumptions and actual records. The aforementioned studies did not specifically address fittings or the judiciousness of this assumption approach.

3.3 CPUC's Recommendation

PG&E should obtain some indication on the level of confidence that this standard practice was historically adhered to in order to ensure that the application of these assumptions do in fact reflect a conservative approach. Considering PG&E's database of field verified data is continually growing, the operator should engage in a focused effort to validate unknown fitting specification assumptions that will provide a greater insight on the level of confidence of PG&E's historical adherence to its own historical standards practices.

3.3 PG&E's Response

PG&E concurs with the SED's recommendation above. PG&E will develop a plan to validate fitting assumptions, and will also update the existing studies mentioned above.

3.3 Attachment(s)

No attachments accompany the above response.

3.3 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Develop a plan to validate fitting assumptions	2014, End of Quarter 4	Data Delivery & Quantitative Analysis (DDQA)
Develop a plan to update existing studies to validate PRUPF assumptions and records	2014, End of Quarter 4	Data Delivery & Quantitative Analysis (DDQA)

4. Traceable, Verifiable, and Complete

4.1 TVC of material specifications for components lacking pressure tests.

PG&E does not require that pipeline specifications gathered from historical records for calculation of MAOP of Design meet its definition of traceable, verifiable, and complete, unlike its policy for strength test records used to establish an MAOP of Test.

4.1 CPUC's Recommendation

PG&E should enforce the use of accurate material specification data based on traceable, verifiable, and complete records or application of conservative assumptions, as an interim safety measure, for components that lack a valid pressure testing record. This approach should be adopted instead of the current practice of relying on data gathered from low quality documents to validate the MAOP for pipeline components that lack a valid pressure test record.

4.1 PG&E's Response

PG&E used the best available information when validating the MAOP of the respective pipeline components. The objective of MAOP validation is an interim safety measure until all untested pipelines can be strength tested or replaced. Testing is the ultimate safety measure. TVC records are not always available for pipeline specifications. Lower quality documents are generally used in context with other information and engineering judgment. PG&E will compare specifications from lower quality records to conservative engineering assumptions and use these assumptions, where appropriate.

4.1 Attachment(s)

No attachments accompany the above response.

4.1 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Compare specifications from lower quality records to conservative engineering assumptions and take the appropriate action, where required.	2014, End of Quarter 3	Data Delivery & Quantitative Analysis (DDQA)

4.2 Type of data and document quality codes.

The quality codes are based on the document type and do not consider the type of data that is being taken from the document. Higher quality documents may not be reliable for certain data types.

4.2 CPUC's Recommendation

PG&E should consider capturing the reliability of documents based on the type of data as well as type of document.

4.2 PG&E's Response

Early on, during the MAOP Validation effort, PG&E considered capturing the reliability of documents based on the type of data (i.e., specifications) as well as type of document. This method turned out to be too complicated and did not provide additional value, in part because the quality code was too subjective.

As a result, as part of the MAOP Validation project, documents are assigned quality codes to reflect the level of confidence in the document. The quality codes for documents are good indicators of the quality of the data that is extracted from it. Therefore, PG&E decided to rely on the quality of the document.

4.2 Attachment(s)

No attachments accompany the above response.

4.2 Next Steps

No further action required.

4.3 MAOP to be established based on TVC records.
By discovery of Results No. 4 and 20, Appendix A, SED learned that the program tool PG&E used to ensure that PFL's calculate a test supported MAOP based only on Q1-Q7 pressure test records was not implemented from the inception of the program and it is possible that other PFLs are calculating an MAOP of Test based on low quality records, contrary to PG&E's policy. PFLs are not consistently considering the quality code of pressure test document to determine if a valid test exists in order to calculate an MAOP supported by strength test pressure records.

4.3 CPUC's Recommendation

PG&E must ensure to undertake a specific effort to correct this inconsistency and ensure correct application of its criteria across all PFLs.

4.3 PG&E's Response

PG&E will strength test or replace all pipelines that do not have TVC records of a test, regardless of whether or not an MAOP per test exists in the PFL. PG&E does not rely on the MAOP per Test to determine if pipelines requires a test in accordance with D.11-06-017. If there are no TVC records of a valid strength test, the pipeline will require a test. Tests with non-TVC records may have been used to prioritize work, but not to determine scope. Additionally, in Gas Transmission Geospatial Information System (GT-GIS), MAOP per Test will only be calculated for strength tests with TVC records.

4.3 Attachment(s)

No attachments accompany the above response.

4.3 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Reconfirm the entire system within the new GT-GIS with the proper logic based on strength test quality code when calculating MAOP per test.	2014, End of Quarter 4	Data Delivery & Quantitative Analysis (DDQA)/ Foundational Asset Knowledge (FAK)

4.4 Traceability of Rationale
The level of comment detail specific to each feature in the PFL was inconsistently applied and often insufficient to trace the logic behind selection of material specifications.

4.4 CPUC's Recommendation

Considering the high level of engineering judgment that has been applied on a case-by-case basis, and in the absence of "hard and fast" rules, a more robust and consistent documentation of rationale should have been required and enforced in the PFL. If comments are kept outside of the PFL, it is strongly recommended that these be maintained with the PFL.

4.4 PG&E's Response

PG&E concurs that the consistency in documenting engineering decisions made in PFLs can be more

robust. PG&E considers this an opportunity for improvement. PG&E will develop a continuous improvement plan to address this issue moving forward.

4.4 Attachment(s)

No attachments accompany the above response.

4.4 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Develop and implement a continuous improvement plan to address consistency of documentation associated with decisions.	2014, End of Quarter 3	Production Mapping

5. Continued Improvement

5.1 H-forms

H-forms are generally considered a high quality document; however, PG&E has learned that these forms may be historically unreliable for specification of diameters or seamtype. SED encountered such instance for feature's 200.09 & 200.94 in Line 147 for which the H-Form referenced in the PFL stated a pipe diameter and seamtype found to be incorrect by more recent field verifications.

5.1 CPUC's Recommendation

PG&E should ensure to review all such specifications gathered from historical H-forms and re-evaluate the accuracy of the data in question.

5.1 PG&E's Response

H-Form data as used in the PFLs required a qualified engineer to interpret the data and compare and place the data in context with other available records.

PG&E is currently modernizing the H-Inspection/H-Form process and including data validation, quality control and quality assurance measures to ensure that the collected data is accurate, accessible, and meets the TVC standards.

5.1 Attachment(s)

No attachments accompany the above response.

5.1 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Continue modernization of H-Inspection/H-Form process	2014, End of Quarter 3	Transmission Integrity Management Program (TIMP)

5.2 MAOP of Record discrepancies

PG&E's use of different databases, such as Document 086868 for MAOP of Record and PFLs to validate the MAOP can create inconsistencies in data, as was found through the Type 5 error discovered by SED (Result No. 19 Appendix A).

5.2 CPUC's Recommendation

1. As part of its continued improvement of data quality PG&E must develop a method to systematically query the system/PFLs and identify other potentially similar data discrepancies between MAOP of Record in Document 086868 and the MAOP of Record used in the PFLs.

2. PG&E should diligently engage in continued efforts to improve the quality of pipeline data gathered through the PFLs by identifying potential types of data discrepancies and performing systematic corrective actions. PG&E indicated that it has commenced such efforts through its "Data Quality Management" program.

5.2 PG&E's Response

The MAOP catalog (Document 086868) is the "system of record" for the MAOP of Record. Since validation occurs in the PFL, the MAOP of Record from Document 086868 must be transcribed into the PFL which led to the error in this specific case.

However, moving forward, PG&E will keep the MAOP of Record in SAP (enterprise work management system). The Gas Transmission Geospatial Information System (GT-GIS) will be integrated with SAP such that automated validation of MAOP can be performed within one consolidated system, minimizing

the possibility for this type of error in the future.

5.2 Attachment(s)

No attachments accompany the above response.

5.2 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Continue with integration of SAP and GT-GIS as well as integration of MAOP catalog in SAP	20114, End of Quarter 3	Data Delivery & Quantitative Analysis (DDQA)/ Foundational Asset Knowledge (FAK)

Appendix A:

SED Safety Review Results: MAOP Validation Project

Result No. 1

PFL	Feature ID	Feature Type	Error Description/Comment	Category	PFL Impact
150_MP4.700-18.09--_16May13	499	Pipe	Test Pressure value was entered incorrectly. STPR documents indicate strength test pressure of 96 psig instead of the 960 psig entered in the PFL. STPR is qualified as Q12 and the PFL considered this record a valid test.	Incorrect Input (test pressure) Incorrect Test Validation	Type 4

Result No. 1 CPUC's Recommendation

PFL must be revised to reflect the corrected test pressure and recalculate the test supported MAOP. STPR was qualified as Q12 which does not meet PG&Es criteria for a valid test and should not be used to validate MAOP, thus error did not affect MAOP. This may raise issues for PSEP.

Result No. 1 PG&E's Response

The test is not a valid TVC test because the test records have a quality rating of Q12. Therefore, this section of the pipeline is considered not tested, irrespective of the test pressure or the fact that the PFL has an MAOP per test calculation. The calculation is a "working" calculation and is not a driver on deciding whether or not this pipeline requires a test.

The 960 psi test pressure listed in this PFL is an error. The correct pressure, as noted by SED, is 96 psi. The pressure chart (see Attachment 1) shows that the test pressure was 96 psi. This appears to be a leak test. The back of the chart (see Attachment 2) mentions testing the tie-in weld which indicates that the test was probably done with gas after the pipeline was welded. Attachment 2 contains a comment and the date of the test also suggest a leak test.

The PFL has been corrected to reflect the correct test pressure.

Although PSEP engineers did use the PFL value of 960 psi within the project workbook, it did not affect the PSEP decision tree (DT) outcome. The project workbook correctly showed that this test did not meet code requirements at the time of the test. The affected segments have a potential manufacturing threat, operating less than 30% SMYS, is untested and in a non-HCA class 1 area resulting in a PSEP Decision Tree of M5 (address in Phase 2).

Result No. 1 Attachment(s)

An attachment to this response has been marked CONFIDENTIAL and is submitted pursuant to Section 583 of the Public Utilities Code because it includes employee names.

No.	File Name
1	SED-SRR_Atch01_Result01
2	SED-SRR_Atch02_Result01_CONF

Result No. 1 Next Steps

No further action required.

Result No. 2

PFL	Feature ID	Feature Type	Error Description/Comment	Category	PFL Impact
U_DRIP_20120 2270825_R150 _15APR13	15	Pipe	FVE assumed a WT = 0.22" which is less conservative than the assumption of WT =0.188" that would result from using the PRUPF.	PRUPF Missaplication	Type 4

Result No. 2 CPUC's Recommendation

PG&E asserts that this was based on an old iteration of the PRUPF which suggested a less conservative value. The PRUPF has undergone several iterations and the PFLs have not been updated to reflect changes. PG&E must ensure to update all of the pipeline features in its system based on the latest PRUPF

Result No. 2 PG&E's Response

The value of 0.22" WT was the suggested value at the time the PFL was analyzed. The value was suggested by the suggestion macro which is an automation of TD-4199P-01, the "Procedure for the Resolution Of Unknown Pipeline Features (PRUPF.)" Since that time, the PRUPF has been revised and the current suggested assumption for this particular case is 0.188" WT, as SED correctly points out. The PRUPF is continually updated based on data from field excavations and/or records to ensure the most conservative value is always identified in the procedure.

Data from the PFLs was used to update the PRUPF throughout the MAOP Validation project. The revised suggested assumptions have not yet been reapplied to the assumptions made in the PFLs. PG&E is developing Gas Transmission Geospatial Information System (GT-GIS) and expects it to be fully operational by end of Q3 2014. One of the requirements in GT-GIS is to be able to update assumed values using the latest version of TD-4199P-01, the "Procedure for the Resolution Of Unknown Pipeline Features (PRUPF.)." This update needs to be completed within GT-GIS as it allows the ability to make updates on a system-wide basis in a streamlined manner.

Result No. 2 Attachment(s)

No attachments accompany the above response.

Result No. 2 Next Steps

See Next Steps associated with item 3.1 Evolution of the PRUPF.

Result No. 3

PFL	Feature ID	Feature Type	Error Description/Comment	Category	PFL Impact
100_MP138.43-150.13_9May13	13863	Field Bend	Source document used to establish seamtype not referenced for this feature. Seamtype was taken from H-form referenced in adjacent feature, which is more conservative.	Untraceable	Type 2

Result No. 3 CPUC's Recommendation

In order to maintain traceability, all documents used to establish feature characteristics must be referenced and included in the PFL.

Result No. 3 PG&E's Response

PG&E has records on transmission plat sheets showing the pipe was seamless (see Attachment 3). This same information was used on the H-form. However, PG&E had previously found some unreliable data on H-forms associated with this pipeline.

In 2010, there was an ILI project that pigged the entire line as well as several excavations that confirmed the seam type throughout the entire line. The ILI data was correlated to the physical examination of the pipe and all pipe indicated in the ILI run as SSAW was marked as SSAW on the PFL. The specifications are correct. On Feature 13863, the reference document to the ILI report was not listed on the feature line, but it is included on both features on either side. The PFL has been revised to include the proper reference on Feature 13863. Additionally, a separate document describing the rationale has been created and included in the PFL.

Result No. 3 Attachment(s)

An attachment to this response has been marked CONFIDENTIAL and is submitted pursuant to Section 583 of the Public Utilities Code because it contains employee names.

No.	File Name
3	SED-SRR_Atch03_Result03_CONF.pdf

Result No. 3 Next Steps

No further action required. The PFL has been updated with the proper reference images.

Result No. 4

PFL	Feature ID	Feature Type	Error Description/Comment	Category	PFL Impact
100_MP138.43-150.13_9May13	13925	Pipe	Source document used to establish seamtype not referenced for this feature.	Untraceable	Type 2

Result No. 4 CPUC's Recommendation

Seamtype selected is more conservative. In order to maintain traceability, all documents used to establish feature characteristics must be referenced.

Result No. 4 PG&E's Response

Please see PGE&'s response to Result No. 3.

Result No. 4 Attachment(s)

No attachments accompany the above response.

Result No. 4 Next Steps

No further action required. The PFL has been updated with the proper reference images.

Result No. 5

PFL	Feature ID	Feature Type	Error Description/Comment	Category	PFL Impact
200A-2_MP0.0000-1.0001_15Jun13	44	Drip-Ext Tap	FVE incorrectly references certain source documents to establish WT and seam type for feature. WT and seam type are not specified in that document.	Untraceable	Type 2

Result No. 5 CPUC's Recommendation

PG&E has indicated that it did not consider taps as part of MAOP validation.

Result No. 5 PG&E's Response

The MAOP Engineer's comment in the PFL says: "SMYS per PRUPF (2.10.12a) table 3. WT and Seam per 180941.tif (standard dwg)." The section of Drawing 180941 referenced in the PFL (see Attachment 4) lists the "E.H" and Seamless for the 6 inch pipe. The "E.H." stands for Extra Heavy wall thickness and is a standard industry wall thickness. In some cases this may be called "Extra Strong." In the case of 6" pipe, E.H. WT is 0.432," which is the value listed in the PFL.

Regarding taps, please refer to PG&E's response to 1.0 Part D.

Result No. 5 Attachment(s)

An attachment to this response has been marked CONFIDENTIAL and is submitted pursuant to Section 583 of the Public Utilities Code because it contains infrastructure data.

No.	File Name
4	SED-SRR_Atch04_Result05_CONF.pdf

Result No. 5 Next Steps

Refer to PG&E's response to Section 1.0 Part D.

Result No. 6

PFL	Feature ID	Feature Type	Error Description/Comment	Category	PFL Impact
200A-2_MP0.0000-1.0001_15Jun13	49	Pipe	Conflicting documents. A less conservative seam type (seamless) selected although conflicting documents indicated the potential for SSAW. FVE for adjacent feature (No. 47), installed under the same job, identified the document conflict and applied the more conservative seam-type, however, FVE failed to follow the more conservative seam-type selection for this feature.	Conflicting documents - Less conservative value	Type 4

Result No. 6 CPUC's Recommendation

PG&E must ensure to review and select the conservative feature specification, consistent with the remaining features.

Result No. 6 PG&E's Response

Attachment 5 is a 1942 as-built, depicting a seamless pipe, which is considered a high quality record since it is a first-hand witnessed document.

The field verification engineer saw the detail on the design section of a more recent job in 2006 that was adjacent to the 1942 vintage pipeline and made a decision to use the SSAW seam type to be more conservative (see Attachment 6). The note on the recent job is in the design section of the drawing, which is not considered a first hand witnessed document and a lower quality as compared to an as-built drawing.The PFL has since been revised to reflect seamless pipe on all appropriate features.

Result No. 6 Attachment(s)

Attachments to this response have been marked CONFIDENTIAL and are submitted pursuant to Section 583 of the Public Utilities Code because they include infrastructure data and/or employee names.

No.	File Name
5	SED-SRR_Atch05_Result06_CONF.pdf
6	SED-SRR_Atch06_Result06_CONF.pdf

Result No. 6 Next Steps

No further action required.

Result No. 7

PFL	Feature ID	Feature Type	Error Description/Comment	Category	PFL Impact
SP3_MP167.2802-198.6800_2012-09-22	2413	Pipe	Installation date is untraceable to supporting documents referenced for these features.	Untraceable	Type 2
	2414	Mfg Bend			
	2415	Pipe			

Result No. 7 CPUC's Recommendation

Although installation date is not considered a "critical" feature attribute by PG&E, PRUPF assumptions are fundamentally based on these dates and the traceability of the values is equally critical to other data affecting MAOP calculations. PG&E should designate this a "critical" attribute.

Result No. 7 PG&E's Response

These features (see Attachment 7) were installed on a Delivery and Charge job (D&C job) in response to an incident (i.e., an emergency job.) The as-builts include the work on the D&C job and indicates that the pipe (which was replaced) had been damaged by Kewit (a large construction company).

Because this is an emergency job, the crew was pulled from nearby Job 4006417 on the same pipeline, and used the same material on both jobs. This is detailed on the referenced Incident Report (see Attachment 8) All of these documents are related by the job numbers and the file folders that they came from.

The PFL has been revised to include records from Job 4006417 that show the date the pipeline was made operational. Notes within the PFL have also been included to explain these references.

Result No. 7 Attachment(s)

Attachments to this response have been marked CONFIDENTIAL and are submitted pursuant to Section 583 of the Public Utilities Code because they include infrastructure data and/or employee names.

No.	File Name
7	SED-SRR_Atch07_Result07_CONF.pdf
8	SED-SRR_Atch08_Result07_CONF.pdf

Result No. 7 Next Steps

No further action required. The PFL has been revised to include a reference document that indicates the date of job completion.

Result No. 8

PFL	Feature ID	Feature Type	Error Description/Comment	Category	PFL Impact
SP3_MP167.2802-198.6800_2012-09-22	2416	Pipe	Features contain record-supported WT = 0.26" and OD =26". The minimum recommended wall thickness for 26" pipe suggested by Table 5 of the PRUPF is WT = .281" which is less conservative than the actual WT for these features, indicating that the PRUPF's suggested assumptions for 26" pipe are not sufficiently conservative.	Incomplete PRUPF	Other
	2417	Field Bend			
	2418	Pipe			
	2420	Pipe			

Result No. 8 CPUC's Recommendation

PG&E must revise its PRUPF to incorporate consideration of this instance of WT, and thoroughly review its records to ensure all actual minimum values are incorporated into its suggested assumptions.

Result No. 8 PG&E's Response

This is a Stanpac line and material was ordered on a Stanpac job number. Therefore, TD-4199P-01 (the Procedure for the Resolution Of Unknown Pipeline Features (PRUPF)) does not directly apply. The portion of the document (see Attachment 9) shows that this was ordered through Stanpac and the minimum wall thickness does not apply to other PG&E jobs. It is not appropriate to change the PRUPF. Line pipe is often ordered at custom wall thicknesses.

Note that PG&E will revise the PRUPF to include a section that explicitly refers to Stanpac pipelines.

Result No. 8 Attachment(s)

An** attachment **to this response has been marked CONFIDENTIAL and is submitted pursuant to Section 583 of the Public Utilities Code because it contains employee names.

No.	File Name
9	SED-SRR_Atch09_Result08_CONF.pdf

Result No. 8 Next Steps

No further action required. See response in Section 3.2 Joint Ventures above.

Result No. 9

PFL	Feature ID	Feature Type	Error Description/Comment	Category	PFL Impact
SP3_MP167.2802-198.6800_2012-09-22	2297	tee	**(1)** Conflicting, untraceable, and unsupported resolution of unknowns. FVE rationale indicates that WT and SMYS are based on assumptions (designated by a "1" under SMYS and WT rat'nl columns) but FVE later contradicts this rationale by stating that the values are record-supported and not assumption based (indicated by "FSD"/Found Supporting Documents under the FVE "category" column) . The records referenced do not support the values established by FVE nor does the PRUPF. **(2)** Column AW indicates that this component was "purchased from other Company" and installed by Stanpac . The SMYS value of 52,000 psig established for this feature is considerably less conservative than the PRUPF suggested value which, per subsection 2 "pipe in system purchased from others" of the procedure, requires the "absolute minumum value" of 24,000 psi be assumed or that a field assessment be conducted.	Untraceable resolution of unknowns. Less conservative value - resolution of unknowns.	TBD

Result No. 9 CPUC's Recommendation

"FVE must categorize each assumption that is made" (PGE PFL Build QA procedure). SED believes that is an important element to maintain traceability. PG&E must reconcile assumption category and document the rationale used to resolve the unknown specifications of this feature and all other like features in this PFL with untraceable FVE assumptions. PG&E must also ensure that adequate and traceable documentation of the feature-specific rationale is included in the PFLs. PG&E should have required more robust explanation of the feature specific logic behind establishing critical information, for both assumptions and record -based specificatios. This is particularly important considering PG&E's "case-by-case" approach to evaluating unknowns that deviate from suggested values contained in the PRUPF, particularly its treatment of pipeline it considers "Joint Ventures" such as Stanpac lines.

Result No. 9 PG&E's Response

The notation in the bill of material is attached (see Attachment 10). Stanpac lines have been maintained for many years by PG&E. PG&E owns 6/7th of Stanpac and Chevron owns 1/7th. Stanpac is the only joint venture operated by PG&E. PG&E is involved in the engineering and construction of many of these jobs even though Stanpac was the actual owner. In this case, the job number is a PG&E job number and Stanpac was engineered and constructed consistent with other PG&E pipelines. A section will be added to TD-4199P-01 to provide explicit guidance to Stanpac pipelines.

In this case, the application of the PRUPF for a PG&E pipeline to Stanpac is appropriate and was appropriately utilized by the MAOP Engineer.

Result No. 9 Attachment(s)

An attachment to this response has been marked CONFIDENTIAL and is submitted pursuant to Section 583 of the Public Utilities Code because it contains employee names.

No.	File Name
10	SED-SRR_Atch10_Result09_CONF.pdf

Result No. 9 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
PG&E will add section to TD-4199P-01 to provide explicit guidance with respect to Stanpac pipelines	2014, End of Quarter 3	Data Delivery & Quantitative Analysis (DDQA)

Results No. 10 & 11

PFL	Feature ID	Feature Type	Error Description/Comment	Category	PFL Impact
0618-05_MP0.0000-MP1.4000_RX6926_06JAN12	9	Pipe in Road	FVE assumed a WT = 0.188" which is less conservative than the assumption of WT = 0.156" that would result from using the PRUPF.	PRUPF Missaplication	Type 4
	11	Pipe in Road			

Results No. 10 & 11 CPUC's Recommendation

PG&E asserts that this was based on an old iteration of the PRUPF which suggested a less conservative value, explaining that PRUPF has undergone several iterations and the PFLs have not been updated to reflect them. PG&E must ensure to update all of the pipeline features in its system based on the latest PRUPF.

Results No. 10 & 11 PG&E's Response

The wall thickness of these features is not assumed. The note from the MAOP Engineer states: "SMYS and WT per MAOP16106194." The as-built construction drawing is attached (see Attachment 11) and it displays where the 0.156" wall thickness for the existing pipe was crossed out and the 0.188" wall thickness was written. This indicates that on this job, the existing pipe was inspected and the wall thickness was verified. This is standard process for red line markings on drawings. An item circled in red means it was verified, an item crossed out with a new value indicates the specification was verified and corrected. The MAOP Engineer correctly used the verified wall thickness of 0.188". There is no rationale code for the wall thickness, indicating that the specification was obtained from a record. Finally, the suggested wall thickness from the suggestion macro (automation of the PRUPF) is 0.188". The current version of TD-4199P-01 also suggests a WT of 0.188" for 6" pipe from 1951-1961. Features 9 and 11 are referenced in Section A of Attachment 11.

Results No. 10 & 11Attachment(s)

An** attachment **to this response has been marked CONFIDENTIAL and is submitted pursuant to Section 583 of the Public Utilities Code because it contains employee names.

No.	File Name
11	SED-SRR_Atch11_Result10and11_CONF.pdf

Results No. 10 & 11 Next Steps

No further action required.

Result No. 12

PFL	Feature ID	Feature Type	Error Description/Comment	Category	PFL Impact
021F_MP0.0000-21.1600_23SEP12	1028.6	Pipe	PFL lists incorrect OD = 12.75". Records support an OD = 16" (41600067s6_DRWGBOM_30895613_021F.pdf)	Incorrect Input (diameter)	Type 4

Result No. 12 CPUC's Recommendation

PFL must be revised to incorporate the correct OD =16" for this feature and any other feature impacted by that correction. PFL and MAOP per design should be reduced from 1272 psig to 1014 psig. MAOP of R is 500 psig so no impact to validated MAOP is expected.

Result No. 12 PG&E's Response

Attachment 12 shows the corrected OD as 16" for this feature. An error was made in the PFL, which has since been corrected in the current version of this PFL. One of the queries that PG&E intends to run on the data after the implementation of the Gas Transmission Geospatial Information System (GT-GIS) will look for features where the outside diameter is different from that of neighboring features (excluding reducers, reducing tees and taps) to identify similar potential issues.

Result No. 12 Attachment(s)

An attachment to this response has been marked CONFIDENTIAL and is submitted pursuant to Section 583 of the Public Utilities Code because it contains employee names.

No.	File Name
12	SED-SRR_Atch12_Result12_CONF.pdf

Result No. 12 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Run query for discontinuous outside diameter and address any variances accordingly.	2014 , End of Quarter 4	Data Delivery & Quantitative Analysis (DDQA)/ Data Quality Management (DQM)

Result No. 13

PFL	Feature ID	Feature Type	Error Description/Comment	Category	PFL Impact
021F_MP0.0000-21.1600_23SEP12	57	Mfg Bend	Feature not called out in supporting STPR documents	Diminished Traceability	Type 2

Result No. 13 CPUC's Recommendation

PG&E should add feature call-out to ensure and maintain traceability of features consistent with its own traceability policy.

Result No. 13 PG&E's Response

This feature is a manufactured bend installed in 1978. The strength test pressure reports have not traditionally identified all fittings. Historically, such reports have only identified the pipe feature in most cases. For strength test pressure reports in this era, the sketches or the description must be reviewed to determine if the fittings were included in the testing.

The sketch in the attachment clearly indicates that this section was tested as a whole and includes the fittings. The PFL correctly references this document (Attachment 13) as the STPR.

Additionally, the image was marked in green to indicate that this record applies to features 49-51 and 55-57.

Result No. 13 Attachment(s)

An a**ttachment **to this response has been marked CONFIDENTIAL and is submitted pursuant to Section 583 of the Public Utilities Code because it contains employee names.

No.	File Name
13	SED-SRR_Atch13_Result13_CONF.pdf

Result No. 13 Next Steps

No further action required.

Result No. 14

PFL	Feature ID	Feature Type	Error Description/Comment	Category	PFL Impact
021F_MP0.0000-21.1600_23SEP12	65	Pipe	Source documents depict conflicting information for SMYS . Less conservative SMYS based on Mtrl Code was selected. Requisition description (1) says 42000 SMYS, design criteria on drawing (2) says 42000, plat map (3) adjoining pipe says 42000 SMYS, but material code spec on the requisition says 52000 SMYS. PFL builder chose 52000, rather than being conservative and using 42000. (1)MAOP03085831.JPG (Q3); (2)386171s4 (Q4) (3)MAOP03085846.JPG (Q3);	Conflicting documents - Less conservative value	Type 4
	67	Pipe			
	69	Pipe			
	71	Pipe			
	73	Pipe			

Result No. 14 CPUC's Recommendation

PG&E should revise PFL to incorporate the more conservative SMYS value of 42,000 psig for this feature and for any other feature where the same less conservative rationale was applied to establish SMYS based on these documents. This is consistent with PG&E's own general policy to select the most conservative value when conflicting documents of same quality exist and guideline 1.9 of AKM-MAOP-415G "Use of Material Historical Material Codes" for conflict between material code and material description in construction drawings. New DP@100% SMYS = 1,647 psi, MAOP-D = 824. No reduction in MAOP necessary as MAOP of R = 500.

Result No. 14 PG&E's Response

The attached transmission plat sheet (see Attachment 14) shows a second person witness. It has been translated by other people and is not a first person witness document. Hence, it is considered a lower quality (Q4) than some of the other records.

The material requisition attached (Attachment 15) is signed as received and is considered a higher quality document as a Q3. It is a first person witness. In this case, the material requisition includes a description and a material code. The warehouse is working from the material code – that is how materials are tracked and supplied. Given that the warehouse is working from this material code, PG&E concluded that the specifications associated with this code are the proper specifications to use. It is also consistent with the guidance that was provided to PFL builders.

Result No. 14 Attachment(s)

Attachments to this response have been marked CONFIDENTIAL and are submitted pursuant to Section 583 of the Public Utilities Code because they include infrastructure data and/or employee names.

No.	File Name
14	SED-SRR_Atch14_Result14_CONF.pdf
15	SED-SRR_Atch15_Result14_CONF.pdf

Result No. 14 Next Steps

No further action required.

Result No. 15

PFL	Feature ID	Feature Type	Error Description/Comment	Category	PFL Impact
420_MP0.0000-0.0273_27DEC11	1.0	Pipe	Image B-MAOP00190344, incorporated as part of the STPR package referenced for this feature, corresponds to a different pressure test not applicable to this feature.	Incorrect Source Documents	Type 2

Result No. 15 CPUC's Recommendation

PG&E must ensure to remove the incorrect document and include the correct STPR image for this feature.

Result No. 15 PG&E's Response

The STPR data sheet that was referenced on the PFL is correct, along with the associated data recorded in the PFL, but the referenced chart is incorrect. The date on the chart does not match the STPR Data sheet (see Attachment 16). The center of the pressure chart (see Attachment 17) shows a date of September 21, 2006, and the STPR data sheet as referenced in Attachment 16 has a test date of September 12, 2006. PG&E is striving to minimize the occurrence of such situations by "packaging" all of the STPR related data into a single document. This groups the charts and logs with the correct STPR data sheet making this oversight less likely. The PFL has been revised to show the correct pressure chart.

Result No. 15 Attachment(s)

Attachments to this response have been marked CONFIDENTIAL and are submitted pursuant to Section 583 of the Public Utilities Code because they include infrastructure data and/or employee names.

No.	File Name
16	SED-SRR_Atch16_Result15_CONF.pdf
17	SED-SRR_Atch17_Result15_CONF.pdf

Result No. 15 Next Steps

No further action required. The PFL has been revised to reference the correct document.

Result No. 16

PFL	Feature ID	Feature Type	Error Description/Comment	Category	PFL Impact
050A_MP2.5500-45.0500_07SEP12	274.4	Type B Sleeve	FVE validated MAOP based on documentation ("H form MP 6.27") that is not included/referenced for this feature. Approximately 790 features in this PFL validate MAOP based on this missing supporting document.	Untraceable	Type 2

Result No. 16 CPUC's Recommendation

PG&E must ensure that document traceability is maintained throughout the P Affects 791 features.

Result No. 16 PG&E's Response

This feature is a sleeve. The PFL indicates 8 inch diameter 10 inch long, but no other information. Looking through the versions, PG&E cannot find a reference to the H-Form for this feature as noted by the SED. The MAOP Engineer's comment (see Attachment 18) is: "Based on Appendix N (no PG&E Guideline prior to 1945)." It is listed as SEJ or Sound Engineering Judgment for the specifications.

The sleeve is listed on the PFL as part of job 33749 installed in 10/23/1928. However, the PFL has the incorrect job number and sleeve installation date. These were installed on a later job, GM 125414 installed in 1955.

Per Attachment 19, there is a 5 foot piece of pipe with two sleeves. One of these sleeves is feature 274.4. The Material list shows a Sleeve 8 inches by 10 inches long. The invoice (see Attachment 20) indicates these sleeves are 5/16 inch wall thickness.

Attachment 20 is the invoice showing the wall thickness. The wall thickness assumed on the PFL is 0.25" wall which is more conservative than this now traceable value of 0.3125" wall thickness. The PFL has been revised with this new information.

Result No. 16 Attachment(s)

Attachments to this response have been marked CONFIDENTIAL and are submitted pursuant to Section 583 of the Public Utilities Code because they include infrastructure data and/or employee names.

No.	File Name
18	SED-SRR_Atch18_Result16_CONF.pdf
19	SED-SRR_Atch19_Result16_CONF.pdf
20	SED-SRR_Atch20_Result16_CONF.pdf

Result No. 16 Next Steps

No further action required. The PFL has been revised appropriately to include the correct specifications, job number, and date.

Result No. 17

PFL	Feature ID	Feature Type	Error Description/Comment	Category	PFL Impact
050A-1_MP0.0000-2.8700_06Feb12	20.5	Pipe	The PFL says 0.322 WT, but the reference document says .250 WT. It appears that the call out box for Feature 20.5 incorrectly points to Item No 1 instead of Item No 2.	Diminshed Traceability	Type 2

Result No. 17 CPUC's Recommendation

In order to maintain traceability, all documents used to establish feature characteristics be correctly referenced.

Result No. 17 PG&E's Response

The PFL shows a 0.322" wall thickness. Attachment 21 shows feature 20.5 pointing at new 8.625 inch 0.322" wall thickness pipe.

Attachment 21 also includes a section of the bubbled material list. This is incorrectly pointing to feature 20.5 with the 0.250" wall pipe. The bubble needs to be pointed to the correct feature specifications. The bubbled document has been revised to indicate the correct feature.

Result No. 17 Attachment(s)

An ***attachment to this response*** has ***been marked CONFIDENTIAL and*** is ***submitted pursuant to Section 583 of the Public Utilities Code because*** it contains employee names.

No.	File Name
21	SED-SRR_Atch21_Result17_CONF.pdf

Result No. 17 Next Steps

No further action required. The bubble sheet has been revised to indicate the correct feature.

Result No. 18

PFL	Feature ID	Feature Type	Error Description/Comment	Category	PFL Impact
050A-1_MP0.0000-2.8700_06Feb12	87	Pipe	Unable to trace WT denoted as "record-based" to a supporting document. PG&E explained that "in the notes" outside of the PFL the builder assumed that this pipe was a transition to the bends. This rationale is not traceable in the PFL.	Untraceable	Type 2
	95	Pipe			
	97	Pipe			
	100	Pipe			

Result No. 18 CPUC's Recommendation

In order to maintain traceability of specifications critical to establishing MAOP, the rationale and assumptions must be clear in the PFL.

Result No. 18 PG&E's Response

The detailed weld and stationing drawing (see Attachment 22), clearly shows "transition cans" between the thick wall elbows and the thin wall mainline pipe. The transition cans are used to weld adjacent pipe and/or fittings with significantly varying wall thicknesses and grades. The 0.250" wall thickness is shown as a redlined value on the drawings. See Features 87, 89, 91, and 93 in Attachment 22.

The plan and profile drawing (see Attachment 23) has notes about the unequal wall thickness. The bill of material on one of the plan and profile sheets lists the 8 inch, 0.281" wall thickness that is redlined to 0.250" wall thickness. There are design criteria stamps on each sheet that list the 8 inch 0.281" wall thickness.

Plan and profile bill of materials only list the material for each sheet, not the entire job. Due to the limited number of transition cans, it only has a small footage.

This is typical construction practice when installing thin-wall pipe and thicker wall fittings. The 0.250" wall is redlined on the as-built drawings from the original 0.281" wall thickness.

The detail on the transition cans (see Attachment 24) is on sheet 2 of 12. This clearly shows and identifies the need to install an intermediate wall thickness between the 0.188" wall mainline pipe and the 0.322" wall elbows.

The above records are all referenced in the PFL.

Result No. 18 Attachment(s)

Attachments to this response have been marked CONFIDENTIAL and are submitted pursuant to Section 583 of the Public Utilities Code because they include infrastructure data and/or employee names.

No.	File Name
22	SED-SRR_Atch22_Result18_CONF.pdf
23	SED-SRR_Atch23_Result18_CONF.pdf
24	SED-SRR_Atch24_Result18_CONF.pdf

Result No. 18 Next Steps

No further action required.

Result No. 19

PFL	Feature ID	Feature Type	Error Description/Comment	Category	PFL Impact
181B_MP0-10.8492_9May12	65	Pipe	Incorrect MAOP of R and Class location Strength Test Factor. MAOP of R (400 psi) does not match and is less than the actual MAOP of R for this line based on PGE's document of record for MAOP (Document 086868). Class location Strength Test Factor used (1.5) is greater than the code required factor at the time (1.25). Based on correct MAOP of R and strengrth test factor the MAOP of 500psi cannot be validated and must be reduced to 418 psi.	Incorrect Input (MAOP of R and Class Location Strength test factor)	Type 5

Result No. 19 CPUC's Recommendation

PG&E must reduce the MAOP for this feature and any other feature affected to the limiting MAOP, and revise the PFL in question. PG&E has reduced the MAOP for this portion of Line 181-B, and SED is currently reviewing the pressure reduction, revised PFL, and supporting documentation for the new MAOP. Test Factor also incorrect (more conservative)

Result No. 19 PG&E's Response

See attached report (Attachment 25), previously provided to SED.

Result No. 19 Attachment(s)

An a**ttachment **to this response has been marked CONFIDENTIAL and is submitted pursuant to Section 583 of the Public Utilities Code because it contains employee names.

No.	File Name
25	SED-SRR_Atch25_Result19_CONF.pdf

Result No. 19 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Continue with integration of SAP and GT-GIS as well as integration of MAOP catalog in SAP	2014. End of Quarter 3	Data Delivery & Quantitative Analysis (DDQA)/ Foundational Asset Knowledge (FAK)

Result No. 20

PFL	Feature ID	Feature Type	Error Description/Comment	Category	PFL Impact
1013-02_MP0.0000-0.0000_10JUL12	2.0		Q12 STPR was used to establish an STPR supported MAOP of 400 psi (Column EH). Consistent with PG&E policy, these poor quality documents (Q8 and below) are not valid and may not be used to establish MAOP. STPR supported MAOP should be "N/A"	Incorrect Test Validation	Type 4
	3.0				
	4.0				

Result No. 20 CPUC's Recommendation

PFL should be revised to reflect that the STPR is not valid to support MAOP, indicated by should be "N/A" for STPR supported MAOP.

Result No. 20 PG&E's Response

The Q12 test was not used on the final MAOP Validation Report. Attachment 26 is the PFL data showing the Q12 quality codes in the far right column.

Attachment 26 also contains the MAOP Engineering section of the PFL, which operates as a "working analysis" section of the pipeline features list. It should not be considered the final result; some of the columns represent intermediate results.

Although the far right column shows 400 as the STPR Supported MAOP, the final MAOP Validation Report correctly shows N/A for the invalid tests. This is the expected way for the data to display. Note that whether or not an MAOP per Test is calculated does not determine if a pipeline is tested.

The logic based on the quality code determines if pipelines have or TVC records of a strength test. Additionally, the Gas Transmission Geospatial Information System (GT-GIS) will have this logic and will not calculate MAOP per Test for non-TVC strength tests.

Result No. 20 Attachment(s)

An attachment to this response has been marked CONFIDENTIAL and is submitted pursuant to Section 583 of the Public Utilities Code because it contains employee names.

No.	File Name
26	SED-SRR_Atch26_Result19_CONF.xlsm

Result No. 20 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Include appropriate logic based on strength test quality code when calculating MAOP per test in GT-GIS	2014, End of Quarter 3	Data Delivery & Quantitative Analysis (DDQA)/ Foundational Asset Knowledge (FAK)

PSEP RESPONSE

Results of SED's On-site Inspection

Type 5 Errors

PSEP Workbook - DFM-1816-01_2 TEST 9.17MI MP 8.44-18.25 PH1

Type 5 Error - Segment 234.3-1: The SMYS entered in the PSEP workbook does not match and is less conservative than the SMYS listed in the PFL for this segment. In turn the correct %SMYS = 35 instead of %SMYS =28 as listed in the workbook. Correcting the error results in a segment operating at over 30% SMYS and a PSEP decision tree code = M2 "Reduce Pressure and Strength Test in Phase 1" instead of M2 "Reduce Pressure and Strength Test in Phase 1" as entered in the PSEP workbook. The workbook indicates that this segment is scheduled for testing in 2014.

CPUC's Recommendation

The PFL indicates this pipeline segment was purchased from another company and installed in 1946 under Job MIR1122. PG&E should review all pipeline installed under Job MIR1122 and re-assess those segments currently scheduled for testing in 2014 for replacement instead of testing. Per the project workbook this segment is currently scheduled for testing in 2014.

PG&E's Response

The August 2011 PSEP filing called for DFM 1816-01 (MP 8.44-18.25) to be strength tested based on PG&E's January 2011 GIS data (GIS 1.0). This data had made assumptions for the pipe installed in 1946 under job MIR1122. For some segments, the assumption was that the pipe is Grade B (35,000 psi) ERW or SMLS with a wall thickness of 0.250 inch. These segments operate below 20% of SMYS and were assigned a decision code of C3 (strength test in Phase 2). For other segments installed in 1946, GIS assumed the pipe is 30,000 psi yield strength with a wall thickness of 0.188 inch. With this assumption, the pipe is operating at 28.6% of SMYS, assigned a decision code of M4 (strength test in Phase 1), and planned for testing in 2013. PG&E divided the strength testing of DFM 1816-01 into three tests: T-94 (MP 8.44–12.78), T-95 (MP 12.78–16.31) and T-96 (MP 16.31–18.25). Prior to the PFLs being completed for this line in 2013, PG&E tested T-96 in 2012. When the PFL was completed (July 1, 2013) for DFM 1816-01, the PFL team used a more conservative assumption than GIS for the unknown features for the 1946 installed pipe. The PFL version as of July 1, 2013, which was used in data validation and reviewed by the SED during the Safety Review, assumed a seam type of "Lap Weld," a Joint Efficiency Factor of 0.8 and yield strength of 28,000 psi. Based on these conservative assumptions, the PSEP Decision Tree code would change from M4 (Phase 1 test) to M2 (Phase 1 replace) because the % SMYS changes from 28.2% to 44.1%.

However, since July 1, 2013, the PFL for 1816-01 has been updated with the as-builts from the 2012 test of DFM 1816-01 (T-96) and an ECDA inspection conducted in October of 2013. This test inspected multiple sections of the 1946 pipe. The H-forms and pipe cut outs show this pipe to be Grade B (35,000 psi), seamless pipe with a 0.281 inch wall thickness (17% of SMYS). Based on this new information, the Decision Tree code becomes C3 (test in Phase 2) for the 1946 seamless pipe and the 4000 feet of 1963 ERW pipe would result in a decision tree code of M4 (test in Phase 1).

In this instance, the Safety Review Report correctly identified that PG&E's PFL, as of July 1, 2013, identified assumptions that require this pipeline to be replaced. PG&E's engineering team, being aware of the successful Strength Test T-96, continued to show the remaining mileage of DFM 1816-01 (T-94 and T-95) as a strength test—which was presented in PG&E's October 2013 PSEP Update Application. If the in-field finding of the pipeline's specifications had shown that the assumptions made in the July 1, 2013 version of the PFL were correct, then replacing the pipe would have been the correct result. But this was not the case. The current plan is to test 6,000 feet of T-94 (where the pipe is parallel with DFM 1817-01) and to defer the remaining pipe to be tested during the 2015-2017 rate case period, in

accordance with the updated pipeline specifications.

Attachment(s)

Attachments to this response have been marked CONFIDENTIAL and are submitted pursuant to Section 583 of the Public Utilities Code because they include employee names.

No.	File Name
27	SED-SRR_Atch27_T5Error_181601_CONF.pdf
28	SED-SRR_Atch28_T5Error_181601_CONF.pdf

Next Steps

No further action required.

PSEP Workbook - TAPS-REPL MI PH1: (Route: DREG4872)

Unknown/Potential Type 5 Error: The validated PSEP workbook footage for route DREG4872 appears to be missing 50ft of pipeline from the footage reflected in the PFL. The project workbook indicates that different segments under this route were either replaced in 2011, downrated to distribution, will be replaced in 2014, or require Phase 2 action.

CPUC's Recommendation

It is unclear to SED the reason behind this footage discrepancy. Due to the significant difference in validated footage this discrepancy should be addressed and resolved immediately and segments Decision Tree outcomes re-evaluated and addressed accordingly.

PG&E's Response

The SED Safety Review Report findings are correct; the footage in the project workbook for Route DREG4872 does not match the PFL. However, the PFL is correct. The data validation incorrectly excluded 50 feet of pipe (feature 10.0 in the PFL) from Segment 204-2. This excluded footage has since been included in the PSEP Workbook and now shows the total footage for Segment 204-2 is 99.5 feet (see Attachment 29). Since the segment length does not have an impact on the PSEP Decision Tree action, PG&E does not believe this is a potential Type 5 error.

Attachment(s)

An attachment to this response has been marked CONFIDENTIAL and is submitted pursuant to Section 583 of the Public Utilities Code because it includes employee names.

No.	File Name
29	SED-SRR_Atch29_T5ErrorTAPSREPL_CONF.xlsx

Next Steps

No further action required. PG&E replaced the entire 99.5 foot section of pipeline Segment 204-2 under Order 31031728. Construction was completed in April 2014, and the as-built package has been received within the Mapping department.

PSEP Workbook - L-300A_1 TEST 58.46MI MP 0.29-502.24 PH1

Type 4/5: The Decision Tree code reflected in the PFL is incorrect. Although these segments are located in a Class 3, the PSEP workbook incorrectly answered "no" to the question 3B of the Decision Tree "HCA or Class 2-4?" resulting in Decision Tree code C1 "Strength Test & CIS or ILI & CIS Phase 2" instead of the correct C2 Decision Tree code "Reduce Pressure and Strength Test in Phase 1. ILI, or Replace Phase 2". Because the corrected Decision Tree code provides for Phase 1 or 2 action, this error was categorized as Type 4/5.

However, Staff also found an error with the pressure test duration entered in the workbook for these segments, which resulted in a more conservative Decision Tree code than the information in the PFL would require. These two errors cancelled each other out resulting in the same Decision Tree code as originally entered. It is unclear why PG&E designated these segments with a deviation code of "other" commenting that they were "Moved to Ph2 - further engineering assessment necessary".

CPUC's Recommendation

PG&E should provide SED with more detail on the additional engineering assessment being performed on these segments.

PG&E's Response

There were two errors made on Segments 369.05, 369.052, and 369.053 (see Appendix B Error No. 2; T3 Error and T5 Error.) The T3 (Data Assurance) Error concerns the test duration in the project workbook (6.1 hours) not matching the PFL (8.1 hours). Using the correct test duration from the PFL, the Decision Tree outcome would result in C4 (tested, no Phase 1 action) and the deviation would change from "Other - See Comments" to "No Decision Tree Deviation." As a result, these two errors cancelled each other out and the original workbook Decision Tree outcome of C4 is correct.

Regardless of the Decision Tree outcome, these segments would be deferred to Phase 2 since they have a prior strength test. The comment "Moved to Ph2 – further engineering assessment necessary" means: 1) The segment should be prioritized as a Phase 2 project because a previous test has been performed, even though the data validation was not showing a valid Subpart J test. (PG&E prioritizes strength testing pipe with no test record before strength testing pipe that has had a previous strength test.)

Attachment(s)

No attachments accompany the above response.

Next Steps

No further action required.

SED's Other Observations

Unable to determine Decision Tree outcome for segments tested in 2011 and 2012

SED had difficulty reviewing PSEP workbooks for segments that had been hydrotested in 2011 and 2012. In order to determine correct Decision Tree results for those segments, it was necessary to use the pre-2011 pressure test information validated by the MAOP Validation Project. However, in many instances the workbooks reflected post-2011 hydrotest information and used that data to run the segments through the decision tree, resulting in an inaccurate Decision Tree. It is unclear how PG&E intended to reflect pipeline replacement and hydrotest information that occurred in 2011 and after. Although this inconsistency obscures actual Decision Tree outcome, it is not considered an operational safety issue as these segments were tested or replaced.

CPUC's Recommendation

(No recommendation provided)

PG&E's Response

The data validation sheets were populated with the PFL data upon MAOP Validation completion in July 2013. In most instances, the 2011 and 2012 strength test results were included within the July 2013 PFLs.

Given that the July 2013 PFLs included 2011 and 2012 strength test results, the PSEP engineers did not perform data validation for 2011 and 2012 projects for three reasons: 1) from a safety perspective, the most relevant data is updated in the PFL; 2) the purpose of the PSEP data validation process was to compare Decision Tree outcomes based on data validation to the action proposed in the August 2011 PSEP; in these cases, the Decision Tree action was already completed; and 3) D.12-12-030 disallowed cost recovery for all strength testing performed prior to the effective date of the decision (December 20, 2012), such that proposed revenue requirements and rates did not need to be submitted in the PSEP Update Application for projects completed in 2011 and 2012.

Attachment(s)

No attachments accompany the above response.

Next Steps

No further action required.

Adjusted test pressures

The PSEP workbooks often failed to use the adjusted test pressure when such data was available in the PFL. The adjusted test pressures must be used as these have been adjusted to account for elevation differences in the tested pipeline and represent the minimum pressure experienced at any point in the pipeline. Adjusted pressures are fundamentally lower than the unadjusted pressure and affect determination of whether a test is valid as outlined in Attachment 2B Chapter 2, PSEP Update Filing Work papers Preparation (Section 1.4 – Pressure Test Requirements). In addition to other criteria, a valid test pressure must be sufficiently high to meet requirements based on class location and MAOP of the segment. The adjusted pressure vs. test pressure differences found by Staff ranged from 3psi to 100psi, but did not affect the validity of the test. However, these type discrepancies could have an effect on test validity for segments running with test pressures that are very close or equal to the minimum test pressure requirement.

CPUC's Recommendation

(No recommendation provided)

PG&E's Response

PG&E intended to use the adjusted test pressure (see PSEP Update Application Testimony Appendix B in section 1.3.6, Step 10 (page 2B-12)). However, although it is possible that using the test pressure at the pressure sensing point instead of the adjusted test pressure may result in a test not meeting the acceptable test pressure to MAOP ratio (defined within the PSEP Decision Tree), this error had no impact on PSEP Phase 1 recommended actions/decisions. The Commission found in D.12-12-030 (Finding of Fact 21) that "A valid pressure test record need only comply with the regulations in effect at the time the test was performed, not later adopted regulations." The MAOP Records Validation Program therefore determined whether a pipeline strength test met regulations at the time of the test, and then determined the qualified MAOP. The PSEP Pipeline Modernization Decision Tree was used to prioritize the testing and replacement of untested pipelines. Since only untested pipelines were under consideration for testing in Phase 1, inputting the test pressure at the pressure sensing point vs. the adjusted pressure would have no impact on the PSEP Phase 1 Decision Tree actions. The test pressure to MAOP ratio is a calculation used when performing a Remaining Life Fatigue Analysis (Decision Tree Action Box M1) also referred to as a "Cyclic Fatigue Analysis" (CFA). PG&E has begun conducting CFA's on previously tested pipelines, which will help PG&E determine the priority of re-testing pipe within the 2015 GT&S rate case period.

Attachment(s)

No attachments accompany the above response.

Next Steps

No further action required.

Route BD143 and DRIP10897- "Historical Test Met Code Only" Deviation incorrectly applied

This deviation code was generally used by PG&E to defer certain segments beyond Phase 1 due to the existing pressure test records meeting historical test requirements even though PSEP test requirements were not met. In PG&E's view, these are lower priority segments. For the segments and routes listed (on pg. 28 of the CPUC Safety Review Report), PG&E incorrectly applied the "Historical Test Met Code Only" Deviation based on the premise that the existing pressure test records met historical test code. However, the Updated PSEP database indicates that these segments have no Hydrotest records at all. Although the validated phase for these segments indicates C3 Decision Tree code action "Strength Test and CIS or ILI and CIS in Phase 2" the validation comments in the Updated PSEP database indicate that at some point it was decided that these segments would be in Phase 2.

CPUC's Recommendation

PG&E may not defer the segments referenced above based on the deviation category it applied and must demonstrate precisely when and how Phase 2 will address these segments.

PG&E's Response

As a general practice, PG&E only applied deviation code, "Historical Test Met Code Only" in instances where test records complied with the regulations at the time the test was performed. With respect to Route BD143 and DRIP10897, PG&E incorrectly applied the deviation code. However, neither error presents a safety issue, as explained below.

BD143: Route BD143 was a blow down (BD) line connected to Line 109 on the downstream side of V-30.77. This pipeline cross-tied/connected Line 109 and Line 132 as shown in drawing 382486.tif (see Attachment 30). BD143 was installed in 1948 by Job 98015 and removed in 2013 by Job 30843884. Job 30843884 removed and replaced Line 109 mainline valve V-30.77 and Line 132 mainline valve V-31.93. Although the removal of BD143 is not shown in the as-built, the entire mainline valve assembly was replaced (including BD143). BD14954 replaces BD143 and is shown in as-built drawing (see Attachment 31). BD143 did not have a historical test, and the correct deviation should have been "Other – See Comments." The comments should be updated to explain the BD was being replaced with the PSEP valve automation project (obviating the need for a strength test).

DRIP10987: DRIP10987 is connected to Line132 at mile point 24.47. The PFL used to validate this route originally did not include a 2011 test for the first few feet (Segments 601 & 602). The latest PFL shows this whole route was tested on a 2011 PSEP strength test (see Attachment 32). This DRIP did not have a historical test, and the correct deviation should have been "2011 Hydrotest Plan."

As these segments have been addressed in Phase 1 they will not need to be addressed in Phase 2.

Attachment(s)

Attachments to this response have been marked CONFIDENTIAL and are submitted pursuant to Section 583 of the Public Utilities Code because they include employee names.

No.	File Name
30	SED-SRR_Atch30_BD143_DRIP10897_CONF.pdf
31	SED-SRR_Atch31_BD143_DRIP10897_CONF.pdf
32	SED-SRR_Atch32_BD143_DRIP10897_CONF.pdf

Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Update project workbook (TAPS-REPL PN PH1) to incorporate corrections above.	2014. End of Quarter 2	PSEP Engineering

SED's Findings and Recommendations on PSEP Update Scope

1. PSEP Scope Update

1.1 PG&E limited the scope of the Updated PSEP Application to only the segments identified in the original filing

As the MAOP Validation Project has been completed, it is possible that segments exist in PG&E's transmission system which have not been included in the updated application, but that lack valid pressure testing records and potentially met Phase 1 PSEP criteria. PG&E has explained that it considers those segments as outside of PSEP scope and indicated that in its 2015 GTS application PG&E is proposing a new set of decision trees to address the pipeline hydrotesting and replacement priorities based on a more holistic risk assessment approach to prioritizing that will not plan PSEP work separately from Base work.

CPUC's Recommendation

PG&E should be required to demonstrate how and when it plans to address those potential Phase 1 segments included in the tables (on pg. 29 of the CPUC Safety Review Report). The scope and prioritization of the new programs proposed in the 2015 GTS rate case must be equivalent or more conservative than the one already authorized through the PSEP Decision Tree.

PG&E's Response

In PG&E's PSEP Testimony filed on August 26, 2011 under Rulemaking (R.) 11-02-019, Chapter 3, page 3-37, PG&E stated we would not complete strength testing of all untested Class 3, Class 4 and HCA pipeline segments within Phase 1:
"Despite Decision 11-06-017 stating that each Implementation Plan 'should start with pipeline segments located in Class 3 and Class 4 locations and Class 1 and Class 2 high consequence areas,' this represents far too large of a work scope for PG&E to accomplish in a 4-year period (2011-2014) in Phase 1. Therefore, PG&E chose to prioritize a subset of that broader scope into Phase 1, consisting of the pipe segments in urban areas (Class 2, 3 and 4 and Class 1 HCA) operating at or greater than 30 percent SMYS without strength tests and those segments characterized with a manufacturing threat at or greater than 20 percent SMYS. This subset represents pipe segments that pose the biggest threat for a pipeline rupture. The remaining urban pipe (Class 2, 3 and 4 and Class 1 HCA) operating between 20 percent SMYS and 30 percent SMYS characterized with a Fabrication and Construction (F&C) threat construction threat and/or a corrosion and latent mechanical damage threat, will be addressed at the beginning of Phase 2 commencing in 2015"

PG&E completed MAOP validation in July 2013. PSEP engineering compared results from the MAOP validation effort, a very labor intensive process, since the MAOP PFLs had to be manually aligned with information within GIS. The result was 2,500 pages of PSEP Update workpapers submitted in October 2013. Since PG&E was under a strict deadline to submit and update the PSEP filing under D.12.12-030, given these constraints, it was not practical to query MAOP PFL's for additional untested pipeline segments meeting PSEP Phase 1 criteria, identify project scopes, develop workpapers and cost estimates, and schedule actual project execution before December 2014.

As of early 2014, MAOP Validation and Class Location Change verification has identified 62.11 segment miles of untested Class 3&4 and HCA Class1&2 pipe that will not be tested within PSEP Phase 1. These untested pipeline segments are proposed to be addressed/strength tested within the 2015 GT&S Rate Case Period. Figure 4A-9 within PG&E's 2015 GT&S Rate Case Application (A.) 13-12-012 contains the proposed Hydrostatic Testing Decision Tree. The untested pipeline miles proposed for strength testing are based on the following priorities listed in order of importance: (i) HCA, (ii) Integrity management Threats, (iii) Class 3 non-HCA segments, (iv) Class 1 and 2 non-HCA segments, and (v) short segments.

Attachment(s)

No.	File Name
33	SED-SRR_Atch33_1.1.pdf

Next Steps

PG&E will be addressing the remaining segments that meet the PSEP decision tree criteria in the GT&S 2015 – 2017 rate case period, with most being addressed in 2015.

1.2 Phase 2 of PSEP will be incorporated into the 2015 GT&S Rate Case

Pipeline segments requiring Phase 2 action have been rolled into the 2015 GTS rate case filing. PG&E has indicated that it has developed new prioritization criteria and will not be using the approved PSEP Decision Tree for Phase 2 segments.

CPUC's Recommendation

As with Phase 1 segments not currently addressed by PSEP, the new prioritization proposed in the 2015 GT&S rate case must be comparable or more conservative than that approved for the PSEP Phase 2 filing.

PG&E's Response

PG&E is being more conservative in the 2015 GT&S Rate Case Strength Testing Program, considering additional threats (e.g. fatigue analysis) in the pool of potential segments to be addressed. Figure 4A-9 within the 2015 GT&S Application (A.) 13-12-012 contains the proposed Hydrostatic Testing Decision Tree. The untested pipeline miles proposed for strength testing are based on the following priorities listed in order of importance: (i) HCA, (ii) Integrity management Threats, (iii) Class 3 non-HCA segments, (iv) Class 1 and 2 non-HCA segments, and (v) short segments.

Attachment(s)

No.	File Name
34	SED-SRR_Atch34_1.2.pdf

Next Steps

No further action required.

2. Decision Tree Implementation

2.1 PG&E's application of the Decision Tree, as presented in the workbooks, appears to have eliminated a branch of the tree under the Fabrication and Construction Threats outcome

Decision Tree point 2B was intended to identify the presence of non-standard fittings on pipeline segments, which following an engineering evaluation, could require pipeline replacement in Phase 1 or 2 of PSEP (Decision Tree code F1). PG&E's process for determining PSEP scope assumes that no such pipe fittings exist in its system by systematically answering "no" to point 2F, effectively eliminating the entire branch from PSEP scope.

CPUC's Recommendation

PG&E should be required to justify this elimination and to demonstrate how it has and how it will continue to address segments that would have fallen under that PSEP outcome. This must be aligned with the approved PSEP Decision Tree.

PG&E's Response

PG&E did not eliminate Decision Tree Point 2B from the scope of PSEP Phase 1. Decision Points 2B and 2C identify and address unique Fabrication and Construction pipe joining features (e.g., wrinkle bends, miter joints greater than 3 degrees, dresser coupling, expansion joints, and non-standard fittings). Because PG&E's GIS system, GIS 1.0, is based on pipeline segments, which was the basis of the original 2011 PSEP filing, PG&E did not know if and where these features existed when analyzing GIS segments through the Decision Tree. Therefore, in order for the segments to be successfully processed through the Decision Tree, PG&E had to assume all outputs from Decision Tree Action 2B were "No." PG&E now has visibility into the location of known features based on route and mile point, as a result of completing the MAOP validation PFLs in July 2013. PG&E is addressing non-standard fittings/features, when known, during PSEP Phase I projects by removing them prior to strength testing or retiring them when new pipeline segments are installed. PSEP has implemented a program to remove all known remaining dresser couplings (six based on MAOP Records validation) in 2014 as part of our Engineering Condition Assessment, Decision Tree Action Box 2C.

PG&E's Vintage Pipe Replacement Program, described in Chapter 4A of PG&E's 2015 GT&S Rate Case Prepared Testimony in A.13-12-012, addresses these threats by replacing pipeline segments containing vintage fabrication and construction threats that are subject to the threat of outside forces such as land movement that are in proximity to population.

Attachment(s)

No attachments accompany the above response.

Next Steps

No further action required.

3. Valid Pressure Test

3.1 The PSEP criteria PG&E developed to validate pressure test records is inconsistent with and in some regards less conservative than that applied for MAOP Validation purposes.
PG&E's PSEP criteria [...] fails to consider the quality codes assigned to records by the MAOP Validation Project. The quality codes developed and assigned to test records by the MAOP Validation project did not indicate whether test records meet its definition of traceable, verifiable, and complete.

CPUC's Recommendation

PG&E should consider document quality in its criteria for validating pressure tests. Low quality documents that do not represent an actual performed test and should not be used as valid test documents (i.e. documents representing intent - design packages). Tests must at, a minimum, meet the traceable, verifiable, and complete criteria adopted for validation of MAOP.

PG&E's Response

PG&E acknowledges that it did not use the STPR quality codes in the PFL to validate pressure tests for purposes of performing work under PSEP. This is due to the differing purposes for the use of STPRs between MAOP Validation, and the PSEP Update. PG&E agrees that a strength test must meet the traceable, verifiable and complete (TVC) criteria adopted for validation of MAOP. However, for purposes of prioritizing work under the PSEP, pipeline segments with no documented strength test were prioritized before pipeline segments with at least some documentation of a strength test, even if the documentation did not meet the TVC standard required for MAOP Validation. PG&E has reviewed the Updated PSEP database and identified 27 pipeline segments where the STPR Quality code was greater than Q7 (See Attachment 35). Data Validation listed the 27 segment as having a TVC test record at the time of the test, and the segment is not being addressed by replacement/strength test in PSEP Phase 1. These segments will be strength tested to meet Subpart J requirements at some point after the PSEP Phase 1 period based on the strength testing prioritization criteria.

Attachment(s)

No.	File Name
35	SED-SRR_Atch35_3.1.xlsx

Next Steps

No further action required.

4. Deviations

4.1 SED was unable to confirm proposed PSEP Downrates

In order to reduce the scope of the updated PSEP application, PG&E selected to downrate approximately 14 miles of PSEP covered segments by reducing their pressure to under 60 psi and reclassifying as distribution pipeline. SED did not have the adequate information available to verify the status of these downrates and confirm that these have been performed.

CPUC's Recommendation

PG&E should be required to provide valid documentation verifying the status of all the PSEP transmission pipeline downrates, as indicated in the Updated PSEP database, and to provide a schedule of the downrates it has yet to perform.

PG&E's Response

PG&E agrees with this recommendation. PG&E has identified four projects (13.5 miles total) where the existing gas transmission pipeline MAOP has been, or will be, reduced to an MAOP of 60 PSIG and the pipeline will therefore become a gas distribution asset. The downrate on three of the four projects have been completed and as-builted: DFM-7225-02 DWNRT 1.94MI MP 0.00-2.42 PH1; Line 050A TRANSFER 5.09MI MP 2.55-7.60 PH1; and Line118A TRANSFER 6.15MI MP 0.00-5.62 PH1. One remaining project is scheduled for completion in 2014: DFM-0604-16 DWNRT 0.32MI MP 0.18-0.50 PH1. The as-built for all four projects will be provided to SED upon request.

Attachment(s)

No attachments accompany the above response.

Next Steps

No further action required

Appendix B

SED Safety Review Results: PSEP Update

Error No. 1: T3

PSEP Project	Error Category	PFL Impact	Error Description/Comment
L-300A_2 TEST 21.67MI MP 230.32-490.59 PH1	T3 (Data Assurance) Error	Type 2	Did not use Adjusted Test Pressures from PFL (Segs 218.1, 218.6-1, 220.5-1, 250.5-1, 395.31)

Error No. 1: T3 PG&E's Response

The report findings are correct; the workbook did not use adjusted test pressures. However, using the adjusted test pressures from the PFL does not change the Decision Tree outcome because the test pressure to MAOP ratio is still above 1.25 for Class 1 (Segments 218.1, 218.6-1, and 250.5-1) and above 1.5 for Class 3 (Segments 220.5-1 and 395.31).

Error No. 1: T3 Attachment(s)

No attachments accompany the above response.

Error No. 1: T3 Next Steps

No further action required.

Error No. 1: T4

PSEP Project	Error Category	PFL Impact	Error Description/Comment
L-300A_2 TEST 21.67MI MP 230.32-490.59 PH1	T4 (Hydrotest) Error	Type 3	Test information (Validated TEST JOB, PRESSURE TEST_DATE, MEDIUM, TEST_DURATION) between the workbook and PFL don't match. (Seg 395.6-1)

Error No. 1: T4 PG&E's Response

The report findings are correct; the test information in the workbook does not match the PFL. The PFL is correct. Although the data validation showed no test information and the PFL shows a valid test, the Phase 1 action for PSEP would still be 'N/A' (no Phase 1 action). The Decision Tree would change from C2 (Phase 1 test) to C7 (tested, no Phase 1 action) and the deviation would change from "Other - See Comments" to "No Decision Tree Deviation."

Error No. 1: T4 Attachment(s)

No attachments accompany the above response.

Error No. 1: T4 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Update project workbook	2014, End of Quarter 2	PSEP Engineering

to incorporate corrections above.		

Error No. 2: T3

PSEP Project	Error Category	PFL Impact	Error Description/Comment
L-300A_1 TEST 58.46MI MP 0.29-502.24 PH1	T3 (Data Assurance) Error	Type 3	Workbook Hydrotest duration (6.1hrs) does not match PFL (8.1 hrs). (Segs 369.051, 369.052, 369.053)

Error No. 2: T3 PG&E's Response

The report findings are correct. However, this error does not result in any change to Phase 1 action. The test duration in the workbook does not match the PFL and when the data validation is updated with the 8.1 hour duration, the decision tree changes from C1 (Phase 2) to C4 (tested, no Phase 1 action). The deviation for the segments (369.051, 396.052, and 396.053) would change from "Other- See Comments" to "No Decision Tree Deviation". (The discussion on page 27 of the SED report correctly shows this as C4 although Appendix B's table does not.)

Error No. 2: T3 Attachment(s)

No attachments accompany the above response

Error No. 2: T3 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Update project workbook to incorporate corrections above.	2014, End of Quarter 2	PSEP Engineering

Error No. 2: T5

PSEP Project	Error Category	PFL Impact	Error Description/Comment
L-300A_1 TEST 58.46MI MP 0.29-502.24 PH1	T5 (Decision Tree) Error	Type 4/5	Incorrect Decision Tree Code. Should be C2 instead of C1. C2 may be Phase 1 or 2 action. (Segs 369.051, 369.052, 369.053)

Error No. 2: T5 PG&E's Response

See the response to "Error No. 2: T3."

Error No. 2: T5 Attachment(s)

No attachments accompany the above response.

Error No. 2: T5 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Update project workbook to incorporate corrections above.	2014, End of Quarter 2	PSEP Engineering

Error No. 3: T2

PSEP Project	Error Category	PFL Impact	Error Description/Comment
L-300B_1 TEST 59.49MI MP 0.00-502.64 PH1	T2 (Segment Split) Error	Type 2	Footage doesn't match with PFL (PSEP DV = 65' rather than PFL (feature #24207) = 74.3'). As a result total footage doesn't match. Total PSEP = 169' rather than Total PFL = 178.3'. (Segs 258.1-3)

Error No. 3: T2 PG&E's Response

The report findings are incorrect. Segment 258.1-3 was validated using PFL instance 120, which matches the footage shown in the data validation workbook (65 feet). Adjacent upstream segments (256-1 to 257.9) used a different instance number (162) for validation. It appears SED had used the PFL instance 162 when checking the data validation which contains a different footage for segment 258.1-3. PFL instance 120 was the correct instance to use for data validation.

Error No. 3: T2 Attachment(s)

No attachments accompany the above response.

Error No. 3: T2 Next Steps

No further action required.

Error No. 3: T5

PSEP Project	Error Category	PFL Impact	Error Description/Comment
L-300B_1 TEST 59.49MI MP 0.00-502.64 PH1	T5 (Decision Tree) Error	Type 4	Incorrect Decision Tree Code. Should be C4 instead of C7. (Segs 258.6, 258.7, 258.9, 260.12-1, 264.2, 264.4)

Error No. 3: T5 PG&E's Response

The report findings regarding Error No. 3, T5 are correct. However, this change does not affect the PSEP Phase 1 Decision Tree (Decision Tree) action as both C4 and C7 require no Phase 1 action. The Decision Tree codes are incorrect in the workbook; Segments 258.6, 258.7, 258.9, 260.12-1, 264.2 and 264.4 should have had a Decision Tree code of C4 instead of C7 because they are tested, non-HCA and operating over 30% SMYS.

Error No. 3: T5 Attachment(s)

No attachments accompany the above response

Error No. 3: T5 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Update project workbook to incorporate corrections above.	2014, End of Quarter 2	PSEP Engineering

Error No. 4: T2

PSEP Project	Error Category	PFL Impact	Error Description/Comment
L-131_1 TEST 4.41MI MP 42.35-57.47 PH1	T2 (Segment Split) Error	Type 2	The footage doesn't match with PFL (PFL = 691.2' rather PSEP DV = 690'), as a result the total footage doesn't match (Total PFL = 760.4' rather than Total PSEP DV = 759.2')

Error No. 4: T2 PG&E's Response

The report findings are correct, but this error has no effect on the PSEP Decision Tree outcome because this segment was tested and did not require PSEP Phase 1 action (C6). The error states that the footage in the workbook does not match the PFL. While the SED does not specify a segment, this response assumes the error is on Segment 157.13 (only segment in the data validation workbook with 690'). The footage is incorrect in the data validation workbook (690') and should have been entered as 691.2'.

Error No. 4: T2 Attachment(s)

No attachments accompany the above response

Error No. 4: T2 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Update project workbook to incorporate corrections above.	2014, End of Quarter 2	PSEP Engineering

Error No. 4: T3

PSEP Project	Error Category	PFL Impact	Error Description/Comment
L-131_1 TEST 4.41MI MP 42.35-57.47 PH1	T3 (Data Assurance) Error	Type 2	Test Pressure: PFL = 911 psi PSEP = 914. PSEP did not use adjusted test pressures. (Segs 182-2, 182-5, 192.9, 186.3, 187.7, 190.5)

Error No. 4: T3 PG&E's Response

The report findings are correct, the workbook did not use adjusted test pressures. However, using the adjusted test pressures from the PFL does not change the PSEP Decision Tree outcome because the test pressure to MAOP ratio is still above 1.5 for Class 3 (Segments 182-2, 182-5, 192.9, 186.3, 187.7, and 190.5).

Error No. 4:T3 Attachment(s)

No attachments accompany the above response.

Error No. 4: T3 Next Steps

Action Item	Estimated Due Date	Responsible Dept.

Update project workbook to incorporate corrections above.	2014, End of Quarter 2	PSEP engineering

Error No. 5: T2

PSEP Project	Error Category	PFL Impact	Error Description/Comment
L-118A TEST 1.30MI MP 0.00-58.74 PH1	T2 (Segment Split) Error	Unknown	4 additional splits are necessary due to SMYS and WT differences (Segment 126-2). Unable to determine consequence of error.

Error No. 5:T2 PG&E's Response

The report findings are correct, that additional splits were necessary in the workbook. However, this has no effect on the PSEP Decision Tree outcome because this segment was tested and did not require PSEP Phase 1 action (C6). The additional splits identified would have included stubs (3/4") as mainline pipe (8"). During data validation, engineering judgment was used to determine that the features for the stubs could be skipped because they were not mainline pipe and as a result Segment 126-2 would not need to be split further.

Error No. 5:T2 Attachment(s)

No attachments accompany the above response.

Error No. 5:T2 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Update project workbook to incorporate corrections above.	2014, End of Quarter 2	PSEP Engineering

Error No. 5: T4

PSEP Project	Error Category	PFL Impact	Error Description/Comment
L-118A TEST 1.30MI MP 0.00-58.74 PH1	T4 (Hydrotest) Error	Type 1	Length on PSEP workbook does not match PFL, is 2 feet section untested (Segs 200.4)

Error No. 5:T4 PG&E's Response

The report findings are correct that the segment length within the workbook was incorrect. However, this has no effect on the PSEP Decision Tree outcome because the segment was included within a strength test performed in 2012 and would be included in the test regardless of the error. The identified 2 feet section would be its own segment (200.3) rather than added to Segment 200.4. The data validation workbook incorrectly combined the two segments into 200.4. The PSEP Decision Tree outcome for the 2 feet would be C3 (untested, Phase 2) because the pipe was installed in 1931, seamless, untested, operating under 30% SMYS and in a Class 3 area.

Error No. 5:T4 Attachment(s)

No attachments accompany the above response.

Error No. 5: T4 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Update project workbook to incorporate corrections above.	2014. End of Quarter 2	PSEP Engineering

Error No. 5: T5

PSEP Project	Error Category	PFL Impact	Error Description/Comment
L-118A TEST 1.30MI MP 0.00-58.74 PH1	T5 (Decision Tree) Error	Type 4	Incorrect Decision Tree Code. Should be C5 instead of C6. (Segs101.507, 200.4, 201.2)

Error No. 5: T5 PG&E's Response

The report findings are correct that the Decision Tree codes are incorrect in the workbooks. The Decision Tree for these segments (101.507, 200.4, and 201.2) should be C5 instead of C6 because they are not HCA. This has no effect on the work performed under PSEP because these segments were included within a strength test performed in 2012.

Error No. 5: T5 Attachment(s)

No attachments accompany the above response.

Error No. 5: T5 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Update project workbook to incorporate corrections above.	2014, End of Quarter 2	PSEP Engineering

Error No. 6: T4

PSEP Project	Error Category	PFL Impact	Error Description/Comment
L-118A TEST 1.30MI MP 0.00-58.74 PH1	T4 (Hydrotest) Error	Type 1	Marked as validated test in workbook when should not have been. (Segs 200.8, 201.3, 201.6-1, 201.9, 202-1, 202-2).

Error No. 6: T4 PG&E's Response

The report findings are correct. The workbook incorrectly marked Segments 200.8, 201.3, 201.6-1, 201.9, 202-1, and 202-2 as having a valid test, and the data validation workbook had incorrectly shown these segments as tested. The correct Decision Tree outcome for these segments would have been M4 (200.8, 201.9, and 202-1) and C3 (201.3, 201.6-1, and 202-2). This has no effect on the PSEP Decision Tree action because all of the segments were included within a 2012 strength test.

Error No. 6: T4 Attachment(s)

No attachments accompany the above response.

Error No. 6: T4 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Update project workbook to incorporate corrections above.	2014, End of Quarter 2	PSEP Engineering

Error No. 7: T2

PSEP Project	Error Category	PFL Impact	Error Description/Comment
L-153_1 TEST 17.35MI MP 0.00-22.87PH1	T2 (Segment Split) Error	Unknown	3 additional splits are necessary because of different SMYS (35k & 50k). Unable to determine consequences of error.(Seg 135.6-4).

Error No. 7: T2 PG&E's Response

The report findings are correct that additional splits should have been made in the workbook. The data validation workbook was incorrect and should have included three additional splits to Segment 135.6-4 because of the different SMYS values in the PFL (35,000 psi and 50,000 psi). The seam type was also incorrect and should have been (seamless and unknown > 4" diameter). These different SMYS and seam type values would drive the Decision Tree to C3 (untested, Phase 2) and M4 (Phase 1 test). However, this does not have an effect on the PSEP Phase 1 action.

Error No. 7: T2 Attachment(s)

No attachments accompany the above response.

Error No. 7: T2 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Update project workbook to incorporate corrections above.	2014, End of Quarter 2	PSEP Engineering

Error No. 7: T3

PSEP Project	Error Category	PFL Impact	Error Description/Comment
L-153_1 TEST 17.35MI MP 0.00-22.87PH1	T3 (Data Assurance) Error	Unknown	Validated TEST_DUR_R mismatch between workbook and PFL. Segments tested in 2011 hyrdotest. (Segs122.6; 123; 123.2; 123.4; 123.6; 124).

Error No. 7: T3 PG&E's Response

The report findings are correct that the duration in the workbook does not match the PFL. The data validation workbook incorrectly shows a strength test duration of 5.3 hours for these segments (122.6, 123, 123.2, 123.4, 123.6, and 124). The PFL shows a stregth test duration of 8.3 hours. This error does not impact PSEP Phase 1 action.

Error No. 7: T3 Attachment(s)

No attachments accompany the above response.

Error No. 7: T3 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Update project workbook to incorporate corrections above.	2014, End of Quarter 2	PSEP Engineering

Error No. 7: T4

PSEP Project	Error Category	PFL Impact	Error Description/Comment
L-153_1 TEST 17.35MI MP 0.00-22.87PH1	T4 (Hydrotest) Error	Type 4	Workbook shows this test as having a valid witness but PFL indicates no valid witness. (Segs 142.3-1, 142.3- 2, 142.6, 142.9)

Error No. 7: T4 PG&E's Response

The report findings are incorrect; the workbook correctly shows a witness. The data validation workbook shows these segments (142.3-1, 142.3-2, 142.6, and 142.9) as having a valid test even though the PFL does not have a witness listed. The STPR used in the development of the PFL has a witness. Therefore, the PFL inadvertently omitted the strength test witness data field. The data validation worbook comments should indicate that the witness was obtained from the STPR linked within the PFL (see Attachment 36).

Error No. 7: T4 Attachment(s)

An attachment to this response has been marked CONFIDENTIAL and is submitted pursuant to Section 583 of the Public Utilities Code because it includes employee names.

No.	File Name
36	SED-SRR_Atch36_Error7T4_CONF.pdf

Error No. 7: T4 Next Steps

No further action required.

Error No. 8: T3

PSEP Project	Error Category	PFL Impact	Error Description/Comment
L-153_1 TEST 17.35MI MP 0.00-22.87PH1	T3 (Data Assurance) Error	Type 4	Incorrectly shows test as meeting code and PSEP criteria. (Segs 123.2; 123.4)

Error No. 8: T3 PG&E's Response

The report findings are correct, because the data validation workbook incorrectly shows an inaccurate test duration of 5.3 hours. If the correct duration of 8.3 hours was used, the data validation workbook would have correctly identified the segments as tests meeting code and PSEP criteria. This error does not impact PSEP Phase 1 action.

Error No. 8: T3 Attachment(s)

An attachment to this response has been marked CONFIDENTIAL and is submitted pursuant to Section 583 of the Public Utilities Code because it includes employee names.

No.	File Name
37	SED-SRR_Atch37_Error8T3_CONF.pdf

Error No. 8: T3 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Update project workbook to incorporate corrections above.	2014, End of Quarter 2	PSEP Engineering

Error No. 9: T3

PSEP Project	Error Category	PFL Impact	Error Description/Comment
DFM-1816-01_2 TEST 9.17MI MP 8.44-18.25 PH1	T3 (Data Assurance) Error	Type 5	SMYS doesn't match PFL. (% SMYS PFL=35 but %SMYS PSEP=28). PSEP DT should be =M2 instead of M4. (Seg 234.3-1)

Error No. 9: T3 PG&E's Response

See response to 'Type 5 Errors' for DFM-1816-01_02 TEST.

Error No. 9: T3 Attachment(s)

No attachments accompany the above response.

Error No. 9: T3 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Update project workbook to incorporate corrections above.	2014, End of Quarter 2	PSEP Engineering

Error No. 10: T2

PSEP Project	Error Category	PFL Impact	Error Description/Comment
L-021F REPL 4.24MI MP 0.00-21.16 PH1	T2 (Segment Split) Error	Type 1	Unnecessary split (Segs101.3-1 & 101.3-2; 150.7-3 & 150.7-4)

Error No. 10: T2 PG&E's Response

The report findings are incorrect. The workbook correctly split the segments.

- Segments 101.3-1 and 101.3-2 were correctly split in the data validation workbook but Segment 101.3-2 did not use the correct SMYS (42,000 psi). Using the correct SMYS would result in the same Decision Tree outcome and therefore does not affect the PSEP Phase 1 action.

- Segments 150.7-3 and 105.7-4 were correctly split in the data validation workbook but Segment 105.7-3 did not use the correct SMYS (30,000 psi). Using the correct SMYS would result in the same Decision Tree outcome and therefore does not affect the PSEP Phase 1 action.

Error No. 10: T2 Attachment(s)

No attachments accompany the above response.

Error No. 10: T2 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Update project workbook to correct the SMYS values for Segments 101.3-1, 101.3-2, 150.7-3 and 150.7-4.	2014, End of Quarter 2	PSEP Engineering

Error No. 11: T2

PSEP Project	Error Category	PFL Impact	Error Description/Comment
L-191 REPL 1.97MI MP 0.07-6.47 PH1	T2 (Segment Split) Error	Type 1	12 ft is missed in PSEP as a split by itself, rather included with Seg 130.5. Appears to be a cut out from 2011 Hydrotest (new pipeline). Not a safety concern. (Seg. 130.2-1)

Error No. 11: T2 PG&E's Response

The report findings are correct. However, the data validation workbook combined the footages for Segments 130.2 and 130.5 of the PFL into one segment, 130.5. Segment 130.2 is a tie-in piece from a PSEP 2011 test. Since the adjacent segments to 130.2 were both installed on the same job, and 130.2 was from the PSEP 2011 test, engineering judgment was used to assume that the pipe before the installation of the PSEP 2011 test tie-in was also installed on the same job as the adjacent segments. It was also assumed that Segment 130.2 was only created because of the installed tie-in pipe so the footage was added to Segment 130.5.

Error No. 11: T2 Attachment(s)

No attachments accompany the above response.

Error No. 11: T2 Next Steps

No further action required

Error No. 12: T2

PSEP Project	Error Category	PFL Impact	Error Description/Comment
TAPS-REPL MI PH1	T2 (Segment Split) Error	Unknown/ Potential Type 5	DREG4872: The footage doesn't match with PFL (PFL=99.5' but PSEP DV=49.5'), hence total length in PSEP is off by 50'. (Total PFL=115.4' & Total PSEP DV=64.5'). Unable to determine the consequence of this error.

Error No. 12: T2 PG&E's Response

The report findings are correct that the footage in the workbook does not match the PFL. The data validation workbook did not capture 50 feet for Segment 204-2. This footage would not create an additional split but would be included in the footage for Segment 204-2. This additional footage does not affect the PSEP Phase 1 action.

Error No. 12: T2 Attachment(s)

No attachments accompany the above response.

Error No. 12: T2 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Update project workbook to incorporate corrections above.	2014, End of Quarter 2	PSEP Engineering

Error No. 13: T2

PSEP Project	Error Category	PFL Impact	Error Description/Comment
L-109_2 REPL 4.65MI MP 0.49-16.93 PH1	T2 (Segment Split) Error	Type 1	Unnecessary split (Segs 133.6-1 and 133.6-2)

Error No. 13: T2 PG&E's Response

The report findings are incorrect. The split of Segments 133.6-1 and 133.6-2 in the data validation workbook were necessary because the installation jobs for each segment are different. The job numbers are 4679379 and 4679130, respectively.

Error No. 13: T2 Attachment(s)

No attachments accompany the above response.

Error No. 13: T2 Next Steps

No further action required.

Error No. 14: T3

PSEP Project	Error Category	PFL Impact	Error Description/Comment
L-191-1 TEST 10.07MI MP 9.59-35.83 PH1	T3 (Data Assurance) Error	Type 2	PFL lists test pressure as 1041 psi. PSEP lists as 1059 psi. PSEP Did not use adjusted test pressure. (Seg.106)

Error No. 14: T3 PG&E's Response

The report findings are correct that the workbook did not use adjusted test pressures. However, using the adjusted test pressures from the PFL does not change the PSEP Decision Tree outcome because the test pressure to MAOP ratio is still above 1.5 for Class 3 (Segment 106).

Error No. 14: T3 Attachment(s)

No attachments accompany the above response.

Error No. 14: T3 Next Steps

Action Item	Estimated Due Date	Responsible Dept.
Update project workbook to incorporate corrections above.	2014, End of quarter 2	PSEP Engineering