

State of California
State Energy Resources Conservation and Development Commission

In the Matter of:)	Docket # 09-AFC-04
)	Exhibit 413
Oakley Generating Station)	Pipeline Testimony of
)	Robert Sarvey
)	Footnotes 7-51
_____)	

DOCKET	
09-AFC-4	
DATE	Mar 24 2011
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Exhibit 413

Footnotes 7 -51**Gas Integrity Management Inspection Manual**

Inspection Protocols with Results Forms January 1, 2008

http://www.cpuc.ca.gov/NR/rdonlyres/307D1C31-143F-4B95-B4DB-82379210C7CC/0/2010_Audit_Protocol_for_PGE_Integrity_Management_Program.pdf



**Pipeline and Hazardous Materials Safety Administration
Office of Pipeline Safety**

Gas Integrity Management Inspection Manual

Inspection Protocols with Results Forms

January 1, 2008

Notice: Inspection documentation, including completed protocol forms, are for internal use only by federal or state pipeline safety regulators. Do not distribute or otherwise disclose such material outside of the state or federal pipeline regulatory organizations.

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Operator Contact and System Information

Operator Information:

Name of Operator (legal entity):	Pacific Gas & Electric Company & Standard Pacific Gas Line Inc.
Headquarters Address:	77 Beale Street, San Francisco, CA
Company Official:	
Phone Number:	
FAX Number:	
PHMSA Operator ID:	15007 (PG&E) and 18608 (Standard Pacific)

Persons Interviewed:

Persons Interviewed (list primary contact first)	Title	Phone Number	Email
Robert Fassett	Director of System Integrity	[REDACTED]	RPF2@pge.com
Sara Burke	Manager of Integrity Management	[REDACTED]	SEBE@pge.com
William Manegold	Supervising Engineer	[REDACTED]	WJM8@pge.com

PHMSA and State Representatives:

Inspector Name	Office/Organization	Days Present
Sunil Shori	California PUC	10
Dennis Lee	California PUC	10
Paul Penney	California PUC	10
Aimee Cauguiran	California PUC	10

System Description:

Operator ID	System Name and Brief Description	States	InTRA/Inter	Fed. Insp. Jurisdiction
15007	Pacific Gas & Electric (PG&E) Transmission Line	CA	InTRA	None
18608	Standard Pacific Gas Line Inc. (operated by PG&E)	CA	InTRA	None

System Description Narrative:

PG&E operates 5,722 miles of transmission line of which 1,021 miles is in an HCA. PG&E also operates 55 miles, of which 28 miles are in an HCA, of the Standard Pacific Gas Line which it co-owns with Chevron.

Protocol Area A. Identify HCAs

- [A.01](#) Program Requirements
- [A.02](#) Potential Impact Radius
- [A.03](#) Identified Sites
- [A.04](#) Identification Using Class Locations (Method 1)
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- [A.06](#) Identification and Evaluation of Newly Identified HCAs, Program Requirements
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A.01 Program Requirements

Verify that the methods defined in §[192.903](#) High Consequence Area (1) and/or §[192.903](#) High Consequence Area (2) are applied to each pipeline for the identification of high consequence areas. [§[192.905\(a\)](#)]

A.01.a. Verify the operator's integrity management program includes documented processes on how to implement methods (1) and (2) in order to identify high consequence areas. [§[192.905\(a\)](#)]

A.01.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

A.01.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

A.01.b. Verify that the operator's process requires that the method used for each portion of the pipeline system be documented. [§[192.905\(a\)](#)]

A.01.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

A.01.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

A.01.c. Verify that the operator's integrity management program includes system maps or other suitably detailed means documenting the pipeline segment locations that are located in high consequence areas. [[§192.905\(a\)](#)]

A.01.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

A.01.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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A.01.d. Review HCA records to verify that the operator completed identification of pipeline segments in high consequence areas by December 17, 2004. [[§192.907](#) and [§192.911\(a\)](#)]

A.01.d. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

A.01.d. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

We were unable to confirm if all HCA segments existing in 2004 were added to the baseline assessment by December 17, 2004. In addition, we are concerned there may be other MOP segments that are 20% transmission, which may not have been included in the baseline assessment. We requested that PG&E provide information related to a study being performed by the company to confirm this, but PG&E indicated no documentation was available. 49 Code of Federal Regulations (CFR), Part 192, §192.947(d) requires such documentation to be maintained and available for review during an inspection.

A.01 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

A.01 Inspection Notes

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A.01 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	A.01.01	HCA analysis was not adequately performed on each section of pipeline in the operator's system	AF A.4	
	A.01.02	The method or combination of methods used to identify HCAs was not adequately documented for each covered segment	AF A.1	
	A.01.03	System maps or other suitable means of documenting the pipeline HCA segment locations were not appropriately utilized	AF A.1	
	A.01.04	HCA identification was not completed by December 17, 2004	AF A.7	
	A.01.05	Completion of HCA analysis was not adequately documented	AF A.6	
	A.01.06	Procedures did not adequately describe how to identify HCAs using Method 1 and/or Method 2	AF A.1	
	A.01.07	No process/procedures describing how to identify HCAs using Method 1 and/or Method 2	AF A.1	
	Other:			

A.02 Potential Impact Radius

Verify that the definition and use of potential impact radius for establishment of high consequence areas meets the requirements of § [192.903](#). [§ [192.905\(a\)](#)]

A.02.a. Verify that the operator's formula for calculation of the potential impact radius is consistent with § [192.903](#) requirements ($r = 0.69 \cdot (p \cdot d^2)^{0.5}$) and that the pressure used in the formula is based on maximum allowable operating pressure (MAOP).

- i. For gases other than natural gas, verify that the operator has documented processes for the use of [ASME B31.8S-2004, Section 3.2](#) to calculate the impact radius formula [§ [192.903](#) Potential Impact Radius, § [192.905\(a\)](#)]

A.02.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

A.02.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E has no requirement to use the 0.73 factor for rich natural gas.

A.02.b. In cases where potential impact circles are used to identify high consequence areas, verify that the program requires that high consequence areas include the area extending axially along the length of the pipeline from the outermost edge of the first potential impact circle to the outermost edge of the last contiguous potential impact circle for those potential impact circles that contain either an identified site or 20 or more buildings intended for human occupancy. [§ [192.903](#) High Consequence Area (3)]

A.02.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

A.02.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

A.02 Documents Reviewed <i>(Tab from bottom-right cell to add additional rows.)</i>			
Document Number	Rev	Date	Document Title

A.02 Inspection Notes

A.02 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
	A.02.01	The proper formula for calculating potential impact radius was not used	AF A.1	
	A.02.02	The beginning and end of the covered segments based on the potential impact circle were not appropriately determined	AF A.1	
	A.02.03	Procedures did not adequately describe the development and/or use of the potential impact radius	AF A.1	
	A.02.04	No process/procedures in place for the development and/or use of the potential impact radius	AF A.1	
	Other:			

A.03 Identified Sites

Verify that the operator's identification of identified sites includes the sources listed in §192.905(b) for those buildings or outside areas meeting the criteria specified by §192.903, and that the source of information selected is documented. [§192.903 Identified Sites, §192.905(b) and §192 Appendix E, I(c)]

A.03.a. Identified sites must include the following: [§192.903 Identified Sites, §192.905(b)]

- i. Outside areas or open structures occupied by 20 or more people on at least 50 days in any 12 month period (days need not be consecutive),
- ii. Buildings occupied by 20 or more people on at least 5 days a week for 10 weeks in any 12 month period (days and weeks need not be consecutive), and
- iii. Facilities occupied by persons who are confined, have impaired mobility, or would be difficult to evacuate.

A.03.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

A.03.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E RMP-06 didn't list the sources for the data selected in identifying the identified sites.

A.03.b. Identified sites must be identified using the following sources of information: [§192.905(b)]

- i. Information from routine operation and maintenance activities and input from public officials with safety or emergency response or planning responsibilities
- ii. In the absence of public official input, the operator must use one of the following in order to identify an identified site:
 1. Visible markings such as signs, or
 2. Facility licensing or registration data on file with Federal, State, or local government agencies, or
 3. Lists or maps maintained by or available from a Federal, State, or local government agency and available to the general public.

A.03.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

A.03.b. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

PG&E has no process for assuring that any HCA information received from sources outside the IM Group is properly and timely tracked, documented, and integrated into the BAP.

A.03 Documents Reviewed *(Tab from bottom-right cell to add additional rows.)*

Document Number	Rev	Date	Document Title

A.03 Inspection Notes

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A.03 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
	A.03.01	Buildings and outside areas that meet the definition of "identified site" were not adequately identified	AF A.1	
	A.03.02	Information from public officials was not adequately used to locate "identified sites"	AF A.1	
	A.03.03	Sources of information other than public officials were not adequately used to locate "identified sites"	AF A.1	
	A.03.04	Procedures to determine identified sites were inadequate	AF A.1	
	A.03.05	No process/procedures in place to determine identified sites	AF A.1	
	Other:			

A.04 Identification Using Class Locations (Method 1)

If the operator's integrity management program relies on §192.903 High Consequence Area definition (1) for identification of high consequence areas, verify compliance with the following:

A.04.a. Verify the integrity management program includes Class 3 and Class 4 piping locations as high consequence areas consistent with the criteria of §192.5(b)(3), §192.5(b)(4), and §192.5(c). [§192.903 High Consequence Area (1)(i) and (ii)]

A.04.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
X	Not Applicable (explain in Statement of Issue)

A.04.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E using Method 2 exclusively on all pipelines.

A.04.b. For Class 1 and Class 2 locations with the potential impact radius greater than 660 feet, verify the integrity management program includes piping locations as high consequence areas if the area within the associated potential impact circle contains 20 or more buildings intended for human occupancy.[§192.903 High Consequence Area (1)(iii)]

- i. As an option for PIRs greater than 660 feet, the definition of high consequence area may be based on a prorated building count for buildings intended for human occupancy within a distance of 660 feet (200 meters) from the centerline of the pipeline as calculated using the following formula:
[§192.903 High Consequence Area (4)]

Building Count within 660 feet = $20 \times [660 \text{ (ft)} / \text{PIR (ft)}]^2$ or
Building Count within 200 meters = $20 \times [200 \text{ (m)} / \text{PIR (m)}]^2$

1. If the option for use of a prorated number of buildings has been used for identification of high consequence areas, verify that the program acknowledges that use of the prorated allowance is only available to operators until December 17, 2006. [§192.903 High Consequence Area (4)]

A.04.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
X	Not Applicable (explain in Statement of Issue)

A.04.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E using Method 2 exclusively on all pipelines.

A.04.c. Verify the program includes as a high consequence area, any area in Class 1 and Class 2 piping locations where the potential impact circle contains an identified site. [[§192.903](#) High Consequence Area (1)(iv)]

A.04.c. Inspection Results (Type an X in the applicable box below. Select only one.)

	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
X	Not Applicable (explain in Statement of Issue)

A.04.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E using Method 2 exclusively on all pipelines.

A.04 Documents Reviewed (Tab from bottom-right cell to add additional rows.)

Document Number	Rev	Date	Document Title

A.04 Inspection Notes

A.04 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	A.04.01	Class 3 and Class 4 piping locations were not adequately designated as covered segments in those areas where Method 1 was used	AF A.1	
	A.04.02	Class 1 and Class 2 piping locations were not adequately evaluated for potential impact to HCAs in those areas where Method 1 was used	AF A.1	
	A.04.03	Building count prorating criteria were not appropriately used or prorated building counts were used after December 17, 2006, while using Method 1	AF A.1	

A.04 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	A.04.04	Piping locations were not appropriately identified as covered segments when the potential impact circle contained an identified site (using Method 1)	AF A.1	
	A.04.05	Procedures to implement Method 1 did not adequately address necessary requirements	AF A.1	
	Other:			

A.05 Identification Using Potential Impact Radius (Method 2)

If the operator's integrity management program relies on §192.903 High Consequence Area definition (2) for identification of high consequence areas, verify compliance with the following:

A.05.a. Verify the integrity management program includes piping locations as high consequence areas if the area within a potential impact circle contains 20 or more buildings intended for human occupancy: [§192.903 High Consequence Area (2)(i)]

- i. As an option for PIRs greater than 660 feet, the definition of high consequence area may be based on a prorated building count for buildings intended for human occupancy within a distance of 660 feet (200 meters) from the centerline of the pipeline as calculated using the following formula:
[§192.903 High Consequence Area (4)]

Building Count within 660 feet = $20 \times [660 \text{ (ft)} / \text{PIR (ft)}]^2$ or
Building Count within 200 meters = $20 \times [200 \text{ (m)} / \text{PIR (m)}]^2$

1. If the option for use of a prorated number of buildings has been used for identification of high consequence areas, verify that the program acknowledges that use of the prorated allowance is only available to operators until December 17, 2006. [§192.903 High Consequence Area (4)]

A.05.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

A.05.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E is not using prorating. PG&E is using MOP instead of MAOP to determine where HCA segments exist on its system which is an issue. PG&E is conducting a survey to identify any portions of its pipeline system where MOP and MAOP of line, applied to a given segments characteristics (i.e., pipe wall thickness) would render the segment as being 20% transmission and subject to IM, Subpart O requirements. This may result in additional HCAs being identified. Such an identification should have occurred much earlier in the program. We requested that PG&E provide copies of updates it has received from its vendor (Dan Curtiss – MEARS) related to the survey. However, PG&E refused to provide the updates although the audit team believes they are reviewable documents (CFR §192.947(d)).

A.05.b. Verify the program includes piping locations as high consequence areas if the area within the potential impact circle contains an identified site. [§192.903 High Consequence Area (2)(ii)]

A.05.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

A.05.b. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

Same as A.05.a.

A.05 Documents Reviewed *(Tab from bottom-right cell to add additional rows.)*

Document Number	Rev	Date	Document Title

A.05 Inspection Notes

A.05 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
	A.05.01	Potential impact to buildings intended for human occupancy was not adequately determined (for example, due to inadequate building count data)	AF A.1	
	A.05.02	Potential impact circles were not adequately calculated resulting in the failure to identify covered segments that potentially impact HCAs	AF A.1	
	A.05.03	Building count prorating criteria were not appropriately used or prorated building counts were used beyond December 17, 2006, while using Method 2	AF A.1	
	A.05.04	Piping locations were not appropriately identified as covered segments when the potential impact circle contained an identified site (using Method 2)	AF A.1	
	A.05.05	Procedures to implement Method 2 did not adequately address requirements	AF A.1	
	Other:			

A.06 Identification and Evaluation of Newly Identified HCAs, Program Requirements

Review the operator's integrity management program to verify processes are in place for evaluation of new information that may show that a pipeline segment impacts a high consequence area. [[§192.905\(c\)](#)]

A.06.a. Verify the operator's integrity management program includes documented processes for how new information that shows a pipeline segment impacts a high consequence area is identified and integrated with the integrity management program. The program is to identify and analyze changes for impacts on pipeline segments potentially affecting high consequence areas. Issues the program must consider include but are not limited to: [[§192.905\(c\)](#)]

- i. Changes in pipeline maximum allowable operating pressure (MAOP),
- ii. Pipeline modifications affecting piping diameter,
- iii. Changes in the commodity transported in the pipeline,
- iv. Identification of new construction in the vicinity of the pipeline that results in additional buildings intended for human occupancy or additional identified sites,
- v. Change in the use of existing buildings (e.g., hotel or house converted to nursing home),
- vi. Installation of new pipeline,
- vii. Change in pipeline class location (e.g., class 2 to 3) or class location boundary,
- viii. Pipeline reroutes
- ix. Corrections to erroneous pipeline center line data.

A.06.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

A.06.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E needs to modify its RMP-06 (Sections 17.2 and 17.3) to add a process to more thoroughly review new HCAs in order to identify any that existed during previous reviews, but were somehow not identified and missed from inclusion into the IMP. Such a review should document the reason(s) for the HCA being added to the IMP as well as a determination of why the HCA may not have been identified during the last review. The review process could help PG&E identify program deficiencies (i.e., errors in pipeline data, buffers applied, etc.) that could be attributing to all HCAs not being identified and included in it IMP.

A.06 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

A.06 Inspection Notes

A.06 Inspection Notes

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A.06 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	A.06.01	Periodic review of new pipeline information that may indicate changes to impacts on HCAs from pipelines was not adequately performed	AF A.2	
	A.06.02	Periodic review of new population or building data that may indicate changes to impacts on HCAs from pipelines was not adequately performed	AF A.3	
	A.06.03	New information regarding HCA affecting segments was not adequately incorporated into the Integrity Management Program	AF A.2	
	A.06.04	Procedures did not adequately describe the requirements to update the HCA analysis	AF A.3	
	A.06.05	No processes/procedures were in place to identify and evaluate new HCAs	AF A.3	
	A.06.06	New or additional pipelines were brought into service without completing the HCA identification process	AF A.5	
	Other:			

Protocol Area B. Baseline Assessment Plan

- [B.01](#) Assessment Methods
- [B.02](#) Prioritized Schedule
- [B.03](#) Use of Prior Assessments
- [B.04](#) Newly Identified HCAs/Newly Installed Pipe
- [B.05](#) Consideration of Environmental and Safety Risks
- [B.06](#) Changes
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B.01 Assessment Methods

Verify that the operator's Baseline Assessment Plan (BAP) specifies an assessment method(s) for each covered segment that is best suited for identifying anomalies associated with specific threats identified for the segment. [[§192.919\(b\)](#), [§192.921\(a\)](#), [§192.921\(c\)](#), and [§192.921\(h\)](#)]

B.01.a Verify that the operator followed [ASME B31.8S-2004, Section 6.2](#) and that the assessment method selected for each covered segment addresses all of the threats identified for the segment. More than one assessment tool may be necessary to address all applicable threats to a covered segment. [[§192.919\(b\)](#), [§192.921\(a\)](#), [§192.921\(c\)](#), and [§192.921\(h\)](#)]

B.01.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

B.01.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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B.01.b. If internal inspection tools are selected, verify that the operator followed [ASME B31.8S-2004, Section 6.2](#) in selecting the appropriate internal inspection tool for the covered segment. [[§192.921\(a\)\(1\)](#)]

- i. Verify that the operator has evaluated the general reliability of any in-line assessment method selected by looking at factors including but not limited to: detection sensitivity; anomaly classification; sizing accuracy; location accuracy; requirements for direct examination; history of tool; ability to inspect full length and full circumference of the section; and ability to indicate the presence of multiple cause anomalies. Refer to [ASME B31.8S-2004, Section 6.2.5](#). [[§192.921\(a\)\(1\)](#)]

B.01.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

B.01.b. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

PG&E has not documented that it is evaluating all the considerations from ASME B31.8S, Section 6.2.5, for selecting an internal inspection tool. PG&E RMP-11, Section 4.3.1.2 has some, but not all, of the ASME B31.8S considerations listed.

B.01.c. If a pressure test is specified, verify that the test is required to be conducted in accordance with Part 192, Subpart J requirements. Verify that the operator followed [ASME B31.8S-2004, Section 6.3](#) in selecting the pressure test as the appropriate assessment method. [[§192.921\(a\)\(2\)](#)]

B.01.c. Inspection Results *(Type an X in the applicable box below. Select only one.)*

X	No Issues Identified
	Potential Issues Identified <i>(explain in Statement of Issue)</i>
	Not Applicable <i>(explain in Statement of Issue)</i>

B.01.c. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

B.01.d. If the operator specifies the use of "other technology," verify that notification to PHMSA is required in accordance with Part [192.949](#), 180 days before conducting the assessment. Also, verify that notification to a State or local pipeline safety authority is required when either a covered segment is located in a State where PHMSA has an interstate agent agreement, or an intrastate covered segment is regulated by that State. [[§192.921\(a\)\(4\)](#)]

B.01.d. Inspection Results *(Type an X in the applicable box below. Select only one.)*

X	No Issues Identified
	Potential Issues Identified <i>(explain in Statement of Issue)</i>
	Not Applicable <i>(explain in Statement of Issue)</i>

B.01.d. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

B.01.e. If a covered pipeline segment contains low frequency electric resistance welded pipe (ERW) or lap welded pipe that satisfies the conditions specified in [ASME B31.8S-2004, Appendix A4.3](#) and [ASME B31.8S-2004, Appendix A4.4](#), and any covered or non-covered segment in the pipeline system with such pipe has experienced seam failure, or operating pressure on the covered segment has increased over the maximum operating pressure experienced during the preceding five years verify that the selected assessment method(s) are proven to be capable of assessing seam integrity and detecting seam corrosion anomalies. [[§192.917\(e\)\(4\)](#)]

B.01.e. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input checked="" type="checkbox"/>	No Issues Identified
<input type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input type="checkbox"/>	Not Applicable (explain in Statement of Issue)

B.01.e. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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B.01.f. If the threat analysis required in [§192.917\(d\)](#) on a plastic transmission pipeline indicates that a covered segment is susceptible to failure from causes other than third-party damage, verify that the operator documents an acceptable justification for the use of an alternative assessment method that will address the identified threats to the covered segment. [[§192.921\(h\)](#)]

B.01.f. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input type="checkbox"/>	No Issues Identified
<input type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input checked="" type="checkbox"/>	Not Applicable (explain in Statement of Issue)

B.01.f. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E has no plastic transmission piping.

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B.01 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

B.01 Inspection Notes

B.01 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	B.01.01	Criteria used to select the appropriate assessment method(s) was not adequately defined or documented	AF B.5	
	B.01.02	Assessment method(s) for all covered segments were not adequately specified	AF B.5	
	B.01.03	Technical justification for the assessment method(s) chosen, or explanation of how selection criteria were applied to choose the assessment method(s), was inadequate or inadequately documented	AF B.5	
	B.01.04	Selected assessment method(s) were not appropriate for the segment-specific threats	AF B.5	
	B.01.05	Selected method(s) for pipe that is susceptible to manufacturing or construction defects (including low frequency electric resistance welded pipe or lap welded pipe) were not appropriate	AF B.5	
	B.01.06	Selected method(s) for pipe that is susceptible to SCC were not appropriate	AF B.5	
	B.01.07	Pressure tests did not meet or were not required to meet Subpart J requirements	AF B.5	
	B.01.08	An PHMSA notification was not submitted or required to be submitted when using "other technology"	AF E.6	
	B.01.09	An adequate assessment method(s) was not determined for plastic pipeline	AF B.5	
	B.01.10	An adequate BAP was not documented	AF B.7	
	B.01.11	No process/procedures existed for the assessment method selection process	AF B.5	
	Other:			

B.02 Prioritized Schedule

Verify that the BAP contains a schedule for completing the assessment activities for all covered segments; and that the BAP appropriately considered the applicable risk factors in the prioritization of the schedule. [[§192.917\(c\)](#), [§192.919\(c\)](#) and [§192.921](#)]

B.02.a. Verify that the BAP schedule includes all covered segments not already assessed. [[§192.921\(a\)](#)]

B.02.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

B.02.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E's GIS has specific dates for reassessments; however, not for assessments. PG&E is not updating its BAP with specific dates and is only documenting the calendar years for reassessments and assessments still to be performed even those that are near term. Pipeline and Hazardous Materials Safety Administration (PHMSA) FAQ-39 suggests specific dates be indicated in BAP updates as assessments come closer in time to being performed.

B.02.b. Verify that the BAP schedule prioritizes the covered segments based on potential threats and applicable risk analysis, and that the risk ranking is appropriate. [[§192.917\(c\)](#) and [§192.921\(b\)](#)]

B.02.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

B.02.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

B.02.c. Verify that covered segments meeting the following conditions are prioritized as high-risk segments.

- i. Segments that contain low frequency resistance welded (ERW) pipe or lap welded pipe that satisfy the conditions specified in [ASME B31.8S-2004, Appendix A4.3](#) and [ASME B31.8S-2004, Appendix A4.4](#), and any covered or non-covered segment in the pipeline system with such pipe has experienced seam failure, or operating pressure on the covered segment has increased over the maximum operating pressure experienced during the preceding five years. [[§192.917\(e\)\(4\)](#)]
- ii. Covered segments that have manufacturing or construction defects (including seam defects) where any of the following changes occurred in the covered segment: operating pressure increases above

the maximum operating pressure experienced during the preceding five years; MAOP increases; or the stresses leading to cyclic fatigue increase. [[§192.917\(e\)\(3\)](#)]

B.02.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

<p>B.02.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)</p> <p>PG&E RMP-06, Section 4.3, does not include the requirement to prioritize LFERW as high risk for any “covered or non-covered segment where in the pipeline system ...has experienced seam failure.” (i.e., it speaks to covered, but not to non-covered segments.)</p>
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B.02.d. Verify that the BAP schedule requires 50% of the covered segments, beginning with the highest risk segments, to be assessed by December 17, 2007; and that baseline assessments shall be completed for all covered segments by December 17, 2012. [[§192.921\(d\)](#)]

B.02.d. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

<p>B.02.d. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)</p>

B.02.e. Review the operator’s implementation progress to date and verify that: [[§192.921](#)]

- i. Assessments scheduled for completion by the date of the inspection were in fact completed.
- ii. Assessment methods used for completed assessments were as described in the plan.
- iii. The date assessment field activities were completed is recorded [so the operator understands the time frame allowable for compliance with the provisions of [§192.933](#)].

B.02.e. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

B.02.e. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

PG&E needs to have date specific information, in the BAP as assessment dates approach. Also, for DA, PG&E is considering the end of its ECDA Step 3 as being the end of its assessment and counting the mileage as completed for DA. However, per PHMSA FAQ-34, the baseline assessment is not considered complete until "the last direct examination associated with direct assessment is made..." Per NACE RP0502-2002, Figure 7, direct examinations for process validation, performed per NACE RP0502, Section 6.4.2, are the last direct examinations associated with direct assessment. Therefore, it appears that PG&E may be incorrectly counting completed DA mileage within its IMP.

B.02 Documents Reviewed *(Tab from bottom-right cell to add additional rows.)*

Document Number	Rev	Date	Document Title

B.02 Inspection Notes

B.02 Issue Categorization *For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.*

			Area Finding	Risk Category (A-E)
	B.02.01	An adequate BAP was not developed by December 17, 2004	AF B.7	
	B.02.02	100% of the covered segments not previously assessed were not scheduled for a baseline assessment	AF B.7	
	B.02.03	The risk evaluation for BAP scheduling was inadequate or incomplete and/or did not adequately consider each of the relevant risk factors required by the rule/standard	AF B.4	
	B.02.04	Covered segments were not adequately prioritized based on potential threats and applicable risk analysis, or the prioritization of the covered segments was based on risk ranking that was inappropriate or inadequate	AF B.4	
	B.02.05	Segments specified in the rule as "high-risk" [i.e., per 192.917(e)(3) and (e)(4)] were not adequately prioritized without adequate justification	AF B.4	
	B.02.06	Completion of baseline assessments for the first 50% and 100% of HCA mileage was not specified by the required dates	AF B.7	
	B.02.07	Baseline assessments for the first 50% of HCA mileage were not completed by the required dates	AF B.2	
	B.02.08	Baseline assessments for the first 100% of HCA mileage were not completed by the required dates	AF B.1	
	B.02.09	Completion of baseline assessments was not adequately documented	AF B.7	
	B.02.10	Procedures for development and/or implementation of the BAP were inadequate	AF B.7	

B.02 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	B.02.11	No process/procedures existed for development of the BAP schedule	AF B.7	
	Other:			

B.03 Use of Prior Assessments

If prior assessments are used in the BAP, verify that the assessment methods used meet the requirements of §192.921(a) and that remedial actions have been carried out to address conditions listed in §192.933. Prior assessments are those that were completed prior to December 17, 2002. [§192.921(e)]

B.03.a. Verify that threats to these pipeline sections were identified as required under §192.919(a).

B.03.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

B.03.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

The PG&E LTIMP for Line 300A South identified a Hard Spot threat; however, no assessment has been conducted for this threat. (Line 172 had an identified hard spot failure and an ILI tool capable of hard spot detection was run on that line on 5/24/2005.) A corrosion growth rate of 1 mil/year was used on 300A South (amended report) while 12 mils/year was used on Line 57B because no "detailed CP information" was used by the corrosion engineer. PG&E needs to justify the corrosion growth rates used in determining reassessment intervals. As noted in RMP-09, Section 6.2.2.3, "Exceptions: ASME B31.8S (2001) page 63, Table B1, shows average corrosion rates related to soil resistivity which are provided in Table 6.2.1. Other corrosion rates that are scientifically supported may also be used. The Manager of CE&DA shall approve using these rates..." Therefore, please provide the justification for the 1 mil/year corrosion rate identified for Line 300A South and the approval of the manager of CE&DA. The compliance file for Line 57B did not contain documentation of what threats, other than EC, were considered, evaluated and/or assessed on Line 57B.

PG&E did not have LTIMPs for Line 2 and Line 57 because re-assessments were performed in 2008 before the LTIMP could be assembled. PG&E should have had the LTIMPs in place at least by 2007 to identify and address all other threats not assessed by the ILI run.

B.03.b. Verify that the methods used for these prior assessments were appropriate for the threats per ANSI B31.8S-2004 as required under §192.919(b) and §192.919(d).

B.03.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

B.03.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

B.03.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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B.03.c. Verify that anomalies satisfying the requirements of §192.933 were repaired.

B.03.c. Inspection Results (Type an X in the applicable box below. Select only one.)

X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

B.03.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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B.03 Documents Reviewed (Tab from bottom-right cell to add additional rows.)

Document Number	Rev	Date	Document Title

B.03 Inspection Notes

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B.03 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.

		Area Finding	Risk Category (A-E)
	B.03.01	Prior assessment method(s) did not adequately meet rule requirements for assessment methods	AF B.3
	B.03.02	All anomalies discovered in prior assessments were not adequately evaluated in accordance with remediation criteria in the rule	AF B.3
	B.03.03	Prior assessments did not use assessment methods appropriate for the threats	AF B.3
	B.03.04	Procedures for crediting prior assessments were inadequate	AF B.7
	B.03.05	No process/procedures existed that included the requirements for crediting prior assessments	AF B.7

B.03 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>		Area Finding	Risk Category (A-E)
	Other:		

B.04 New HCAs/Newly Installed Pipe

Verify that the operator updates the baseline assessment plan for new HCAs and newly installed pipe. [[§192.905\(c\)](#), [§192.921\(f\)](#), [§192.921\(g\)](#)]

B.04.a. If new HCAs have been identified or new pipe has been installed that is covered by this subpart, verify that applicable segment(s) have been incorporated into the operator's baseline assessment plan within one year from the date the area or pipe is identified and assessments have been appropriately scheduled and/or completed. [[§192.905\(c\)](#)]

B.04.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

B.04.a. Statement of Issue (Leave blank if no issue is identified. In addition to Statement of Issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E has no formal process to track and integrate new HCAs that are not part of the annual review into the BAP. The date that the HCA is discovered should be better recorded in order to confirm compliance. Finally, the USBR team had a concern that PG&E is not performing any investigations to confirm, when an HCA is newly identified, if the HCA is one that existed in 2004 (or when other reviews were performed prior to the date of discovery of the HCA) but was somehow missed. Such an investigation could help PG&E better validate its HCA identification process.

B.04.b. For new HCAs, verify that the operator completes a baseline assessment for the applicable segment(s) within ten (10) years from the date the area is identified. [[§192.921\(f\)](#)]

B.04.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

B.04.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

B.04.c. For newly installed pipe that is covered by this subpart and impacts an HCA, verify that the operator completes a baseline assessment within ten (10) years from the date the pipe is installed. [[§192.921\(g\)](#)]

B.04.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified

B.04.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input type="checkbox"/>	Not Applicable (explain in Statement of Issue)

B.04.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)	

B.04.d. Verify that threats to these pipeline sections were identified as required under §192.919(a).
[§192.921(b)]

B.04.d. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input checked="" type="checkbox"/>	No Issues Identified
<input type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input type="checkbox"/>	Not Applicable (explain in Statement of Issue)

B.04.d. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)	

B.04.e. Verify that the assessment methods used were appropriate for the threats per ASME B31.8S-2004 as required under §192.919(b) and 192.919(d).

B.04.e. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input checked="" type="checkbox"/>	No Issues Identified
<input type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input type="checkbox"/>	Not Applicable (explain in Statement of Issue)

B.04.e. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)	

B.04 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

B.04 Documents Reviewed <i>(Tab from bottom-right cell to add additional rows.)</i>			
Document Number	Rev	Date	Document Title

B.04 Inspection Notes

B.04 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
	B.04.01	New HCA-affecting segments were not incorporated into the BAP within one year from the date of identification	AF B.6	
	B.04.02	Baseline assessments of new HCA-affecting segments were not completed within ten years from being identified	AF B.6	
	B.04.03	Baseline assessments of newly installed pipe that affects an HCA were not completed within ten years from installation	AF B.6	
	B.04.04	Threats to new HCA-affecting segments were not adequately identified	AF B.6	
	B.04.05	Assessment methods that are appropriate for the threats for new HCA-affecting segments were not adequately specified	AF B.5	
	B.04.06	Procedures did not adequately describe the requirements for incorporating new HCAs or new pipe into the BAP	AF B.7	
	B.04.07	No process/procedures existed that described the requirements for incorporating new HCAs or new pipe into the BAP	AF B.7	
	Other:			

B.05 Consideration of Environmental and Safety Risks

Verify that the operator addresses requirements for conducting the integrity assessments (baseline and reassessment) in a manner that minimizes environmental and safety risks. [[§192.919\(e\)](#) and [§192.911\(o\)](#)]

B.05.a. Verify that precautions were implemented to protect workers, members of the public, and the environment from safety hazards (such as an accidental release of gas) during assessments. [[§192.919\(e\)](#) and [§192.911\(o\)](#)]

B.05.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

B.05.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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B.05 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

B.05 Inspection Notes

B.05 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	B.05.01	Precautions to protect workers, members of the public, or the environment from safety hazards during assessments were not adequately implemented	AF B.8	
	B.05.02	Procedures did not adequately prescribe requirements to protect workers, members of the public, and the environment from safety hazards during assessments	AF B.8	
	B.05.03	No process/procedures existed that described requirements to protect workers, members of the public, and the environment from safety hazards during assessments	AF B.8	
	Other:			

B.06 Changes

Verify that the operator keeps the BAP up-to-date with respect to newly arising information. Also refer to Protocol K. [[§192.911\(k\)](#) and [ASME B31.8S-2004, Section 11](#)]

B.06.a. Verify that the operator's process has requirements to keep the BAP up-to-date with respect to newly arising information, applicable threats, and risks that may require changes to the segment prioritization or assessment method. [[§192.911\(k\)](#) & [ASME B31.8S-2004, Section 11](#)]

B.06.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input checked="" type="checkbox"/>	No Issues Identified
<input type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input type="checkbox"/>	Not Applicable (explain in Statement of Issue)

B.06.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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B.06.b. Verify that required BAP changes have been made and that for all changes, the following are documented: [[ASME B31.8S-2004, Section 11\(a\)](#)]

- i. Reason for change
- ii. Authority for approving change
- iii. Analysis of implications
- iv. Communication of change to affected parties

B.06.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input checked="" type="checkbox"/>	No Issues Identified
<input type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input type="checkbox"/>	Not Applicable (explain in Statement of Issue)

B.06.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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B.06 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

B.06 Inspection Notes

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B.06 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.

			Area Finding	Risk Category (A-E)
	B.06.01	The BAP was not adequately maintained up-to-date with respect to newly arising information, applicable threats, and risks that may require changes to the segment prioritization or assessment method	AF B.6	
	B.06.02	Changes to the BAP were not adequately documented	AF B.6	
	B.06.03	Procedures did not adequately describe requirements for maintaining the BAP up-to-date	AF B.7	
	B.06.04	No process/procedures existed that described requirements for maintaining the BAP up-to-date	AF B.7	
	Other:			

Protocol Area C. Identify Threats, Data Integration, and Risk Assessment

- [C.01](#) Threat Identification
- [C.02](#) Data Gathering and Integration
- [C.03](#) Risk Assessment
- [C.04](#) Validation of the Risk Assessment
- [C.05](#) Plastic Transmission Pipeline
- [Table of Contents](#)

C.01 Threat Identification

Verify that the operator identifies and evaluates all potential threats to each covered pipeline segment.
[§192.917(a)]

C.01.a. If the operator is following the prescriptive or performance-related approaches, verify that the following categories of failure have been considered and evaluated: [§192.917(a) and [ASME B31.8S-2004, Section 2.2](#)]

- i. external corrosion,
- ii. internal corrosion,
- iii. stress corrosion cracking;
- iv. manufacturing-related defects, including the use of low frequency electric resistance welded (ERW) pipe, lap welded pipe, flash welded pipe, or other pipe potentially susceptible to manufacturing defects [§192.917(e)(4) and [ASME B31.8S-2004, Appendix A4.3](#)];
- v. welding- or fabrication-related defects,
- vi. equipment failures;
- vii. third party/mechanical damage [§192.917(e)(1)],
- viii. incorrect operations (including human error),
- ix. weather-related and outside force damage,
- x. cyclic fatigue or other loading condition [§192.917(e)(2)],
- xi. all other potential threats.

C.01.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

C.01.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

Protocol C.01.a.xi requires “all other potential threats” be identified and evaluated; however, PG&E has not developed a process for evaluating the threat of equipment failure and is not mandating hard spots (RMP-06, Section 3) to be assessed, although they have been identified as a possible threat, before considering assessment or mitigation efforts are completed. 49 CFR §192.917(a) states in part: “An operator must identify and evaluate all potential threats to each covered pipeline segment. Potential threats that an operator must consider include, but are not limited to, the threats listed in ASME...” Per 49 CFR §192.917(c), an operator must conduct a risk assessment that considers the threats and aids in prioritizing the covered segment for the baseline and

C.01.a. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

continual assessments. For equipment threats, ASME B31.8S, Section A6.2 (page 49) specifies minimal data sets to be collected and reviewed before a risk assessment can be conducted. PG&E has not collected this data set, nor attempted to identify particular equipment threats on any given segment.

C.01.b. If the operator is following the performance-based approach, verify that all 21 of the threats associated with the first nine failure categories listed above have been considered. [[§192.917\(a\)](#) and [ASME B31.8S-2004, Section 2.2](#)]

C.01.b. Inspection Results *(Type an X in the applicable box below. Select only one.)*

	No Issues Identified
	Potential Issues Identified <i>(explain in Statement of Issue)</i>
X	Not Applicable <i>(explain in Statement of Issue)</i>

C.01.b. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

PG&E is currently not using performance-based approach.

C.01.c. Verify that the operator's threat identification has considered interactive threats from different categories (e.g., manufacturing defects activated by pressure cycling, corrosion accelerated by third party or outside force damage) [[ASME B31.8S-2004, Section 2.2](#)].

C.01.c. Inspection Results *(Type an X in the applicable box below. Select only one.)*

X	No Issues Identified
	Potential Issues Identified <i>(explain in Statement of Issue)</i>
	Not Applicable <i>(explain in Statement of Issue)</i>

C.01.c. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

C.01.d. Verify that the approach incorporates appropriate criteria for eliminating a specific threat for a particular pipeline segment. [[ASME B31.8S-2004, Section 5.10](#)]

C.01.d. Inspection Results *(Type an X in the applicable box below. Select only one.)*

X	No Issues Identified
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C.01.d. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input type="checkbox"/>	Not Applicable (explain in Statement of Issue)

C.01.d. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)	

C.01 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

C.01 Inspection Notes

C.01 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
<input type="checkbox"/>	C.01.01	All of the threats required by the rule and standard for a prescriptive program were not adequately considered and/or evaluated	AF C.1	<input type="checkbox"/>
<input type="checkbox"/>	C.01.02	Significant facility risk factors were not appropriately considered.	AF C.6	<input type="checkbox"/>
<input type="checkbox"/>	C.01.03	Interactive threats from different threat categories were not adequately evaluated	AF C.1	<input type="checkbox"/>
<input type="checkbox"/>	C.01.04	Specific threats for a particular pipeline segment were eliminated from consideration without adequate justification	AF C.1	<input type="checkbox"/>
<input type="checkbox"/>	C.01.05	The performance based program did not adequately consider all 21 of the threats associated with the nine threat categories in the standard	AF C.1	<input type="checkbox"/>
<input type="checkbox"/>	C.01.06	Procedures did not adequately describe the requirements for identifying and evaluating threats	AF C.8	<input type="checkbox"/>
<input type="checkbox"/>	C.01.07	No process/procedures existed that described the requirements for identifying and evaluating threats	AF C.8	<input type="checkbox"/>
<input type="checkbox"/>	Other:			<input type="checkbox"/>

C.02 Data Gathering and Integration

Verify that the operator gathers and integrates existing data and information on the entire pipeline that could be relevant to covered segments, and verify that the necessary pipeline data have been assembled and integrated. [[§192.917\(b\)](#)]

C.02.a. Verify that the operator has in place a comprehensive plan for collecting, reviewing, and analyzing the data. [[ASME B31.8S-2004, Section 4.2](#) and [ASME B31.8S-2004, Section 4.4](#)]

C.02.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input type="checkbox"/>	No Issues Identified
<input checked="" type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input type="checkbox"/>	Not Applicable (explain in Statement of Issue)

C.02.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E has identified Equipment Failure as a threat, although it's unclear how this threat is assessed and/or if previous equipment related data has been integrated into the BAP. PG&E RMP-06, Section 2.4, mentions a procedure for determining equipment threat; however, the procedure doesn't exist according to PG&E. PG&E did not integrate equipment data in BAPs established in 2004.

C.02.b. Verify that the operator has assembled data sets for threat identification and risk assessment according to the requirements in [ASME B31.8S-2004, Section 4.2](#), [ASME B31.8S-2004, Section 4.3](#), and [ASME B31.8S-2004, Section 4.4](#). At a minimum, an operator must gather and evaluate the set of data specified in [ASME B31.8S-2004, Appendix A](#) (summarized in [ASME B31.8S-2004, Table 1](#)) and consider the following on covered segments and similar non-covered segments [[§192.917\(b\)](#)]:

1. Past incident history
2. Corrosion control records
3. Continuing surveillance records
4. Patrolling records
5. Maintenance history
6. Internal inspection records
7. All other conditions specific to each pipeline.

C.02.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input type="checkbox"/>	No Issues Identified
<input checked="" type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input type="checkbox"/>	Not Applicable (explain in Statement of Issue)

C.02.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

It does not appear that PG&E has integrated patrolling records into its GIS.

C.02.c. Verify that the operator has utilized the data sources listed in [ASME B31.8S-2004, Table 2](#), for initiation of the integrity management program. [[ASME B31.8S-2004, Section 4.3](#)]

C.02.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

C.02.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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C.02.d. Verify that the operator has checked the data for accuracy. If the operator lacks sufficient data or where data quality is suspect, verify that the operator has followed the requirements in [ASME B31.8S-2004, Section 4.2.1](#), [ASME B31.8S-2004, Section 4.4](#), and [ASME B31.8S-2004, Appendix A](#) [[ASME B31.8S-2004, Section 4.1](#), [ASME B31.8S-2004, Section 4.2.1](#), [ASME B31.8S-2004, Section 4.4](#), [ASME B31.8S-2004, Section 5.7\(e\)](#), and [ASME B31.8S-2004, Appendix A](#)]:

- i. Each threat covered by the missing or suspect data is assumed to apply to the segment being evaluated. The unavailability of identified data elements is not a justification for exclusion of a threat.
- ii. Conservative assumptions are used in the risk assessment for that threat and segment or the segment is given higher priority.
- iii. Records are maintained that identify how unsubstantiated data are used, so that the impact on the variability and accuracy of assessment results can be considered.
- iv. Depending on the importance of the data, additional inspection actions or field data collection efforts may be required.

C.02.d. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

C.02.d. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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C.02.e. Verify that the operator's program includes measures to ensure that new information is incorporated in a timely and effective manner, as addressed in Protocol K. [[§192.911\(k\)](#), [ASME B31.8S-2004, Section 11\(b\)](#) and [ASME B31.8S-2004, Section 11\(d\)](#)]

C.02.e. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

C.02.e. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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C.02.f. Verify that individual data elements are brought together and analyzed in their context such that the integrated data can provide improved confidence with respect to determining the relevance of specific threats and can support an improved analysis of overall risk. [[ASME B31.8S-2004, Section 4.5](#)]. Data integration includes:

- i. A common spatial reference system that allows association of data elements with accurate locations on the pipeline [[ASME B31.8S-2004, Section 4.5](#)];
- ii. Integration of ILI or ECDA results with data on encroachments or foreign line crossings in the same segment to define locations of potential third party damage [[§192.917\(e\)\(1\)](#)].

C.02.f. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

C.02.f. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E is not currently entering USA information into its GIS, nor is it entering any patrol findings that could impact transmission pipelines. (PHMSA FAQ-81 requires: "Information related to determining the potential for, and preventing damage due to excavation, including damage prevention activities..." be integrated in performing a continual evaluation of pipeline integrity.) PHMSA FAQ-240 (paragraph 4) also speaks to this, as well as ASME B31.8S, Section A7.2 also requires one-call to be integrated.

C.02 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

C.02 Inspection Notes				
C.02 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	C.02.01	The plan for collecting, reviewing, and analyzing data was not adequate	AF C.8	
	C.02.02	Data as specified in Table 1 of B31.8S was not adequately gathered and/or evaluated	AF C.3	
	C.02.03	Required records in covered segments and in similar non-covered segments were not adequately considered during data gathering	AF C.3	
	C.02.04	The data sources specified in Table 2 of B31.8S were not adequately utilized during data gathering	AF C.3	
	C.02.05	Data was not adequately checked for accuracy during data gathering and integration	AF C.3	
	C.02.06	Unavailable data elements were not adequately considered	AF C.3	
	C.02.07	Exclusion of a threat based on unavailable or inadequate data (e.g., use of non-conservative assumptions) was not adequately justified	AF C.1	
	C.02.08	Adequate records documenting how unsubstantiated, missing, or assumed data were used were not adequately maintained	AF C.3	
	C.02.09	Additional inspection actions or field data collection were not adequately implemented when warranted	AF C.3	
	C.02.10	New information was not adequately incorporated in a timely and/or effective manner	AF C.7	
	C.02.11	Individual data elements were not adequately brought together and analyzed (i.e., inadequate data integration)	AF C.3	
	C.02.12	Procedures did not adequately document requirements to gather and/or integrate data.	AF C.8	
	C.02.13	No process/procedures existed that described the requirements to gather and integrate data	AF C.8	
	Other:			

C.03 Risk Assessment

Verify that the operator has conducted a risk assessment that follows [ASME B31.8S-2004, Section 5](#), and that considers the identified threats for each covered segment. [[§192.917\(c\)](#)] [Note: Application of the risk assessment to prioritize the covered segments for the baseline assessment is covered in Protocol B, continual reassessments in Protocol F, and additional preventive and mitigative measures in Protocol H.]

C.03.a. Verify that the operator's risk assessment supports the following objectives [[ASME B31.8S-2004, Section 5.3](#) and [ASME B31.8S-2004, Section 5.4](#)]:

- i. prioritization of pipelines/segments for scheduling integrity assessments and mitigating action
- ii. assessment of the benefits derived from mitigating action
- iii. determination of the most effective mitigation measures for the identified threats
- iv. assessment of the integrity impact from modified inspection intervals
- v. assessment of the use of or need for alternative inspection methodologies
- vi. more effective resource allocation
- vii. facilitation of decisions to address risks along a pipeline or within a facility

C.03.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

C.03.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

C.03.b. Verify that the operator utilizes one or more of the following risk assessment approaches [[ASME B31.8S-2004, Section 5.5](#)]:

- i. Subject matter experts (SMEs),
- ii. Relative assessment models,
- iii. Scenario-based models, or
- iv. Probabilistic models

C.03.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

C.03.b. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

C.03.c. Verify that the risk assessment explicitly accounts for factors that could affect the likelihood of a release and for factors that could affect the consequences of potential releases, and that these factors are combined in an appropriate manner to produce a risk value for each pipeline segment. [[ASME B31.8S-2004, Section 3.1](#), [ASME B31.8S-2004, Section 3.3](#), [ASME B31.8S-2004, Section 5.2](#), [ASME B31.8S-2004, Section 5.3](#) and [ASME B31.8S-2004, Section 5.7\(j\)](#)] Verify that the risk assessment approach includes the following characteristics:

- i. The risk assessment approach contains a defined logic and is structured to provide a complete, accurate, and objective analysis of risk [[ASME B31.8S-2004, Section 5.7\(a\)](#)];
- ii. The risk assessment considers the frequency and consequences of past events, using company and industry data [[ASME B31.8S-2004, Section 5.7\(c\)](#)];
- iii. The risk assessment approach integrates the results of pipeline inspections in the development of risk estimates [[ASME B31.8S-2004, Section 5.7\(d\)](#)];
- iv. The risk assessment process includes a structured set of weighting factors to indicate the relative level of influence of each risk assessment component [[ASME B31.8S-2004, Section 5.7\(i\)](#)];
- v. The risk assessment process incorporates sufficient resolution of pipeline segment size to analyze data as it exists along the pipeline [[ASME B31.8S-2004, Section 5.7\(k\)](#)].

C.03.c. Inspection Results *(Type an X in the applicable box below. Select only one.)*

	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

C.03.c. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

PG&E RMP-01, Section 6.4.3, states: "The committee has determined that the factors in A through D of this section are significant for determining the reliability impact of a gas pipeline failure." However, there are only factors A through C listed under that section. PG&E RMP-01 needs to be revised to either add factor D, or indicate if only factors A through C apply.

C.03.d. Verify that the operator's process provides for revisions to the risk assessment if new information is obtained or conditions change on the pipeline segments. Verify that the provisions for change to the risk assessment address the following areas:

- i. the risk assessment plan calls for recalculating the risk for each segment to reflect the results from an integrity assessment or to account for completed prevention and mitigation actions. [[ASME B31.8S-2004, Section 5.11](#), and [ASME B31.8S-2004, Section 5.7\(c\)](#)]
- ii. the operator integrates the risk assessment process into field reporting, engineering, facility mapping, and other processes as necessary to ensure regular updates. [[ASME B31.8S-2004, Section 5.4](#)]

- iii. the integrity management plan calls for revision to the risk assessment process if pipeline maintenance or other activities identify inaccuracies in the characterization of the risk for any segments. [[§192.917\(c\)](#) and [ASME B31.8S-2004, Section 5.12](#)]
- iv. the operator uses a feedback mechanism to ensure that the risk model is subject to continuous validation and improvement. [[§192.917\(c\)](#) and [ASME B31.8S-2004, Section 5.7\(f\)](#)]

C.03.d. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

<p>C.03.d. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)</p>

C.03.e. Verify that adequate time and personnel have been allocated to permit effective completion of the selected risk assessment approach. [[ASME B31.8S-2004, Section 5.7\(b\)](#)]

C.03.e. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

<p>C.03.e. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)</p>
<p>Exception report had to be issued due to unavailability of personnel from steering committees to meet due to other (parcel entry) work having to be done at the end of the year.</p>

C.03 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

C.03 Inspection Notes

C.03 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
	C.03.01	All covered segments were not included in the risk analysis	AF C.5	
	C.03.02	Risk assessment was not adequately established to prioritize pipelines/segments for scheduling of integrity assessments and mitigating actions	AF C.2	
	C.03.03	Risk assessment was not adequately established to determine the benefit derived from mitigating actions	AF C.2	
	C.03.04	Risk assessment was not adequately established to determine the most effective mitigative measures for the identified threats	AF C.2	
	C.03.05	Risk assessment was not adequately established to determine the integrity impact from modified inspection intervals	AF C.2	
	C.03.06	Risk assessment was not adequately established to determine the use of or need for alternative inspection methodologies	AF C.2	
	C.03.07	Risk assessment was not adequately established to facilitate decisions to address risk along a pipeline or within a facility	AF C.2	
	C.03.08	The approach used for the risk assessment was not adequate	AF C.2	
	C.03.09	A defined logic that provides a complete, accurate, and objective analysis of risk was not adequately included in the risk assessment	AF C.4	
	C.03.10	The frequency and consequence of past events was not adequately considered in the risk assessment	AF C.4	
	C.03.11	The results of pipeline inspections were not adequately integrated in the development of risk estimates in the risk assessment	AF C.4	
	C.03.12	An adequate set of weighting factors to indicate relative level of influence of each risk assessment component was not included in the risk assessment	AF C.4	
	C.03.13	Adequate resolution of pipeline segment size was not utilized to analyze data in the risk assessment	AF C.4	
	C.03.14	The risk assessment was not adequately updated to reflect integrity assessment results or completed prevention and mitigation actions	AF C.7	
	C.03.15	The risk assessment was not adequately integrated into field reporting, engineering, facility mapping, or other processes as necessary to ensure regular updates	AF C.7	
	C.03.16	The risk assessment was not adequately revised when pipeline maintenance or other activities identified inaccuracies in the characterization of the risk for any segment	AF C.7	
	C.03.17	The operator's feedback mechanism was not adequately utilized to ensure the risk model is subject to continuous validation and improvement	AF C.7	
	C.03.18	Adequate time and personnel were not allocated to the risk assessment process	AF C.2	
	C.03.19	Procedures did not adequately document all requirements to develop, implement, document, and/or continually improve the risk assessment	AF C.8	
	C.03.20	No plans/procedures existed that described the risk assessment process.	AF C.8	
	Other:			

C.04 Validation of the Risk Assessment

Verify that the integrity management program identifies and documents a process to validate the results of the risk assessments. [[§192.917\(c\)](#) and [ASME B31.8S-2004, Section 5.12](#)]

C.04.a. Verify that the validation process includes a check that the risk results are logical and consistent with the operator's and other industry experience. [[§192.917\(c\)](#) and [ASME B31.8S-2004, Section 5.12](#)]

C.04.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

C.04.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E IMP Consequence Committee did not meet in 2008 or 2009. PG&E staff indicated that per PG&E RMP-06, Section 18, Exception Process allowed for the annual meeting requirement to be waived. It would appear that an annual meeting is required by code since RISK, of which consequence is one factor, has to be evaluated at least annually. PG&E believes the meetings in 2008 and 2009 were not necessary since consequences, which are driven by PIC calculations, do not significantly change.

In addition, the 2009 minutes from the meeting of the PG&E IMP Ground Movement Committee did not clearly indicate that all items required to be reviewed by PG&E RMP-01, Section 6.2.5 were reviewed (i.e., LOF x COF list was unavailable during the meeting so only the LOF list was reviewed.) FAQ-234 and ASME B31.8S, Section 5.8 require annual review of RISK.

Finally, a PG&E e-mail, detailing meeting minutes from the 2009 meeting of PG&E IMP External Corrosion Committee, lacks any detail or support for the decision making process used to modify PG&E RMP-02.

C.04 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

C.04 Inspection Notes

<div style="border: 1px solid black; height: 100px;"></div>

C.04 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	C.04.01	An adequate validation process was not implemented for risk assessment results	AF C.4	
	C.04.02	Procedures did not adequately document the requirements for completing a risk assessment validation	AF C.8	
	C.04.03	No process/procedures existed validating the risk assessment	AF C.8	
	Other:			

C.05 Plastic Transmission Pipeline

If the operator has plastic transmission pipelines, verify that the operator assesses applicable threats to each covered segment of plastic line. [[§192.917\(d\)](#)]

C.05.a. If the operator has plastic transmission lines, verify that the information in [ASME B31.8S-2004, Section 4](#) and [ASME B31.8S-2004, Section 5](#), and any unique threats to the integrity of plastic pipe have been considered when assessing the threats to each covered segment of plastic pipeline. [[§192.917\(d\)](#)]

C.05.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
X	Not Applicable (explain in Statement of Issue)

C.05.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E does operate any plastic transmission lines.

C.05 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

C.05 Inspection Notes

C.05 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	C.05.01	An adequate risk assessment was not developed for plastic transmission pipeline	AF C.2	
	C.05.02	Procedures did not adequately document requirements for development or implementation of a risk assessment for plastic pipeline	AF C.8	
	C.05.03	No process/procedures existed for the risk assessment of plastic pipeline	AF C.8	
	Other:			

Protocol Area D. DA Plan

- [D.01](#) ECDA Programmatic Requirements
- [D.02](#) ECDA Pre-Assessment
- [D.03](#) ECDA Indirect Examination
- [D.04](#) ECDA Direct Examination
- [D.05](#) ECDA Post-Assessment
- [D.06](#) Dry Gas ICDA Programmatic Requirements
- [D.07](#) Dry Gas ICDA Pre-Assessment, Region Identification, Use of Model & Indirect Inspection
- [D.08](#) Dry Gas ICDA Direct Examination
- [D.09](#) Dry Gas ICDA Post-Assessment
- [D.10](#) Wet Gas ICDA Programmatic Requirements –
- [D.11](#) SCCDA Data Gathering & Evaluation
- [D.12](#) SCCDA Assessment, Examination, & Threat Remediation
- [Table of Contents](#)

D.01 ECDA Programmatic Requirements

If the operator elects to use ECDA, verify that the operator develops and implements an ECDA plan in accordance with §[192.925](#).

D.01.a. Verify that the operator developed a documented ECDA plan, and developed procedures to implement the plan. [§[192.925\(b\)](#)]

D.01.a. Inspection Results <i>(Type an X in the applicable box below. Select only one.)</i>	
X	No Issues Identified
	Potential Issues Identified <i>(explain in Statement of Issue)</i>
	Not Applicable <i>(explain in Statement of Issue)</i>

D.01.a. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

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D.01 Documents Reviewed <i>(Tab from bottom-right cell to add additional rows.)</i>			
Document Number	Rev	Date	Document Title

D.01 Inspection Notes

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D.01 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	D.01.01	No process/procedures existed that described the ECDA process	AF D.1	
	D.01.02	No framework in place that described the approach to be taken for development of the ECDA process	AF D.1	
	Other:			

D.02 ECDA Pre-Assessment

Verify that the ECDA Pre-assessment process complies with [ASME B31.8S-2004, Section 6.4](#) and NACE RP0502-2002 to (1) determine if ECDA is feasible for the pipeline to be evaluated, (2) identify ECDA regions and (3) select Indirect Inspection Tools. [[§192.925\(b\)\(1\)](#)]

D.02.a. Verify that the operator **identifies and collects adequate data** to support ECDA pre-assessment.
[NACE RP0502-2002, Section 3.2]

D.02.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.02.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

D.02.b. Verify that the operator conducts an ECDA **feasibility assessment** by integrating and analyzing the data collected. [[NACE RP0502-2002, Section 3.3](#)]

D.02.b. Inspection Results <i>(Type an X in the applicable box below. Select only one.)</i>	
	No Issues Identified
X	Potential Issues Identified <i>(explain in Statement of Issue)</i>
	Not Applicable <i>(explain in Statement of Issue)</i>

D.02.b. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

Pre-assessments are supposed to be performed as the first STEP in order to identify regions, tool selection, and ECDA feasibility; however, PG&E conducted a pre-assessment following other ECDA steps having commenced (example: N-Seg 177 (2008)). In addition, PG&E is conducting concurrent pre-assessment and indirect assessment activities on a routine basis (i.e., N-Seg 131, route #DREG4718, HCA segments 201 and 203) where tool selection is preordained and the feasibility of the ECDA process is forced to be a given.

D.02.c. Verify that the operator complies with all requirements for appropriate indirect inspection **tools selection:** [[NACE RP0502-2002, Section 3.4](#), [NACE RP0502-2002, Table 2](#), and [192.925\(b\)\(1\)\(ii\)](#)]

- i. A minimum of 2 complementary tools must be selected such that the strengths of one tool compensate for the limitations of the other tool. (Note: The operator must consider whether more than two indirect inspection tools are needed to reliably detect corrosion activity.)
- ii. Tools are able to assess and reliably detect corrosion activity and/or coating holidays.
- iii. Verify that the operator documents the basis for its tool selection.

- iv. If the operator utilizes an indirect inspection method not listed in [NACE RP0502-2002, Appendix A](#), verify that the operator justifies and documents the method's applicability, validation basis, equipment used, application procedure, and utilization of data. [[§192.925\(b\)\(1\)\(ii\)](#)]

D.02.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input checked="" type="checkbox"/>	No Issues Identified
<input type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input type="checkbox"/>	Not Applicable (explain in Statement of Issue)

D.02.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

D.02.d. Verify that the operator **identifies ECDA Regions** based on the use of data integration results applied to specified criteria. [[NACE RP0502-2002, Section 3.5](#)]

D.02.d. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input type="checkbox"/>	No Issues Identified
<input checked="" type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input type="checkbox"/>	Not Applicable (explain in Statement of Issue)

D.02.d. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)
<p>PG&E groups all casings into only 2 regions - Region 3 and Region 8, in which the later region was recently added due to temperature gradient, SCC, and condensate concerns. Casings are aggregated by region and year for all segments (N-Segs) on which assessments are performed in a given year. Casing assessments are performed from an aggregated pool from which digs are then initiated. PG&E's grouping of its casings does not follow the March 1, 2010, PHMSA Guidance, "Guidelines for Integrity Assessment of Cased Pipe for Gas Transmission Pipelines in HCAs." The guidance developed guidelines for establishing ECDA regions for cased pipe. Six attributes required separate ECDA regions and eleven attributes must be considered when determining ECDA regions, but alone does not always require a separate ECDA region. During an April 2010 workshop, PHMSA provided additional clarification on guidance related to casing assessments and reinforced its expectation for operators to utilize the guidance in completing casings assessments by December 17, 2010. During the audit, PG&E staff stated that PG&E does not plan on utilizing the March 1, 2010, in regionalizing casings per the PHMSA Guidance.</p> <p>PG&E schedules Regions 1 and 2, along with 5, for excavation as indirect assessments are received, whereas other casing regions are grouped together and dug from a "pool" of potential tool dig sites. This process is not allowed for by 49 CFR §192 or NACE RP0502. (This process fails to consider CP variations and CP historical deficiencies applicable to casings on different segments.)</p>

D.02.e. Verify that the operator applies more restrictive criteria when conducting ECDA pre-assessment for the first time on a covered segment. [[§192.925\(b\)\(1\)\(i\)](#)]

D.02.e. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.02.e. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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D.02 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

D.02 Inspection Notes

D.02 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	D.02.01	Data to support ECDA pre-assessment was not adequately identified and collected	AF D.4	
	D.02.02	An adequate ECDA feasibility assessment was not conducted	AF D.4	
	D.02.03	Tools for ECDA were not adequately selected	AF D.4	
	D.02.04	The basis for ECDA tool selection was not adequately documented	AF D.4	
	D.02.05	The selection of a tool not listed in Appendix A of NACE RP0502 was not adequately documented and/or justified	AF D.4	
	D.02.06	ECDA Regions were not adequately identified	AF D.4	
	D.02.07	More restrictive criteria were not applied when conducting ECDA pre-assessment for the first time on a covered segment	AF D.9	
	D.02.08	Procedures did not adequately document requirements for ECDA pre-assessment	AF D.1	
	D.02.09	No process/procedures existed that described the ECDA pre-assessment	AF D.1	
	Other:			

D.03 ECDA Indirect Examination

Verify that the ECDA Indirect Examination process complies with [ASME B31.8S-2004, Section 6.4](#) and [NACE RP0502-2002, Section 4](#) to identify and characterize the severity of coating fault indications, other anomalies, and areas at which corrosion activity may have occurred or may be occurring, and establish priorities for excavation. [[§192.925\(b\)\(2\)](#)]

D.03.a. Verify that the operator **conducts indirect examination measurements** in accordance with [NACE RP0502-2002, Section 4.2](#).

- i. Verify that the operator identifies and clearly marks the boundaries of each ECDA region. [[NACE RP0502-2002, Section 4.2.1](#)]
- ii. Verify that the operator performs indirect inspections over the entire lengths of each ECDA region and that the inspections conform to generally accepted industry practices. [[NACE RP0502-2002, Section 4.2.2](#)]
- iii. Verify that the operator specifies and follows generally accepted industry practices for conducting ECDA indirect inspections and analyzing results. [[NACE RP0502-2002, Section 4.2.2](#)]
- iv. Verify that the operator specifies the physical spacing of readings (and the practices for changing the spacing as needed) such that suspected corrosion activity on the segment can be detected and located. [[NACE RP0502-2002, Section 4.2.3](#)]

D.03.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.03.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E RMP-09, Sections 4.3 and 4.4.3, doesn't specify the physical spacing of readings but it indicates to follow the different indirect inspection tool procedures. A copy of MEARS DCVG specified no spacing interval to be used for readings, nor did it specify any process for changing spacing due to indications.

D.03.b. Verify that the operator properly aligns indications and compares the data from each indirect examination to characterize both the severity of indications and urgency for direct examination in accordance with [NACE RP0502-2002, Section 4.3](#) and [NACE RP0502-2002, Section 5.2](#).

- i. Verify the operator specifies criteria for identifying and documenting those indications that must be considered for excavation and direct examination. Minimum criteria include
 1. Known sensitivities of assessment tools
 2. The procedures for using each tool
 3. The approach to be used for decreasing the physical spacing of indirect assessment tool readings when the presence of a defect is suspected. [[§192.925\(b\)\(2\)\(ii\)](#) and [NACE RP0502-2002, Section 4.3.1.1](#)]
- ii. Verify that the operator specifies and applies criteria for classification of the severity of each indication. [[NACE RP0502-2002, Section 4.3.2](#)],
 1. Verify that the operator considers the impact of spatial errors when aligning indirect examination results. [[NACE RP0502-2002, Section 4.3.1.2](#)]

2. Verify that the operator compares the results from the indirect inspections and determines the consistency of indirect inspections results to resolve conflicting or differing indications by the primary and secondary tools. [[NACE RP0502-2002, Section 4.3.3](#)]
3. Verify that the operator compares indirect inspection results with pre-assessment results to confirm or reassess ECDA feasibility and ECDA Region definitions. [[NACE RP0502-2002, Section 4.3.4](#)]
- iii. Verify that the operator specified and applies criteria for defining the urgency level (i.e., immediate, scheduled, or monitored) with which excavation and direct examination of indications will be conducted based on the likelihood of current corrosion activity plus the extent and severity of prior corrosion. [[§192.925\(b\)\(2\)\(iii\)](#) and (iv) and [NACE RP0502-2002, Section 5.2](#)]
- iv. Verify that the operator's ECDA procedures have a process to address pipeline coating indications. The procedures must provide for integrating ECDA data with encroachment and foreign line crossing data to evaluate the covered segment for the threat of third party damage, and to address this threat as required by [§192.917\(e\)\(1\)](#) (See [Protocol C.02](#) and [Protocol C.03](#)). [[§192.917\(b\)](#), [§192.917\(e\)](#) and [§192.925\(b\)](#)]

D.03.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

<p>D.03.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)</p> <p>PG&E RMP-09 provides no direction for decreasing interval spacing when an indication is encountered.</p>

D.03.c. Verify that the operator applies more restrictive criteria when conducting ECDA indirect examinations for the first time on a covered segment. [[§192.925\(b\)\(2\)\(i\)](#)]

D.03.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

<p>D.03.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)</p>

D.03 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

D.03 Inspection Notes					
D.03 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>				Area Finding	Risk Category (A-E)
	D.03.01	The boundaries of the ECDA Regions were not clearly identified		AF D.5	
	D.03.02	Indirect inspections were not adequately performed over the entire length of each ECDA Region		AF D.5	
	D.03.03	Indirect inspections that conform to generally accepted industry practices were not adequately specified and performed		AF D.5	
	D.03.04	Physical spacing of readings and/or the criteria for changing the spacing if and when needed were not adequately specified		AF D.1	
	D.03.05	Criteria for identifying and documenting those indications that must be considered for excavation and direct examination was not adequately specified		AF D.1	
	D.03.06	Criteria for classification of the severity of each indication was not adequately specified		AF D.1	
	D.03.07	Conflicting results from indirect inspection tools were not adequately addressed		AF D.5	
	D.03.08	Criteria for defining the urgency level with which excavation and direct examination of indications will be conducted was not adequately specified		AF D.1	
	D.03.09	Pre-assessment data (such as third party damage) was not adequately factored into the criteria for defining the urgency with which excavation and direct examination of indications will be conducted		AF D.5	
	D.03.10	More restrictive criteria were not applied when conducting ECDA indirect examination for the first time on a covered segment		AF D.9	
	D.03.11	Encroachment and foreign line crossing data was not adequately integrated with ECDA indirect examination data		AF D.5	
	D.03.12	Procedures did not adequately document requirements for ECDA indirect examination		AF D.1	
	D.03.13	No process/procedures existed that described the ECDA indirect examination		AF D.1	
	Other:				

D.04 ECDA Direct Examination

Verify that the ECDA Direct Examination process complies with [ASME B31.8S-2004, Section 6.4](#) and [NACE RP0502-2002, Section 5](#) to collect data to assess corrosion activity and remediate defects discovered. [[NACE RP0502-2002, Section 5.1.1](#) and §[192.925\(b\)\(3\)](#)]

D.04.a. Verify that the operator performs excavations and data collection in accordance with [NACE RP0502-2002, Section 5.3](#), [NACE RP0502-2002, Section 5.4](#), [NACE RP0502-2002, Section 5.10](#) and [NACE RP0502-2002, Section 6.4.2](#).

- i. Verify that the operator makes excavations based on priority categories described in [NACE RP0502-2002, Section 5.2](#). [[NACE RP0502-2002, Section 5.3.1](#)]
- ii. Verify that the operator identifies and implements minimum requirements for data collection, measurements, and recordkeeping, to evaluate coating condition and significant corrosion defects at each excavation location. [[NACE RP0502-2002, Section 5.3](#), [NACE RP0502-2002, Section 5.4](#), [NACE RP0502-2002, Appendix A](#), [NACE RP0502-2002, Appendix B](#), and [NACE RP0502-2002, Appendix C](#)]
- iii. Verify that the number and location of direct examinations complies with [NACE RP0502-2002, Section 5.10](#) and [NACE RP0502-2002, Section 6.4.2](#)

D.04.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.04.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E needs to clarify RMP-09, Section 5.3.1 (page 45 of 204). It discusses a typical length of 12-feet, centered on the indication, for the purpose of exposing approximately 10-feet of pipeline for direct examination. However, it appeared from records review that only 10-foot excavations are being performed.

In PG&E RMP-09, Section 5.6, Table 5.6.4, the Data Elements 1.9 & 1.10 are found in the table as being "Required". However, those Data Elements are not found in the "Direct Examination Data Sheet (Casing Only) Page 1 of 1, Form H.

In PG&E RMP-09, Section 5.3.3.1, Table 5.3.1 states that PG&E is conducting just one addition dig if there was an immediate and schedule found and not the addition two digs for the first time through as required in NACE RP0502, Section 5.10.2.2.2 and PG&E RMP-09, Section 5.3.3.1. Example in PG&E RMP-09 shows how PG&E interprets NACE RP0502, Section 5.10.2.2.2.

In PG&E RMP-09, Section 5.3.2.1, it states in part that PG&E does reprioritize even immediate digs after sampling "some" immediate indications. PG&E is not following NACE RP0502 requirement to dig ALL immediate indications and to not reprioritize indications the first time ECDA is applied to a given segment. PG&E presented a white paper that essentially considers "should" from the NACE RP0502 document as a suggestion and not requirement.

D.04.b. Verify that the operator determines the remaining strength at locations where corrosion defects are found. Any corrosion defects discovered during direct examinations must be remediated in accordance with §192.933. [§192.925(b)(3)(ii), §192.933, and NACE RP0502-2002, Section 5.5]

D.04.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.04.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E RMP-09, Section 5.7, and all related forms need to be modified to mandate a 10% pressure reduction, as required by PG&E Utility Operation Standards 4134, if mechanical damage is found during the direct examination process.

D.04.c. Verify that the operator identifies the root cause of all significant corrosion activity, [NACE RP0502-2002, Section 5.6] and identifies and reevaluates all other indications that occur in the pipeline segment where similar root-cause conditions exist. [NACE RP0502-2002, Section 5.9.3]

- i. Verify that the operator considers alternative methods of assessing the integrity of the pipeline segment if the operator's root cause analysis uncovers problems for which ECDA is not well suited. [NACE RP0502-2002, Section 5.6.2 and §192.925(b)(3)(ii)(b)]

D.04.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.04.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

D.04.d. Verify that the operator mitigates or precludes future external corrosion resulting from significant root causes. [NACE RP0502-2002, Section 5.7]

D.04.d. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.04.d. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

D.04.d. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

D.04.e. Verify that the operator performs an evaluation of the indirect inspection data, the results from the remaining strength evaluation and root cause analysis to evaluate the criteria and assumptions used to: [\[NACE RP0502-2002, Section 5.7, NACE RP0502-2002, Section 5.8 and §192.933\]](#)

- i. Categorize the need for repairs
- ii. Classify the severity of individual indications

D.04.e. Inspection Results *(Type an X in the applicable box below. Select only one.)*

X	No Issues Identified
	Potential Issues Identified <i>(explain in Statement of Issue)</i>
	Not Applicable <i>(explain in Statement of Issue)</i>

D.04.e. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

D.04.f. As appropriate, verify the basis upon which the operator may reclassify and reprioritize indications in accordance with any of the provisions that are specified in [NACE RP0502-2002, Section 5.9.](#) [\[§192.925\(b\)\(3\)\(iv\)\]](#)

D.04.f. Inspection Results *(Type an X in the applicable box below. Select only one.)*

	No Issues Identified
X	Potential Issues Identified <i>(explain in Statement of Issue)</i>
	Not Applicable <i>(explain in Statement of Issue)</i>

D.04.f. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

PG&E presented a "MEMO TO FILE", dated May 20, 2010, in which it allows for reclassification or re-prioritization of indications, regardless if assessment is performed the first time or subsequent assessment. This goes against NACE RP0502 (2002) which discourages such a practice. Also, PG&E's definition of first time application of ECDA is inconsistent with NACE RP0502, Section 5.8.4.2 which discusses "initial ECDA" vs. PG&E's "first time ECDA is used." It should also be noted that the May 20, 2010 memo, which was created during the audit, could not retroactively apply to any reprioritizations performed prior to its creation since justification had not been provided for such

D.04.f. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

reprioritizations.

D.04.g. Verify the operator establishes and implements criteria and internal notification procedures for any changes in the ECDA Plan, including changes that affect the severity classification, the priority of direct examination, and the time frame for direct examination of indications. [[§192.925\(b\)\(3\)\(iii\)](#), [§192.909](#), and [§192.911\(k\)](#)]

D.04.g. Inspection Results (Type an X in the applicable box below. Select only one.)

	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.04.g. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E did not have a written process which clarifies the criteria and internal notification procedures for any changes in the ECDA Plan as required by the protocol.

D.04.h. Verify that the operator has a process to consider the use of assessment methods other than ECDA (i.e., ILI or Subpart J pressure test) to assess the impact of defects other than external corrosion (e.g., mechanical damage and stress corrosion cracking) discovered during direct examination. [[NACE RP0502-2002, Section 5.1.5](#) and [§192.933](#)]

D.04.h. Inspection Results (Type an X in the applicable box below. Select only one.)

X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.04.h. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

D.04.i. Verify that the operator applies more restrictive criteria when conducting ECDA direct examination for the first time on a covered segment. [[§192.925\(b\)\(3\)\(i\)](#)]

D.04.i. Inspection Results (Type an X in the applicable box below. Select only one.)

D.04.i. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

<p>D.04.i. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)</p>

D.04 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

D.04 Inspection Notes

D.04 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	D.04.01	Excavations based on priority categories per NACE RP0502 were not adequately performed	AF D.6	
	D.04.02	Adequate minimum requirements for data collection, measurements, and recordkeeping to evaluate coating condition and significant corrosion defects at each excavation location were not established and implemented	AF D.1	
	D.04.03	An adequate number and location of direct examinations on each ECDA region were not established	AF D.6	
	D.04.04	The remaining strength at locations where corrosion defects were found was not adequately determined	AF D.6	
	D.04.05	The root cause of all significant corrosion activity was not adequately determined	AF D.6	
	D.04.06	All other indications that occur in the pipeline segment where similar root-cause conditions exist were not adequately identified and reevaluated	AF D.10	
	D.04.07	Future external corrosion resulting from significant root causes was not adequately mitigated and precluded from occurring	AF D.6	
	D.04.08	An adequate evaluation to categorize the need for repairs and classify the severity of individual indications was not adequately performed	AF D.6	
	D.04.09	An adequate basis to reclassify and reprioritize indications was	AF D.6	

D.04 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
		not adequately established		
	D.04.10	Adequate criteria and internal notification procedures were not established and implemented for any changes in the ECDA Plan	AF D.1	
	D.04.11	An adequate process was not developed to consider the use of assessment methods other than ECDA to assess the impact of defects other than external corrosion discovered during direct examination	AF D.1	
	D.04.12	More restrictive criteria were not applied when conducting ECDA direct examination for the first time on a covered segment	AF D.9	
	D.04.13	Procedures did not adequately document requirements for ECDA direct examination	AF D.1	
	D.04.14	No process/procedures existed that described requirements for ECDA direct examination	AF D.1	
	Other:			

D.05 ECDA Post-Assessment

Verify that the ECDA Post assessment process complies with [ASME B31.8S-2004, Section 6.4](#) and [NACE RP0502-2002, Section 6](#), to (1) define reassessment intervals and (2) assess the overall effectiveness of the ECDA process. [[§192.925\(b\)\(4\)](#) and [§192.939](#)]

D.05.a. Verify that the operator determined **reassessment intervals** in accordance with [NACE RP0502-2002, Section 6](#).

- i. Verify the adequacy of the operators remaining life calculations. [[NACE RP0502-2002, Section 6.2](#)]
- ii. Verify that the maximum re-assessment intervals for each region are one half the calculated remaining life. [[NACE RP0502-2002, Section 6.1.3](#) and [NACE RP0502-2002, Section 6.3](#)]

D.05.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.05.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

D.05.b. Verify that the reassessment intervals are adjusted if required in accordance with special provisions in Subpart O, as follows:

- i. Verify that reassessment intervals do not exceed the maximum intervals (refer to Protocol F) established in [§192.939](#), as follows:
 1. 10 years for pipeline segments operating at SMYS levels greater than 50%
 2. 15 years for those segments operating between 30 and 50% SMYS
 3. 20 years for those segments operating below 30% SMYS
- ii. Verify that the operator specifies and applies criteria for evaluating whether conditions discovered by direct examination of indications in each ECDA region indicate a need for reassessment of the covered segment at an interval less than that specified in [§192.939](#). [[§192.925\(b\)\(4\)\(ii\)](#)]

D.05.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.05.b. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

D.05.c. Verify that performance measures for ECDA effectiveness have been defined and are monitored. [[§192.925](#), [§192.945\(b\)](#) and [NACE RP0502-2002, Section 6](#)]

- i. Verify that at least one additional, randomly selected anomaly location has been excavated for process validation. [[NACE RP0502-2002, Section 6.4.2](#)]
- ii. Verify that additional criteria have been established and monitored to evaluate long-term program effectiveness such as those identified in [NACE RP0502-2002, Section 6.4.3](#). [[§192.945\(b\)](#) and [NACE RP0502-2002, Section 6.4.3](#)]

D.05.c. Inspection Results *(Type an X in the applicable box below. Select only one.)*

	No Issues Identified
X	Potential Issues Identified <i>(explain in Statement of Issue)</i>
	Not Applicable <i>(explain in Statement of Issue)</i>

D.05.c. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

PG&E provided a copy of a “MEMO TO FILE”, dated December 23, 2009, in which the company allows the random effectiveness direct examination location to be chosen from established data sets that contain possible third party damage, possible old corrosion, or other indications that will verify the successfulness of the ECDA process. The memo restates the definition of “Random” as contained in PG&E RMP-09 (Rev 7) as being “Statistics relating or belonging to a set in which all members have the same probability of occurrence...” It provides as examples of sets of indications such as Scheduled, Monitor, etc. However, another definition (per Encarta Dictionary) defines “random” as: “done, chosen, or occurring without an identifiable pattern, plan, system, or connection.”

The USBR team believes PG&E’s process for selecting a random confirmation dig conflicts with NACE RP0502, Section 6.4.2 which states in part, “At least one additional direct examination at a **randomly** (emphasis added) selected location shall be conducted to provide additional confirmation that the ECDA process has been successful.” Since PG&E’s selection process, for selecting locations for determining the effectiveness of its DA process, utilizes established data sets of third party damage or old corrosion to guide in the selection locations, the USBR teams believes it constitutes “an identifiable pattern, plan, or system...” which does not provide for a truly random selection process.

D.05.d. Verify the operator’s process has incorporated feedback at all appropriate opportunities throughout the ECDA process to demonstrate feedback and continuous improvement. [[§192.907\(a\)](#) and [NACE RP0502-2002, Section 6.5](#)]

D.05.d. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

<p>D.05.d. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)</p>

D.05 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

D.05 Inspection Notes

D.05 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	D.05.01	Reassessment intervals were not adequately determined	AF D.7	
	D.05.02	A reassessment interval was used that exceeds the maximum interval specified in 192.939 or Table 3 of B31.8S Standard	AF D.7	
	D.05.03	Performance measures were not adequately defined for ECDA effectiveness	AF D.8	
	D.05.04	Performance measures were not adequately monitored for ECDA effectiveness	AF D.8	
	D.05.05	Adequate feedback was not incorporated at all appropriate opportunities throughout the ECDA process	AF D.8	
	D.05.06	Required validation excavations were not adequately performed	AF D.8	
	D.05.07	Procedures did not adequately document requirements for ECDA post assessment	AF D.1	
	D.05.08	No process/procedures existed that described requirements for ECDA post assessment	AF D.1	
	Other:			

D.06 Dry Gas ICDA Programmatic Requirements

If the operator elects to use ICDA, verify that the operator develops and implements an ICDA plan in accordance with §192.927.

D.06.a. Verify that the operator developed a documented ICDA plan [§192.927(c)]

D.06.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.06.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

During our audit, we were unable to confirm if the Supervising Engineer, the ICDA Project Manager, and the ICDA Project Engineer had received formal training as required by PG&E RMP-10, Sections 2.3.2, 2.3.3, and 2.3.4, respectively.

D.06.b. Verify that the operator's plan contains provisions for carrying out ICDA on the entire pipeline in which covered segments are present, except that application of the remediation criteria of §192.933 may be limited to covered segments. [§192.927(c)(5)(iii)]

D.06.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.06.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E RMP-10 does not have an explicit requirement that the ICDA be carried out on the entire pipeline in which covered segments are present. (49 CFR §192.927).

D.06.c. Verify that the operator implements the ICDA plan. [§192.927(c)]

D.06.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.06.c. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

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D.06 Documents Reviewed *(Tab from bottom-right cell to add additional rows.)*

Document Number	Rev	Date	Document Title

D.06 Inspection Notes

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D.06 Issue Categorization *For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.*

		Area Finding	Risk Category (A-E)
	D.06.01	A documented ICDA plan was not adequately developed	AF D.2
	D.06.02	ICDA was not required to be applied to the entire pipeline in which covered segments are present	AF D.2
	D.06.03	The ICDA plan was not adequately implemented	AF D.2
	D.06.04	No process/procedures existed that described requirements for the ICDA process	AF D.2
	D.06.05	No framework in place that described the approach to be taken for the ICDA process	AF D.2
	Other:		

D.07 Dry Gas ICDA Pre-Assessment, Region Identification, & Use of Model

For dry gas systems, verify that the operator gathers, integrates and analyzes data and information to accomplish pre-assessment objectives and identify ICDA Regions. [[§192.927\(c\)\(1\)](#), [§192.927\(c\)\(2\)](#), [ASME B31.8S-2004, Section 6.4.2](#), [ASME B31.8S-2004, Appendix A2](#) and [ASME B31.8S-2004, Appendix B2](#)]

D.07.a. Verify that the operator’s plan defines criteria to be applied in making key decisions (e.g., region identification, feasibility determinations) in implementing the pre-assessment stage of the ICDA process. [[§192.927\(c\)\(5\)\(i\)](#)]

D.07.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.07.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

In PG&E RMP-10, Section 4.2.4.2, instead of consider supplementing USGS data if inaccurate data is available, this step needs to be made mandatory if inaccurate data is available. Modify PG&E RMP-10, Section 4.3.3 and other “may”; “could”, etc. statements to be more definitive. PG&E RMP-10, Section 4.4.1 needs to clearly define what is considered as “sufficient” data. Also, Section 4.3.3, only provides for recommended attendees for the pre-assessment review meeting; however, we believe this section needs to specify required attendees essential to the purpose of the meeting.

D.07.b. Verify that the operator collects, as a minimum, the following **data and information**:

- i. All data elements listed in [ASME B31.8S-2004, Appendix A2](#) [[§192.927\(c\)\(1\)\(i\)](#)]
- ii. Information needed to support use of a model to identify areas where internal corrosion is most likely, including locations of all 1) gas input and withdrawal points, 2) low points such as sags, drips, inclines, valves, manifolds, dead-legs, and traps, 3) elevation profile in sufficient detail for angles of inclination to be calculated, and 4) the range of expected gas velocities within the pipeline; [[§192.927\(c\)\(1\)\(ii\)](#)]
- iii. Operating experience data that would indicate historic upsets in gas conditions, locations where these upsets have occurred, and potential damage resulting from these upset conditions [[§192.927\(c\)\(1\)\(iii\)](#)]
- iv. Information where cleaning pigs may not have been used or where cleaning pigs may deposit electrolytes. [[§192.927\(c\)\(1\)\(iv\)](#)]

D.07.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.07.b. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

D.07.c. Verify that the operator integrates the data collected and uses the integrated data analysis to evaluate and document the following:

- i. Feasibility of performing ICDA on its pipe segments [[§192.927\(c\)\(1\)](#)]
- ii. Identification of all ICDA Regions and the location of each region. [[§192.927\(c\)\(1\)](#) & (2)]
- iii. Support use of a model to identify the locations along the pipe segment where electrolyte may accumulate [[§192.927\(c\)\(1\)](#)]
- iv. Identify areas within the covered segment where liquids may be potentially entrained. [[§192.927\(c\)\(1\)](#)]

D.07.c. Inspection Results *(Type an X in the applicable box below. Select only one.)*

X	No Issues Identified
	Potential Issues Identified <i>(explain in Statement of Issue)</i>
	Not Applicable <i>(explain in Statement of Issue)</i>

D.07.c. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

D.07.d. Verify the operator's plan uses the model in GRI 02-0057 ICDA of Gas Transmission Pipelines-Methodology (or equivalent acceptable model) to define critical pipe angle of inclination above which water film cannot be transported by the gas, and that the model considers, as a minimum: [[§192.927\(c\)\(2\)](#)]

- i. Changes in pipe diameter, [[§192.927\(c\)\(2\)](#)]
- ii. Locations where gas enters a line, [[§192.927\(c\)\(2\)](#)]
- iii. Locations down stream of gas draw-offs. [[§192.927\(c\)\(2\)](#)]
- iv. Other conditions that may result in changes in gas velocity. [[§192.927\(c\)\(2\)](#) and GRI 02-0057]

D.07.d. Inspection Results *(Type an X in the applicable box below. Select only one.)*

X	No Issues Identified
	Potential Issues Identified <i>(explain in Statement of Issue)</i>
	Not Applicable <i>(explain in Statement of Issue)</i>

D.07.d. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

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D.07.e. Verify that the operator's plan contains provisions for applying more restrictive criteria for pre-assessment and region identification when conducting ICDA for the first time on a covered segment [§192.927(c)(5)(ii)]

D.07.e. Inspection Results *(Type an X in the applicable box below. Select only one.)*

X	No Issues Identified
	Potential Issues Identified <i>(explain in Statement of Issue)</i>
	Not Applicable <i>(explain in Statement of Issue)</i>

D.07.e. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

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D.07 Documents Reviewed *(Tab from bottom-right cell to add additional rows.)*

Document Number	Rev	Date	Document Title

D.07 Inspection Notes

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D.07 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
	D.07.01	Adequate criteria were not defined in the ICDA Plan for making key decisions (e.g., ICDA feasibility, ICDA Region identification, etc)	AF D.2	
	D.07.02	Sufficient data and information was not collected to accomplish adequate ICDA pre-assessment	AF D.4	
	D.07.03	The data collected was not adequately integrated	AF D.5	
	D.07.04	An adequate model was not used to define the critical pipe angle	AF D.5	

D.07 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
		of inclination		
	D.07.05	ICDA regions were not adequately determined	AF D.4	
	D.07.06	More restrictive criteria were not adequately required and/or implemented when conducting ICDA pre-assessment and region identification for the first time on a covered segment	AF D.9	
	D.07.07	Procedures did not adequately document requirements for ICDA pre-assessment, region identification, and indirect inspection	AF D.2	
	D.07.08	No process/procedures existed that described requirements for ICDA pre-assessment, region identification, and indirect inspection	AF D.2	
	Other:			

D.08 Dry Gas ICDA Direct Examination

For dry gas systems, verify that the operator (1) identifies locations where internal corrosion is most likely in each ICDA region and (2) performs direct examinations of those locations. [[§192.927\(b\)](#), [192.927\(c\)\(3\)](#), [ASME B31.8S-2004, Section 6.4](#) and [ASME B31.8S-2004, Appendix B2](#)]

D.08.a. Verify that the operator's plan defines criteria to be applied in making key decisions (e.g., identifying locations most likely to have internal corrosion, selection of tools) in implementing the direct assessment stage of the ICDA process. [[§192.927\(c\)\(5\)\(i\)](#)]

D.08.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.08.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

In PG&E RMP-10, Section 6.2.3, "pipeline operator" needs to be made specific to PG&E personnel responsible.

PG&E RMP-10, Section 6.2.3.1: We believe this section is intended to reference 5.5.9 instead of 5.5.10.

PG&E RMP-10, Section 6.2.5 needs to provide more direction as to how many, and at what locations, additional direct examinations could be performed.

D.08.b. Verify the operator has identified locations where internal corrosion is most likely to exist in each ICDA region and where electrolyte accumulation is predicted. [[§192.927\(c\)\(3\)](#), [ASME B31.8S-2004, Section 6.4.2](#) and [ASME B31.8S-2004, Appendix B2.3](#)]

D.08.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.08.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

D.08.c. Verify the operator requires a direct examination for internal corrosion using ultrasonic thickness measurements, radiography, or other generally accepted measurement technique of those covered segment locations where internal corrosion is most likely to exist, and includes as a minimum, the following:

[§192.927(c)(3), [ASME B31.8S-2004, Section 6.4.2](#), [ASME B31.8S-2004, Appendix B2.3](#) and [ASME B31.8S-2004, Appendix B2.4](#)]

- i. A minimum of two (2) locations within each ICDA region within a covered segment,
- ii. At least one location must be the low point (e.g., sags, drips, valves, manifolds, deadlegs, traps) nearest the beginning of the ICDA region and
- iii. The second location must be further downstream within a covered segment near the end of the ICDA Region (The end of the ICDA region is the farthest downstream location where the ICDA model predicts electrolytes could accumulate based on the critical angle of inclination above which water film cannot be transported by the gas). [[§192.927\(c\)\(2\)](#) and [ASME B31.8S-2004, Appendix B2.3](#)]

D.08.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.08.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

D.08.d. If internal corrosion exists at any location directly examined, verify that the operator:
[[192.927\(c\)\(3\)](#)]

- i. Evaluates the severity of the defect and remediates the defect per [§192.933](#) (see Protocol E) [[§192.927\(c\)\(3\)\(i\)](#)], and
- ii. Either performs additional excavations or performs additional assessment using an allowed alternative assessment method [[§192.927\(c\)\(3\)\(ii\)](#)], and
- iii. Evaluates the potential for internal corrosion in all pipeline segments (both covered and non-covered) in the operator's pipeline system with similar characteristics to the ICDA region containing the covered segment in which the corrosion was found and remediates the conditions per [§192.933](#). [[§192.927\(c\)\(3\)\(iii\)](#)]

D.08.d. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.08.d. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

D.08.e. Verify that the operator's plan contains provisions for applying more restrictive criteria for the direct examination when conducting ICDA for the first time on a covered segment [[§192.927\(c\)\(5\)\(ii\)](#)]

D.08.e. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.08.e. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E indicated it is performing GWUT to inspect non-exposed pipe wall during direct examinations; however, in PG&E RMP-10, Section 6.3.7, this GWUT is stated as something that "may" be done to augment the direct examination process. The "may" needs to be removed from the section and replaced as a requirement.

D.08 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

D.08 Inspection Notes

D.08 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	D.08.01	Adequate criteria were not defined in the ICDA Plan for making key decisions (e.g., ICDA direct examination)	AF D.2	
	D.08.02	Locations where internal corrosion and electrolyte accumulation are most likely to exist in each ICDA region were not adequately identified	AF D.5	
	D.08.03	A direct examination for internal corrosion was not required or not adequately completed using a generally accepted measurement technique	AF D.6	
	D.08.04	A direct examination of those covered segment locations where internal corrosion is most likely to exist in accordance with the requirements of B31.8S was not required or not adequately completed	AF D.6	
	D.08.05	The severity of identified defects was not adequately evaluated	AF D.6	
	D.08.06	Defects were not adequately remediated per 192.933	AF D.6	
	D.08.07	The potential for internal corrosion was not adequately evaluated in all pipeline sections (both covered and non-covered) with similar characteristics to the ICDA region containing the covered segment in which corrosion was found	AF D.10	
	D.08.08	More restrictive criteria were not adequately required and/or	AF D.9	

D.08 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
		implemented when conducting ICDA direct examination for the first time on a covered segment		
	D.08.09	Procedures did not adequately document requirements for ICDA direct examination	AF D.2	
	D.08.10	No process/procedures existed that described requirements for ICDA direct examination	AF D.2	
	Other			

D.09 Dry Gas ICDA Post-Assessment

For dry gas systems, verify that the operator performs post-assessment evaluation of ICDA effectiveness and continued monitoring of covered segments where internal corrosion has been identified.

[§192.927(c)(4)]

D.09.a. Verify that the operator's plan defines criteria to be applied in making key decisions (e.g., reassessment interval determination, techniques for monitoring internal corrosion) in implementing the post-assessment stage of the ICDA process. [§192.927(c)(5)(i)]

D.09.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.09.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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D.09.b. Verify the operator has a process for **evaluating the effectiveness** of ICDA as an assessment method and **determining reassessment intervals**. [§192.927(c)(4)(i) and ASME B31.8S-2004, Appendix B2.4]

- i. Verify that if corrosion is found in areas where the pipeline inclination is greater than the estimated critical inclination, that the operator re-evaluates the critical inclination angle and additional new areas are selected for direct examination. [ASME B31.8S-2004, Appendix B2.4]
- ii. Verify the operator's process determines whether a segment must be reassessed at intervals more frequently than those specified in §192.939 using the largest defect most likely to remain in the covered segment as the largest defect discovered in the ICDA segment and estimating the reassessment interval as half the time required for the largest defect to grow to critical size. Verify that this evaluation is to be carried out within one year of completion of the assessment. [§192.927(c)(4)(i) and §192.939(a)(3)]
- iii. Verify the operator's reassessment intervals comply with the following maximum allowed intervals in accordance with 192.939 (see Protocol F). [§192.939(b)]
 1. 10 years for segments operating at SMYS levels greater than 50%
 2. 15 years for segments operating between 30 and 50% SMYS
 3. 20 years for segments operating below 30% SMYS

D.09.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.09.b. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

PG&E RMP-10, Section 7.3.4, replace “should” with the word shall since these are performance measures required by ASME B31.8S.

D.09.c. Verify the operator continually monitors each covered segment where internal corrosion has been identified using techniques such as coupons, UT sensors or electronic probes, periodically drawing off liquids at low points and chemically analyzing them for corrosion products. [[§192.927\(c\)\(4\)\(ii\)](#)]

- i. Verify the operator has a process to determine the frequency for monitoring and liquid analysis based on all integrity assessments results conducted in accordance with 192 Subpart O and risk factors specific to the covered segment. [[§192.927\(c\)\(4\)\(ii\)](#) and [ASME B31.8S-2004, Appendix A2.2](#)]
- ii. Verify the operator’s process requires that if any evidence of corrosion products is found in the covered segment, prompt action must be taken including, as a minimum: [[§192.927\(c\)\(4\)\(ii\)](#)]
 1. Remediate the conditions the operator finds in accordance with [§192.933](#), and
 2. Implement one of the two following required actions: (1) Conduct excavations of covered segments at locations downstream from where the electrolyte might have entered the pipe, or (2) assess the covered segment using another integrity assessment method allowed by Subpart O.

D.09.c. Inspection Results *(Type an X in the applicable box below. Select only one.)*

	No Issues Identified
X	Potential Issues Identified <i>(explain in Statement of Issue)</i>
	Not Applicable <i>(explain in Statement of Issue)</i>

D.09.c. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

PG&E RMP-10, Section 7.2.2 needs to provide more detail on determining the frequency for monitoring of the conditions listed, as well as who will make that determination. Also, what constitutes “periodically” in the drawing of liquid samples from low points.

D.09.d. Verify that the operator’s plan contains provisions for applying more restrictive criteria for the post-assessment when conducting ICDA for the first time on a covered segment [[§192.927\(c\)\(5\)\(ii\)](#)]

D.09.d. Inspection Results *(Type an X in the applicable box below. Select only one.)*

	No Issues Identified
X	Potential Issues Identified <i>(explain in Statement of Issue)</i>
	Not Applicable <i>(explain in Statement of Issue)</i>

D.09.d. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

PG&E has assumed corrosion of 20% wall, even at locations where none has been found, compared that to the length of time the pipeline has been in operation, and then used that data to calculate remaining ½ life. Although PG&E indicated it is doing this step, it is not written out as a requirement within PG&E RMP-10.

D.09 Documents Reviewed *(Tab from bottom-right cell to add additional rows.)*

Document Number	Rev	Date	Document Title

D.09 Inspection Notes

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D.09 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
	D.09.01	Adequate criteria were not defined in the ICDA Plan for making key decisions (e.g., ICDA post assessment)	AF D.2	
	D.09.02	The effectiveness of the ICDA process was not adequately evaluated	AF D.8	
	D.09.03	The reassessment interval was not adequately determined	AF D.7	
	D.09.04	The evaluation for reassessment interval was not adequately completed within one year of completion of the assessment	AF D.7	
	D.09.05	A reassessment interval was selected that exceeded the maximum reassessment intervals specified in 192.939 and Table 3 of B31.8S	AF D.7	
	D.09.06	Adequate continual monitoring was not required or not completed for each covered segment where internal corrosion has been identified using an acceptable technique	AF D.8	
	D.09.07	Adequate and timely action was not taken when evidence existed of corrosion products in monitored covered segments	AF D.8	
	D.09.08	More restrictive criteria were not adequately required and/or implemented when conducting ICDA post assessment for the first time on a covered segment	AF D.9	
	D.09.09	Procedures did not adequately document requirements for ICDA post assessment	AF D.2	
	D.09.10	No process/procedures existed that described requirements for ICDA post assessment	AF D.2	
	Other:			

D.10 Wet Gas ICDA Programmatic Requirements –

If the operator elects to use ICDA to assess a covered segment operating with electrolyte present in the gas stream (wet gas), verify that the operator develops and implements an ICDA plan in accordance with §192.927 which addresses the following. [§192.927(b)]

D.10.a. Verify that the operator developed a documented ICDA plan which demonstrates how the operator will conduct ICDA on the entire pipeline in which covered segments are present to effectively address internal corrosion. [§192.927(c)]

D.10.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
X	Not Applicable (explain in Statement of Issue)

D.10.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E has delayed development of this pending more guidance from NACE. However, is this identified as a threat on any segments?

D.10.b. Verify the operator has provided notification to PHMSA, and applicable state or local safety authorities, of an ICDA wet gas "other technology" application in accordance with §192.921 (a) (4) or §192.937 (c) (4). [§192.927(b)]

D.10.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
X	Not Applicable (explain in Statement of Issue)

D.10.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E has delayed development of this pending more guidance from NACE. However, is this identified as a threat on any segments?

D.10 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

D.10 Inspection Notes

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D.10 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	D.10.01	An adequate, documented ICDA plan was not developed for wet gas systems	AF D.2	
	D.10.02	Notification to PHMSA of an ICDA wet gas "other technology" application was not provided	AF E.6	
	D.10.03	No process/procedures existed that described requirements for the wet gas ICDA process	AF D.2	
	D.10.04	No framework in place that described the approach to be taken for the wet gas ICDA process	AF D.2	
	Other:			

D.11 SCCDA Data Gathering & Evaluation

If the operator elects to use SCCDA, verify that the operator's SCCDA evaluation process complies with [ASME B31.8S-2004, Appendix A3](#) in order to identify whether conditions for SCC of gas line pipe are present and to prioritize the covered segments for assessment. [§192.929(b)(1)]

D.11.a. Verify that the operator has a process to **gather, integrate, and evaluate data** for all covered segments to identify whether the conditions for SCC are present and to prioritize the covered segments for assessment. [§192.929(b)(1)]

- i. Verify that the operator's process gathers and evaluates data related to SCC at all sites it excavates during the conduct of its pipeline operations (not just covered segments) where the criteria indicate the potential for SCC. [§192.929(b)(1) and [ASME B31.8S-2004, Appendix A3.3](#)]
- ii. Verify that the data includes, as a minimum, the data specified in [ASME B31.8S-2004, Appendix A3](#).
- iii. Verify that the operator addresses missing data by either using conservative assumptions or assigning a higher priority to the segments affected by the missing data, as required by [ASME B31.8S-2004, Appendix A3.2](#).

D.11.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.11.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E RMP-13 does not detail the requirement of ASME B31.8S related to missing data; (D.11.a. iii) requires segments to be prioritized higher or conservative assumptions to be used.

D.11 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

D.11 Inspection Notes	

D.11 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	D.11.01	Collection of the data specified in B31.8S was not required or not adequately implemented	AF D.4	

D.11 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
	D.11.02	Data related to SCC was not adequately gathered or evaluated at all sites excavated (for any reason) that are located in areas that meet the screening criteria in B31.8S	AF D.4	
	D.11.03	Missing data was not adequately addressed	AF D.4	
	D.11.04	Procedures did not adequately document requirements for SCCDA data gathering and evaluation	AF D.3	
	D.11.05	No process/procedures existed that described requirements for the SCCDA process	AF D.3	
	D.11.06	No framework in place that described the approach to be taken for the SCCDA process	AF D.3	
	Other:			

D.12 SCCDA Assessment, Examination, & Threat Remediation

Verify that covered segments (for which conditions for SCC are identified) are assessed, examined, and the threat remediated. [[§192.929\(b\)\(2\)](#)]

D.12.a. Verify, if conditions for SCC are present, that the operator **conducts an assessment** using one of the methods specified in [ASME B31.8S-2004, Appendix A3](#).

D.12.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input checked="" type="checkbox"/>	No Issues Identified
<input type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input type="checkbox"/>	Not Applicable (explain in Statement of Issue)

D.12.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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D.12.b. Verify that the operator's plan specifies an acceptable **inspection, examination, and evaluation plan** using either the Bell Hole Examination and Evaluation Method (that complies with all requirements of [ASME B31.8S-2004, Appendix A3.4](#) (a)) or Hydrostatic Testing (that complies with all requirements of [ASME B31.8S-2004, Appendix A3.4](#) (b)).

- i. Verify, that the operator's plan requires that for pipelines which have experienced an in-service leak or rupture attributable to SCC, that the particular segment(s) be subjected to a hydrostatic pressure test (that complies with [ASME B31.8S-2004, Appendix A3.4](#) (b)) within 12 months of the failure, using a documented hydrostatic retest program developed specifically for the affected segment(s), as required by [ASME B31.8S-2004, Appendix A3.4](#).

D.12.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input type="checkbox"/>	No Issues Identified
<input checked="" type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input type="checkbox"/>	Not Applicable (explain in Statement of Issue)

D.12.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E RMP-13 does not explicitly require the hydrostatic test required by ASME B31.8S, Appendix A3.4.

D.12.c. Verify that assessment results are used to determine **reassessment intervals** in accordance with §192.939(a)(3); (see Protocol F). [§192.939(a)(3)]

D.12.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

D.12.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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D.12 Documents Reviewed (Tab from bottom-right cell to add additional rows.)

Document Number	Rev	Date	Document Title

D.12 Inspection Notes

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D.12 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.

		Area Finding	Risk Category (A-E)
	D.12.01	An acceptable assessment method was not required	AF D.3
	D.12.02	An assessment was not adequately completed using an acceptable assessment method	AF D.6
	D.12.03	An acceptable inspection, examination and evaluation approach was not specified and/or implemented	AF D.6
	D.12.04	The assessment results were not adequately considered when determining reassessment intervals	AF D.7
	D.12.05	Procedures did not adequately document requirements for SCCDA assessment, examination and threat remediation	AF D.3
	D.12.06	No process/procedures existed that documented requirements for SCCDA assessment, examination and threat remediation	AF D.3
	Other:		

Protocol Area E. Remediation

- [E.01](#) Program Requirements for Discovery, Evaluation and Remediation Scheduling
- [E.02](#) Program Requirements for Identifying Anomalies
- [E.03](#) Operator Response when Timelines for Evaluation and Remediation Cannot be Met
- [E.04](#) Record Review for Discovery, Repair and Remediation Activities
- [Table of Contents](#)

E.01 Program Requirements for Discovery, Evaluation and Remediation Scheduling

Verify that provisions exist to discover and evaluate all anomalous conditions resulting from integrity assessment and remediate those which could reduce a pipeline's integrity. [[§192.933\(a\)](#)]

E.01.a. Verify a definition of discovery is provided. [[§192.933\(b\)](#)]

E.01.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

E.01.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E RMP-06, Section 6.4 has to be made PG&E-specific and detail what PG&E defines as its discovery date. Also, PG&E RMP-06 provides no "discovery of condition" definition for ICDA.

E.01.b. Verify a requirement exists to document the actual date of discovery. [[§192.933\(b\)](#)]

E.01.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

E.01.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E RMP-11 does not have an explicit requirement to document the date of discovery using whichever form PG&E may dedicate for the documentation. The same concern applies to PG&E RMP-09 which also does not have an explicit requirement.

E.01.c. Verify a requirement exists to develop a schedule that prioritizes evaluation and remediation of anomalous conditions. [[§192.933\(c\)](#)]

E.01.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

E.01.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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E.01.d. If the operator desires to deviate from the timelines for remediation as provided in [§192.933](#) by demonstrating exceptional performance, verify that the requirements of [§192.913\(b\)](#) have been met and the safety of the covered segment is not jeopardized. [[§192.913\(c\)\(2\)](#)](See [Protocol F.05](#))

E.01.d. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
X	Not Applicable (explain in Statement of Issue)

E.01.d. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E not using exceptional performance criteria.

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E.01 Documents Reviewed (Tab from bottom-right cell to add additional rows.)

Document Number	Rev	Date	Document Title

E.01 Inspection Notes

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E.01 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	E.01.01	The criteria for discovery were not adequately documented	AF E.2	
	E.01.02	A schedule was not developed or implemented that prioritizes the evaluation and remediation of anomalous conditions	AF E.7	
	E.01.03	The requirements of 192.913(b) were not required to have been met prior to implementing deviations from the repair timeframes by demonstrating exceptional performance	AF E.7	
	E.01.04	Procedures did not adequately document requirements for discovery, evaluation and/or remediation scheduling	AF E.2	
	E.01.05	No process/procedures existed that documented requirements for discovery, evaluation and/or remediation scheduling	AF E.2	
	Other:			

E.02 Program Requirements for Identifying Anomalies

Inspect the operator's program to verify that provisions exist for the classification and remediation of anomalies that meet the criteria for: (1) Immediate repair conditions; (2) One-year conditions; (3) Monitored conditions; or (4) Other conditions as specified in [ASME B31.8S-2004, Section 7](#) . [[§192.933\(c\)](#) and [§192.933\(d\)](#)]

E.02.a. Verify the program requires a temporary pressure reduction or the pipeline to be shut down upon discovery of all immediate repair conditions. [[§192.933\(d\)\(1\)](#)]

E.02.a. Inspection Results <i>(Type an X in the applicable box below. Select only one.)</i>	
	No Issues Identified
X	Potential Issues Identified <i>(explain in Statement of Issue)</i>
	Not Applicable <i>(explain in Statement of Issue)</i>

E.02.a. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

Although PG&E RMP-11, Section 5.3.3 speaks to reducing pressure to address a safety issue on the line due to an immediate condition; however, the option to shut down the line, or under what situations scenarios the line would be shut-down, is not addressed by the RMP.

E.02.b. Verify provisions exist to classify and categorize anomalies meeting the following criteria:

- i. Immediate Repair Conditions (Conditions requiring immediate remediation actions)
 1. Calculated remaining strength indicates a failure pressure that is less than or equal to 1.1 times MAOP; [[§192.933\(d\)\(1\)](#)]
 2. A dent having any indication of metal loss, cracking, or a stress riser; [[§192.933\(d\)\(1\)](#)]
 3. An indication or anomaly that is judged by the person designated by the operator to evaluate assessment results as requiring immediate action. [[§192.933\(d\)\(1\)](#)]
 4. Metal-loss indications affecting a detected longitudinal seam if that seam was formed by direct current or low-frequency electric resistance welding or by electric flash welding; [[ASME B31.8S-2004, Section 7.2.1](#)]
 5. All indications of stress corrosion cracks; [[ASME B31.8S-2004, Section 7.2.2](#)]; or
 6. Any indications that might be expected to cause immediate or near-term leaks or ruptures based on their known or perceived effects on the strength of the pipeline. [[ASME B31.8S-2004, Section 7.2.3](#)]
- ii. One-Year Conditions (Conditions requiring remediation within one year of discovery).
 1. A smooth dent located between the 8 and 4 o'clock positions (upper 2/3 of the pipe) with a depth greater than 6% of the pipeline diameter; [[§192.933\(d\)\(2\)](#)] or,
 2. A dent with a depth greater than 2% of the pipeline's diameter, that affects pipe curvature at a girth weld or at a longitudinal seam weld. [[§192.933\(d\)\(2\)](#)]
- iii. Monitored Conditions (Conditions which must be monitored until the next assessment).
 1. A dent with a depth greater than 6% of the pipeline diameter located between the 4 and 8 o'clock position (lower 1/3) of the pipe; [[§192.933\(d\)\(3\)](#)]
 2. A dent located between the 8 and 4 o'clock position (upper 2/3) of the pipe with a depth greater than 6% of the pipeline diameter, and engineering analysis to demonstrate critical strain levels are not exceeded; [[§192.933\(d\)\(3\)](#)]or,

3. A dent with a depth greater than 2% of the pipeline diameter, that affects pipe curvature at a girth weld or a longitudinal seam weld, and engineering analysis of the dent and girth or seam weld to demonstrate critical strain levels are not exceeded. [[§192.933\(d\)\(3\)](#)]

E.02.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input checked="" type="checkbox"/>	No Issues Identified
<input type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input type="checkbox"/>	Not Applicable (explain in Statement of Issue)

E.02.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)	

E.02.c. Verify provisions exist to record and monitor anomalies that are classified as "monitored conditions" during subsequent risk or integrity assessments for any change in their status that would require remediation. [[§192.933\(d\)\(3\)](#)]

E.02.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input type="checkbox"/>	No Issues Identified
<input checked="" type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input type="checkbox"/>	Not Applicable (explain in Statement of Issue)

E.02.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)	
PG&E RMP-11, Section 5.5, does not provide for requirements to record and monitor anomalies classified as "monitored conditions" during subsequent risk or integrity assessments for any changes in their status that would require remediation.	

E.02.d. Verify that program requirements exist to meet the provisions of [ASME B31.8S-2004, Section 7](#), Figure 4 for scheduling and remediating any other threat conditions that do not meet the classification criteria of [Protocol E.02.b](#), above. [[§192.933\(c\)](#)]

E.02.d. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input checked="" type="checkbox"/>	No Issues Identified
<input type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input type="checkbox"/>	Not Applicable (explain in Statement of Issue)

E.02.d. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

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E.02 Documents Reviewed *(Tab from bottom-right cell to add additional rows.)*

Document Number	Rev	Date	Document Title

E.02 Inspection Notes

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E.02 Issue Categorization *For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.*

			Area Finding	Risk Category (A-E)
	E.02.01	Process/procedures did not require a temporary pressure reduction or pipeline shutdown upon discovery of any immediate condition	AF E.8	
	E.02.02	Adequate requirements were not specified to classify and categorize anomalies per 192.933, including consideration of tool tolerance	AF E.3	
	E.02.03	Adequate requirements in ILI vendor contracts were not specified to support timely discovery of defects after ILI data is available	AF E.2	
	E.02.04	Adequate requirements were not specified to record and monitor anomalies that are classified as "monitored conditions"	AF E.3	
	E.02.05	Requirements meeting B31.8S, Section 7, Figure 4, were not adequately specified for scheduling and remediating threat conditions that do not meet the criteria for the "immediate," "one year," or "monitored" conditions	AF E.7	
	E.02.06	No process/procedures existed that documented requirements for classifying and remediating anomalies	AF E.7	
	E.02.07	Examination of immediate conditions is not required to be conducted within 5 days of discovery if pressure reduction or other means to assure safety is not taken.	AF E.7	
	E.02.08	Safety basis for delay of immediate condition repairs beyond five days was not documented.	AF E.7	
	Other:			

E.03 Operator Response when Timelines for Evaluation and Remediation Cannot be Met

Verify that provisions exist to respond appropriately when the operator is unable to meet time limits for evaluation and remediation. [[§192.933\(a\)](#)].

E.03.a. Verify a requirement exists to take a temporary operating pressure reduction or other action that ensures safety of the covered segment in the event the operator is unable to respond within the timeframes required by [§192.933](#). [[§192.933\(a\)](#)]

- i. Verify a requirement exists to determine the appropriate pressure reduction using ASME B31G, or "RSTRENG", or reduce pressure to a level not exceeding 80% of the level at the time the condition was discovered. [[§192.933\(a\)](#)]
- ii. Verify a requirement exists that when a pressure reduction is to exceed 365 days, a documented technical justification is developed that explains the reason for remediation delay and demonstrates continuation of the reduction will not jeopardize pipeline integrity. [[§192.933\(a\)](#)]

E.03.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

E.03.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)
In PG&E RMP-11, Section 5.3.3, PG&E uses the highest operating pressure, occurring anytime between the time period the pig run is made and the time a pressure reduction is determined as the pressure from which a 20% reduction is made. This does not comply with reducing the operating pressure to a level not exceeding 80 percent of the level at the time the condition was discovered. A provision in 49 CFR §192.933 exists to address circumstances under which a 20% reduction cannot be taken. 49 CFR §192.933 states in part: "An operator must notify PHMSA in accordance with §192.949 if it cannot meet the schedule for evaluation and remediation required under paragraph (c) of this section and cannot provide safety through temporary reduction in operating pressure or other action. An operator must also notify a State pipeline safety authority when either a covered segment is located in a State where PHMSA has an interstate agent agreement, or an intrastate covered segment is regulated by that State."

E.03.b. Verify a requirement exists to document the justification, when an evaluation and remediation activity cannot be completed within established timeframe requirements, that includes the reasons why the schedule cannot be met and the basis for why the changed schedule will not jeopardize public safety. [[§192.933\(a\)](#) and [§192.933\(c\)](#)]

E.03.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

E.03.b. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

PG&E needs to make it clear in RMP-09, Section 7 and PG&E RMP-11, Section 7, that the basis for why public safety will not be jeopardized needs to be documented when evaluation and remediation activity cannot be completed within established timeframe requirements. Form M, from PG&E RMP-11 has the field to document this requirement.

E.03.c. Verify a requirement exists to notify PHMSA in accordance with §192.949 and the State pipeline safety authority, if applicable, when:

- i. the operator cannot meet the evaluation and remediation schedule and cannot provide a temporary reduction in operating pressure or other action [§192.933(a)(1) and §192.933(c)], and
- ii. a pressure reduction exceeds 365 days. [§192.933(a)(2)]

The notification is to include the documented justification under protocols E.03.a and E.03.b.

E.03.c. Inspection Results *(Type an X in the applicable box below. Select only one.)*

X	No Issues Identified
	Potential Issues Identified <i>(explain in Statement of Issue)</i>
	Not Applicable <i>(explain in Statement of Issue)</i>

E.03.c. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

E.03 Documents Reviewed *(Tab from bottom-right cell to add additional rows.)*

Document Number	Rev	Date	Document Title

E.03 Inspection Notes

E.03 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
	E.03.01	Process/procedures did not adequately require that a temporary pressure reduction or other action that ensures safety of the covered segment be implemented in the event that the operator is unable to respond within the timeframes required by 192.933	AF E.8	

E.03 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
	E.03.02	Process/procedures did not specify an acceptable method for determining the appropriate pressure reduction	AF E.8	
	E.03.03	Process/procedures did not require that an adequate technical justification be documented when a pressure reduction is in place for greater than 365 days	AF E.8	
	E.03.04	Process/procedures did not require the development of an adequate technical justification when a remediation activity cannot be completed within established timeframe requirements	AF E.10	
	E.03.05	PHMSA and State (if applicable) notification was not required when remediation schedules are not met and a temporary pressure reduction cannot be implemented or the pressure reduction exceeds 365 days.	AF E.9	
	Other:			

E.04 Record Review for Discovery, Repair and Remediation Activities

Inspect operator repair and remediation records to verify that remediation activities have been conducted in accordance with program requirements. [[§192.933](#)]

E.04.a. Verify a prioritized schedule exists for evaluation and remediation of anomalies identified during assessment or reassessment activities. The prioritized schedule must document which of the criteria specified in [§192.933\(d\)](#) and/or ASME B31.8S-2004 were used as the basis for the schedule. [[§192.933\(c\)](#) and [§192.933\(d\)](#)]

E.04.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

E.04.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E RMP-09 requires that the first excavation commence within 180 days of the assessment. It is the goal of 49 CFR §192.933(b) to have discovery of all potentially unsafe conditions from the assessment/re-assessment occur within 180 days and not just the have the first dig take place within 180 days. 49 CFR §192.933 states in part: "...An operator must promptly, but no later than 180 days after conducting an integrity assessment, obtain sufficient information about a condition to make that determination..."

E.04.b. Verify anomaly discovery was documented within 180 days of completion of the assessment or reassessment, or else that compliance with the 180-day period was impracticable. [[§192.933\(b\)](#)]

E.04.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

E.04.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E RMP-09 gives the contractor 90 days to provide PG&E the results of the indirect examination. PG&E performs its analysis of the indications within 1 month after receipt of data. PG&E then has 180 days from the receipt of the indirect inspection report to perform its first excavation. This process sums up to about 270 days from the completion of the indirect inspection. This does not meet 49 CFR § 192.933(b) which requires that, within 180 days after conducting an integrity assessment, the operator makes a determination if a condition presents a potential threat.

E.04.c. Verify any remediation activities taken are sufficient to ensure that the anomaly is unlikely to threaten the integrity of the pipeline before the next scheduled reassessment. [[§192.933\(a\)](#)]

E.04.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

E.04.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

Although PG&E RMP-09, Section 5.3.1 states that a 12-foot excavation, centered on the anomaly, is the length of the typical excavation performed. PG&E RMP-09, Form H documents indicate planned/actual excavations to be 10-feet in length. This leaves little buffer for GPS inaccuracies even when sub-meter GPS is used.

E.04.d. Verify, for any immediate repair anomalies, a temporary pressure reduction is taken by the operator on the pipeline and the reduced pressure is determined in accordance with ASME B31G, or "RSTRENG", or that the reduced pressure does not exceed 80% of the level at the time the condition was discovered.
[§192.933(a)]

E.04.d. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

E.04.d. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

E.04.e. Verify immediate repair conditions have been evaluated and remediated on a schedule established in accordance with the provisions of ASME B31.8S-2004, Section 7. [§192.933(d)(1)]

E.04.e. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

E.04.e. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

Under exception report of December 11, 2008, generated by PG&E for N-Seg 101-2008 (Sta 117+36), PG&E did not dig all immediate indications from M.P. 42.24 to 44.61, PG&E examined 4 of the 7 immediate excavations specified by the ECDA IIT. PG&E's exception report stated that enough information had been gained from the examination of the 4 indications that the remaining 3 immediate indications did not need to be examined. However, this does not comply with ASME, B31.8S-2004, Section 7, or 49 CFR, §192.933(d)(1). This finding serves as one example where the USBR team found

E.04.e. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E to be non-compliant with this protocol. However, based on the copy of PG&E's May 20, 2010 memo, *PG&E Justification of Reprioritization for First Time ECDA*, provided to the team during the audit, the team believes there are potentially more instances in which PG&E may not have evaluated or remediated immediate indications in full compliance with ASME, B31.8S-2004, Section 7, or 49 CFR, §192.933(d)(1).

E.04.f. Verify any pressure reduction taken has not exceeded 365 days from the date of discovery unless:

- i. a technical justification has been developed that explains the reason for remediation delay and demonstrates that continuation of the pressure reduction will not jeopardize the integrity of the pipeline [§192.933(a)], and
- ii. PHMSA and the State pipeline safety authority, if applicable, have been notified in accordance with §192.949. [§192.933(a)]

E.04.f. Inspection Results (Type an X in the applicable box below. Select only one.)

X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

E.04.f. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

E.04.g. Verify that remediation activities were completed in accordance with scheduled timeframes. [§192.933(c) and §192.933(d)]

E.04.g. Inspection Results (Type an X in the applicable box below. Select only one.)

X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

E.04.g. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

E.04.h. Verify that anomalies meeting any of the criteria of §192.933(d)(3) as "monitored conditions" are evaluated during subsequent risk and integrity assessments to identify any change that may require remediation and that any required remediation is scheduled and implemented in accordance with the applicable requirements of §192.933 and ASME B31.8S-2004. [§192.933(d)]

E.04.h. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

E.04.h. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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E.04.i. Verify any remediation activities that have not been completed in accordance with §192.933 timeframes, and the operator has not provided safety through a temporary pressure reduction:

- i. have technical justifications that include the reasons why the schedule cannot be met and the basis for why the changed schedule will not jeopardize public safety, and
- ii have been reported to PHMSA and appropriate State authorities in accordance with the requirements of §192.933(c) of the rule. [§192.933(c)]

E.04.i. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

E.04.i. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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E.04 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

E.04 Inspection Notes

E.04 Inspection Notes				
E.04 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	E.04.01	Assessment methods other than specified in the BAP were used for baseline assessments	AF E.5	
	E.04.02	An adequate, prioritized schedule for evaluation and remediation of anomalies was not established	AF E.10	
	E.04.03	Hydrostatic pressure test not adequately completed and/or root cause information on test failures was not adequately determined	AF E.4	
	E.04.04	Discovery was not documented within 180 days of completion of an assessment, nor was it documented that compliance with the 180-day requirement was impracticable	AF E.10	
	E.04.05	An anomaly was not adequately remediated as required	AF E.7	
	E.04.06	The appropriate pressure reduction for an immediate repair anomaly was not adequately determined and implemented	AF E.8	
	E.04.07	Immediate repair conditions were not adequately remediated	AF E.7	
	E.04.08	A pressure reduction was implemented for greater than 365 days without an adequate technical justification	AF E.8	
	E.04.09	Failure to meet requirements for assuring safety (through a pressure reduction or other means) and documenting an adequate technical justification, when remediation was not completed within required timeframes	AF E.7	
	E.04.10	"Monitored conditions" were not adequately evaluated	AF E.7	
	E.04.11	Required remediation for "monitored conditions" was not adequately implemented	AF E.7	
	E.04.12	PHMSA and States (if applicable) were not notified when remediation activities were not completed within 192.933 timeframes, and safety was not provided through a temporary pressure reduction or other action that ensures the safety of the covered segment or when a pressure reduction exceeds 365 days.	AF E.9	
	E.04.13	Tool tolerances were not adequately considered	AF E.3	
	Other:			

Protocol Area F. Continual Evaluation and Assessment

- [F.01](#) Periodic Evaluations
- [F.02](#) Reassessment Methods
- [F.03](#) Low Stress Reassessment
- [F.04](#) Reassessment Intervals
- [F.05](#) Deviation from Reassessment Requirements
- [F.06](#) Waiver from Reassessment Interval
- [Table of Contents](#)

F.01 Periodic Evaluations

Verify the operator conducts a periodic evaluation of pipeline integrity based on data integration and risk assessment to identify the threats specific to each covered segment and the risk represented by these threats. [[§192.917](#) and [§192.937\(b\)](#)]

F.01.a. Verify that periodic evaluations are conducted based on a data integration and risk assessment of the entire pipeline as specified in [§192.917](#). The evaluation must consider the following: [[§192.937\(b\)](#) and [192.917](#)]

- i. Past and present assessment results
- ii. Data integration and risk assessment information [[§192.917](#)]
- iii. Decisions about remediation [[§192.933](#)]
- iv. Additional preventive and mitigative actions [[§192.935](#)]

F.01.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

F.01.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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F.01.b. Verify that periodic evaluations of data are thorough, complete, and adequate for establishing reassessment methods and schedules. [[§192.937\(b\)](#)]

F.01.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

F.01.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

Risk not evaluated in 2009 since the committees didn't meet.

F.01.c. Verify that an appropriate interval is established for performing required periodic evaluations of threats and pipeline conditions following completion of the baseline assessment. [[§192.937\(b\)](#)]

F.01.c. Inspection Results (Type an X in the applicable box below. Select only one.)

X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

F.01.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

F.01.d. Verify that the operator periodically reviews the evaluation results to determine if the new information warrants changes to reassessment intervals and/or methods, and makes changes as appropriate. [[§192.937](#)]

F.01.d. Inspection Results (Type an X in the applicable box below. Select only one.)

	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

F.01.d. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E performs an annual risk review for every segment, covered and non-covered, to reassess risk. Risk not evaluated in 2009 since the committees didn't meet.

F.01 Documents Reviewed (Tab from bottom-right cell to add additional rows.)

Document Number	Rev	Date	Document Title

F.01 Inspection Notes				
F.01 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	F.01.01	Risk evaluations and data integration of the entire pipeline were not adequately utilized for periodic evaluations	AF F.1	
	F.01.02	Adequate data sources were not considered	AF F.1	
	F.01.03	Adequate periodic evaluations were not completed	AF F.1	
	F.01.04	Adequate documentation of periodic evaluation results was not completed	AF F.6	
	F.01.05	Appropriate intervals were not established to perform periodic evaluations	AF F.1	
	F.01.06	Periodic evaluation results were not reviewed to determine if changes to reassessment intervals and/or methods were warranted	AF F.1	
	F.01.07	Changes to reassessment intervals and/or methods were not adequately implemented when evaluation results determined that changes were warranted	AF F.1	
	F.01.08	Procedures for conducting periodic evaluations were inadequate	AF F.1	
	F.01.09	No process/procedures existed that documented requirements for conducting periodic evaluations	AF F.1	
	Other:			

F.02 Reassessment Methods

Verify that the approach for establishing the reassessment method is consistent with the requirements in §192.937(c). [§192.937(c) and §192.941]

F.02.a. Verify that one or more of the following assessment methods (depending on the applicable threats) are specified:

- i. An internal inspection tool(s) capable of detecting corrosion and any other threats that the operator intends to address using this tool(s). The process must follow [ASME B31.8S-2004, Section 6.2](#), in selecting the appropriate inspection tool. [§192.937(c)(1)]
- ii. A pressure test conducted in accordance with Subpart J. An operator must use the test pressures specified in [ASME B31.8S-2004, Section 5, Table 3](#), to justify an extended reassessment interval in accordance with §192.939. Pressure test is appropriate for threats as defined in [ASME B31.8S-2004, Section 6.3](#). [§192.937(c)(2)]
- iii. Direct assessment – refer to Protocol D. [§192.937(c)(3)]
- iv. Other technology that an operator demonstrates can provide an equivalent understanding of the condition of the pipe. If other technology is the method selected, the process should require that the operator notify PHMSA at least 180 days before conducting the assessment, in accordance with §192.949. Also, verify that notification to a State or local pipeline safety authority is required when either a covered segment is located in a State where PHMSA has an interstate agent agreement, or an intrastate covered segment is regulated by that State. [§192.937(c)(4)]
- v. Confirmatory direct assessment when used on a covered segment that is scheduled for a reassessment period longer than seven years. Refer to Protocol G. [§192.937(c)(5)]
- vi. If the operator is using "low stress reassessment" method, evaluate the process using [Protocol F.03](#).

F.02.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

F.02.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

F.02.b. Review the methods selected for reassessments and verify that they are appropriate for the identified threats.

F.02.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

F.02.b. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

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F.02 Documents Reviewed *(Tab from bottom-right cell to add additional rows.)*

Document Number	Rev	Date	Document Title

F.02 Inspection Notes

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F.02 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
	F.02.01	An appropriate reassessment method that is consistent with B31.8S, Section 6 was not specified	AF F.4	
	F.02.02	Procedures did not require PHMSA and State (if applicable) notification when "other technology" is selected as the assessment method	AF E.6	
	F.02.03	An assessment method(s) was not selected that is consistent with the applicable segment threat(s)	AF F.4	
	F.02.04	Procedures did not adequately document requirements for selecting assessment methods	AF F.4	
	F.02.05	All relevant data was not adequately considered when selecting the reassessment method	AF F.4	
	F.02.06	No process/procedures existed that documented requirements for selecting the reassessment method	AF F.4	
	F.02.07	No framework existed that described the approach to be taken for selecting the reassessment method	AF F.4	
	Other:			

F.03 Low Stress Reassessment

For pipelines operating at < 30% SMYS, the operator may choose to use a "low stress reassessment" method to address threats of external and internal corrosion. If this method is used, verify that the operator addresses the following requirements [[§192.941](#)]:

F.03.a. Verify that the operator completes a baseline assessment on the covered segment prior to implementing the "low stress reassessment" method. [[§192.941\(a\)](#)]

F.03.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

F.03.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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F.03.b. If used to address external corrosion, verify that the operator has incorporated the following:

- i. If the pipe is cathodically protected, electrical surveys (i.e., indirect examination tool/method) must be performed at least every 7 years. The operator must use the results of each survey as part of an overall evaluation of the cathodic protection and corrosion threat for covered segments. This evaluation must consider, at a minimum, the leak repair and inspection records, corrosion monitoring records, exposed pipe records, and the pipeline environment. [[§192.941\(b\)\(1\)](#)]
- ii. If the pipe is unprotected or cathodically protected where electrical surveys are impractical, the operator must require (1) the conduct of leakage surveys as required by §192.706, at 4-month intervals; and (2) the identification and remediation of areas of active corrosion every 18 months by evaluating leak repair and inspection records, corrosion monitoring records, exposed pipe records, and the pipeline environment. [[§192.941\(b\)\(1\)](#)]

F.03.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

F.03.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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F.03.c. If used to address internal corrosion, verify that the operator has incorporated all of the following:

- i. Gas analysis for corrosive agents must be performed at least once each calendar year. [[§192.941\(c\)\(1\)](#)]
- ii. Periodic testing of fluids removed from the segment must be conducted. At least once each calendar year the operator must test the fluids removed from each storage field that may affect a covered segment. [[§192.941\(c\)\(2\)](#)]
- iii. At least every seven (7) years, the operator must integrate data from the analysis and testing required by c.i and c.ii above with applicable internal corrosion leak records, incident reports, and test records, and define and implement appropriate remediation actions. [[§192.941\(c\)\(3\)](#)]

F.03.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

<p>F.03.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)</p>

F.03 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

F.03 Inspection Notes

F.03 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	F.03.01	Low stress reassessment was used on pipelines operating at $\geq 30\%$ SMYS	AF F.4	
	F.03.02	A baseline assessment was not completed on a segment prior to using low stress reassessment	AF F.4	
	F.03.03	The requirements in 192.941(b) were not specified in procedures and/or implemented when using low stress reassessment for external corrosion	AF F.4	
	F.03.04	The requirements in 192.941(c) were not specified in procedures and/or implemented when using low stress reassessment for internal corrosion	AF F.4	

F.03 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	F.03.05	Procedures did not adequately document requirements for using low stress reassessment	AF F.4	
	F.03.06	No process/procedures existed that documented requirements for using low stress reassessment	AF F.4	
	F.03.07	No framework existed that described the approach to be taken for using low stress reassessment	AF F.4	
	Other:			

F.04 Reassessment Intervals

Verify that the requirements for establishing the reassessment intervals are consistent with section §192.939 and ASME B31.8S-2004. [§192.937(a), §192.939(a), §192.939(b), §192.913(c), and ASME B31.8S-2004, Section 5, Table 3]

F.04.a. Verify that the operator reassesses covered segments on which a baseline assessment was conducted during the baseline period specified in subpart 192.921(d) by no later than seven years after the baseline assessment of that covered segment unless the reassessment evaluation (refer to Protocol F.01) indicates an earlier reassessment. [§192.937(a)]

F.04.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

F.04.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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F.04.b. For pipelines operating at or above 30% SMYS, verify that the operator meets the following requirements:

- i. If the operator establishes a reassessment interval greater than seven (7) years, a confirmatory direct assessment (refer to Protocol G) must be performed at intervals not to exceed seven (7) years followed by a reassessment at the interval established by the operator (refer below). [§192.939(a)]
- ii. Unless a deviation is permitted under §192.913(c), the maximum reassessment interval shall not exceed the values listed in the §192.939(b) table. [§192.937(a)]
- iii. If the reassessment method is a pressure test, ILI, or other equivalent technology, the interval must be based on either: (1) the identified threat(s) for the covered segment (see §192.917) and on the analyses of the results from the last integrity assessment, and a review of data integration and risk assessment; or (2) using the intervals specified for different stress levels of pipeline listed in ASME B31.8S-2004, Section 5, Table 3. An operator must use the test pressures specified in ASME B31.8S-2004, Section 5, Table 3, to justify an extended reassessment interval in accordance with §192.939. [§192.939(a)(1)]
- iv. If the reassessment method is external corrosion direct assessment, internal corrosion direct assessment, or SCC direct assessment refer to Protocol D for evaluating the operator's interval determination.

F.04.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

F.04.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

F.04.c. For pipelines operating < 30% SMYS, verify that the operator selects one of the following reassessment approaches:

- i. Reassessment by pressure test, internal inspection or other equivalent technology following the requirements in §192.939(a)(1) except that the stress level referenced in §192.939(a)(1)(ii) would be adjusted to reflect the lower operating stress level. However, if an established interval is more than seven (7) years, the operator must conduct at seven (7) year intervals either a confirmatory direct assessment in accordance with §192.931, or a low stress reassessment in accordance with §192.941. An operator must use the test pressures specified in ASME B31.8S-2004, Section 5, Table 3, to justify an extended reassessment interval in accordance with §192.939.[§192.939(b)(1)]
- ii. Reassessment by external corrosion direct assessment, internal corrosion direct assessment, or SCC direct assessment. Refer to Protocol D for evaluating the operator's interval determination. [§192.939(b)(2), §192.939(b)(3) and §192.939(b)(4)]
- iii. Reassessment by confirmatory direct assessment at seven year intervals in accordance with subpart 192.931, with reassessment by one of the methods listed in §192.939(b)(1) – §192.939(b)(3) by year 20 of the interval. [§192.939(b)(4)]
- iv. Reassessment by the "low stress method" at 7-year intervals in accordance with §192.941 with reassessment by one of the methods listed in §192.939(b)(1) through §192.939(b)(3) by year 20 of the interval. [§192.939(b)(5)]

F.04.c. Inspection Results (Type an X in the applicable box below. Select only one.)

X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

F.04.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

F.04.d. Verify that a covered segment on which a prior assessment was credited as a baseline assessment under subpart §192.921(e) is required to be reassessed by no later than December 17, 2009. [§192.937(a)]

F.04.d. Inspection Results (Type an X in the applicable box below. Select only one.)

X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

F.04.d. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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F.04.e. Verify that reassessment intervals are appropriate and that adequate documentation and technical bases support the intervals selected.

F.04.e. Inspection Results (Type an X in the applicable box below. Select only one.)

X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

F.04.e. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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F.04 Documents Reviewed (Tab from bottom-right cell to add additional rows.)

Document Number	Rev	Date	Document Title

F.04 Inspection Notes

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F.04 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.

			Area Finding	Risk Category (A-E)
	F.04.01	A reassessment was not scheduled for a segment within seven years after the baseline assessment	AF F.3	
	F.04.02	A reassessment interval that exceeded the maximum values in 192.939 and/or Table 3 in B31.8S was specified	AF F.3	
	F.04.03	Identified threats, results from the last integrity assessment, and a review of data integration and risk assessment were not adequately considered when determining the reassessment interval	AF F.3	
	F.04.04	A reassessment on a covered segment on which a prior assessment was credited as a baseline assessment was not scheduled on or	AF F.3	

F.04 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
		before December 17, 2009		
	F.04.05	The appropriate reassessment interval was not determined and/or appropriate technical basis was not developed to support the interval selected	AF F.3	
	F.04.06	Procedures did not adequately document requirements for determining reassessment intervals	AF F.3	
	F.04.07	The reassessment schedule did not include adequate specificity (e.g., no calendar quarter or month specified for near term schedule)	AF F.3	
	F.04.08	No process/procedures existed that documented requirements for determining reassessment intervals	AF F.3	
	F.04.09	No framework existed that described the approach to be taken for determining reassessment intervals	AF F.3	
	F.04.10	One or more covered segments did not receive a reassessment within rule-required timeframes or within six months of the scheduled date	AF F.2	
	Other:			

F.05 Deviation from Reassessment Requirements

If the operator elects to deviate from certain requirements listed in §192.913(c), verify that the operator uses a performance based approach that satisfies the requirements for exceptional performance as follows: [§192.913 and ASME B31.8S-2004]

F.05.a. Verify that the operator has a performance based integrity management program that meets or exceeds the performance-based requirements of ASME B31.8S-2004 and includes, at a minimum, the following elements: [§192.913(a)]

- i. A comprehensive process for risk analysis;
- ii. All risk factor data used to support the program;
- iii. A comprehensive data integration process;
- iv. A procedure for applying lessons learned from assessment of covered pipeline segments to pipeline segments not covered by this subpart;
- v. A procedure for evaluating every incident, including its cause, within the operator's sector of the pipeline industry for implications both to the operator's pipeline system and to the operator's integrity management program;
- vi. A performance matrix that demonstrates the program has been effective in ensuring the integrity of the covered segments by controlling the identified threats to the covered segments (Refer to Protocol I);
- vii. Semi-annual performance measures beyond those required in §192.943 that are part of the operator's performance plan. [See §192.911(i)] Refer to Protocol I.
- viii. An analysis that supports the desired integrity reassessment interval and the remediation methods to be used for all covered segments.

F.05.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
X	Not Applicable (explain in Statement of Issue)

F.05.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

Exceptional performance criteria, to calculate assessment intervals, not currently being used by PG&E.

F.05.b. Verify that the operator has completed at least two integrity assessments on each covered pipeline segment the operator is including under the performance-based approach and is able to demonstrate that each assessment effectively addressed the identified threats on the covered segments. [§192.913(b)(2)(i)]

F.05.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
X	Not Applicable (explain in Statement of Issue)

F.05.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

Exceptional performance criteria, to calculate assessment intervals, not currently being used by PG&E.

F.05.c. Verify the operator has remediated anomalies identified in the more recent assessment per the requirements of §192.933. [§192.913(b)(2)(ii)]

F.05.c. Inspection Results (Type an X in the applicable box below. Select only one.)

	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
X	Not Applicable (explain in Statement of Issue)

F.05.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

Exceptional performance criteria, to calculate assessment intervals, not currently being used by PG&E.

F.05.d. Verify the operator has incorporated the results and lessons learned from the more recent assessment into the operator's data integration and risk assessment. [§192.913(b)(2)(ii)]

F.05.d. Inspection Results (Type an X in the applicable box below. Select only one.)

	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
X	Not Applicable (explain in Statement of Issue)

F.05.d. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

Exceptional performance criteria, to calculate assessment intervals, not currently being used by PG&E.

F.05.e. Verify that deviations are allowed only for the timeframe for reassessment as provided in §192.939 except that reassessment by some method allowed by Subpart O (e.g., confirmatory direct assessment) must be completed at intervals not to exceed seven (7) years. [§192.913(c)(1)]

F.05.e. Inspection Results (Type an X in the applicable box below. Select only one.)

	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
X	Not Applicable (explain in Statement of Issue)

F.05.e. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

<p>Exceptional performance criteria, to calculate assessment intervals, not currently being used by PG&E.</p>

F.05 Documents Reviewed *(Tab from bottom-right cell to add additional rows.)*

Document Number	Rev	Date	Document Title

F.05 Inspection Notes

F.05 Issue Categorization For each potential issue, type an “X” in the first column for one “best fit” Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.	Area Finding	Risk Category (A-E)
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	F.05.01	The requirements in 192.913 were not adequately satisfied when using exceptional performance to deviate from maximum reassessment interval requirements	AF F.3	
	F.05.02	At least two integrity assessments on each covered segment included under the performance-based approach were not adequately completed	AF F.3	
	F.05.03	Anomalies were not remediated per 192.933 in the more recent assessment used for credit under the performance-based approach	AF F.3	
	F.05.04	Results and lessons learned were not adequately incorporated into the data integration and risk assessment from the more recent assessment used for credit under the performance-based approach	AF F.3	
	F.05.05	Some reassessment method (e.g., CDA or low stress reassessment) was not required at least every seven years	AF F.3	
	F.05.06	Procedures did not adequately specify or document requirements for implementing extended intervals under a performance-based program	AF F.3	
	Other:			

F.06 Waiver from Reassessment Interval

Verify that the operator's program requires that it apply for a waiver, should it become necessary, from the required reassessment interval. The waiver request must demonstrate that the waiver is justified as specified in the rule. Such a waiver request may only be made in the following limited situations: [[§192.943](#)]

F.06.a. Lack of internal inspection tools. [[§192.943\(a\)\(1\)](#)]

F.06.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

F.06.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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F.06.b. Cannot maintain local product supply. [[§192.943\(a\)\(2\)](#)]

F.06.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

F.06.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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F.06.c. Application must be made at least 180 days before the end of the required reassessment interval. (Exception: If local product supply issues make the 180 day submittal impractical, an operator must apply for the waiver as soon as the need for waiver becomes known). [[§192.943\(b\)](#)]

F.06.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

F.06.c. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

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F.06 Documents Reviewed *(Tab from bottom-right cell to add additional rows.)*

Document Number	Rev	Date	Document Title

F.06 Inspection Notes

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F.06 Issue Categorization *For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.*

			Area Finding	Risk Category (A-E)
	F.06.01	Requirements for submitting a reassessment interval waiver were not consistent with 192.943	AF F.5	
	F.06.02	A waiver was not requested when maximum reassessment intervals were exceeded	AF F.5	
	F.06.03	Procedures did not adequately document requirements for submitting waivers	AF F.5	
	Other:			

Protocol Area G. Confirmatory DA

- [G.01](#) Confirmatory Direct Assessment, CDA
- [Table of Contents](#)

G.01 Confirmatory Direct Assessment, CDA

If using confirmatory direct assessment (CDA) as allowed in §[192.937](#), verify that the operator's integrity management plan meets the requirements of §[192.931](#), §[192.925](#) (ECDA) and §[192.927](#) (ICDA).
[§[192.931](#)]

G.01.a. Verify that the operator's CDA plan for external corrosion complies with all of the requirements contained in §[192.925](#) (See [Protocol D.01](#) ~ [Protocol D.05](#)) with the following exceptions, [§[192.931\(b\)](#) and §[192.925](#)]

- The procedures for indirect examination may allow use of only one indirect examination tool suitable for the application
- The procedures for direct examination and remediation must provide that all immediate action indications and at least one scheduled action indication are excavated for each ECDA region.

G.01.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
X	Not Applicable (explain in Statement of Issue)

G.01.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E has not developed a CDA program, nor is the company using CDA (seven year full assessment in place of CDA). PG&E is looking for guidance from NACE in developing a CDA program.

G.01.b. Verify that the operator's CDA plan for internal corrosion complies with all of the requirements contained in §[192.927](#) (See Protocols D.6 ~ D.9) except that procedures for identifying locations for excavation may require excavation of only one high risk location in each ICDA region.[§[192.931\(c\)](#) and §[192.925](#)]

G.01.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
X	Not Applicable (explain in Statement of Issue)

G.01.b. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

PG&E has not developed a CDA program, nor is the company using CDA (seven year full assessment in place of CDA). PG&E is looking for guidance from NACE in developing a CDA program.

G.01.c. When using CDA carried out under § [192.931\(b\)](#) or (c), if an operator discovers any defect requiring remediation prior to the next scheduled assessment, verify that the operator evaluates the need to accelerate the schedule for the next assessment. If the schedule is accelerated, verify that the new assessment scheduled is determined using the methodology documented in [NACE RP0502-2002, Section 6.2](#) and [NACE RP0502-2002, Section 6.3](#). [§ [192.931\(d\)](#)]

- i. If the defect requires immediate remediation, verify the operator reduces pressure consistent with § [192.933](#) (See Protocol E) until the operator has completed reassessment using one of the assessment techniques allowed in § [192.937](#) (See Protocol F). [§ [192.931\(d\)](#)]

G.01.c. Inspection Results *(Type an X in the applicable box below. Select only one.)*

	No Issues Identified
	Potential Issues Identified <i>(explain in Statement of Issue)</i>
X	Not Applicable <i>(explain in Statement of Issue)</i>

G.01.c. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

PG&E has not developed a CDA program, nor is the company using CDA (seven year full assessment in place of CDA). PG&E is looking for guidance from NACE in developing a CDA program.

G.01 Documents Reviewed *(Tab from bottom-right cell to add additional rows.)*

Document Number	Rev	Date	Document Title

G.01 Inspection Notes

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G.01 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	G.01.01	The use of CDA was not restricted to only external and internal corrosion	AF G.1	
	G.01.02	A plan for applying CDA to external corrosion that meets the requirements of 192.925 except as noted in 192.931 was not developed and/or implemented	AF G.2	
	G.01.03	A plan for applying CDA to internal corrosion that meets the requirements of 102.927 except as noted in 192.931 was not developed and/or implemented	AF G.2	
	G.01.04	The reassessment interval was not evaluated using NACE RP 0502 sections 6.2 and 6.3 when a defect was identified during CDA	AF G.2	
	G.01.05	Procedures for using CDA were inadequate	AF G.2	
	G.01.06	No process/procedures existed for CDA	AF G.2	
	G.01.07	No framework existed that described the approach to be taken for using CDA	AF G.2	
	Other:			

Protocol Area H. Preventive and Mitigative Measures

- [H.01](#) General Requirements (Identification of Additional Measures)
- [H.02](#) Third Party Damage
- [H.03](#) Pipelines Operating Below 30% SMYS
- [H.04](#) Plastic Transmission Pipeline
- [H.05](#) Outside Force Damage
- [H.06](#) Corrosion
- [H.07](#) Automatic Shut-Off Valves or Remote Control Valves
- [H.08](#) General Requirements (Implementation of Additional Measures)
- [Table of Contents](#)

H.01 General Requirements (Identification of Additional Measures)

Verify that a process is in place to identify additional measures to prevent a pipeline failure and to mitigate the consequences of a pipeline failure in a high consequence area. [[§192.935\(a\)](#)]

H.01.a. Verify that the process for identifying additional measures is based on identified threats to each pipeline segment and the risk analysis required by [§192.917](#). [Note: [Protocol H.08](#) addresses the implementation decision process for additional preventive and mitigative measures.] [[§192.935\(a\)](#)]

H.01.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

H.01.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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H.01.b. Verify that additional measures evaluated by the operator cover a spectrum of alternatives such as, but not limited to, installing Automatic Shut-off Valves or Remote Control Valves, installing computerized monitoring and leak detection systems, replacing pipe segments with pipe of heavier wall thickness, providing additional training to personnel on response procedures, conducting drills with local emergency responders and implementing additional inspection and maintenance programs. [[§192.935\(a\)](#)]

H.01.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

H.01.b. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

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H.01 Documents Reviewed *(Tab from bottom-right cell to add additional rows.)*

Document Number	Rev	Date	Document Title

H.01 Inspection Notes

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H.01 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
	H.01.01	Process/procedures to identify and implement additional measures to prevent and mitigate a pipeline failure were inadequate	AF H.1	
	H.01.02	Segment threats and risk analysis were not adequately considered in the process to identify additional measures to prevent and mitigate a pipeline failure	AF H.3	
	H.01.03	The full range of measures discussed in the section 192.935 were not adequately considered in the preventive and mitigative process	AF H.1	
	H.01.04	No process/procedures existed for preventive and mitigative measures	AF H.1	
	H.01.05	No framework existed that described the approach to be taken for developing a preventive and mitigative process	AF H.1	
	Other:			

H.02 Third Party Damage

Verify that the following preventive and mitigative requirements regarding threats due to third party damage have been addressed: [[§192.935\(b\)\(1\)](#) and [§192.935\(e\)](#)]

H.02.a. Verify implementation of enhancements to the §192.614-required Damage Prevention Program with respect to covered segments to prevent and minimize the consequences of a release, and that the enhanced measures include, at a minimum: [Note: As noted in [Protocol H.03](#) and [Protocol H.04](#), a subset of these enhancements are required for pipelines operating below 30% SMYS and for plastic transmission pipelines.] [[§192.935\(b\)\(1\)](#)]

- i. Using qualified personnel (see [Protocol L.02](#) - [§192.915\(c\)](#)) for work an operator is conducting that could adversely affect the integrity of a covered segment, such as marking, locating, and direct supervision of known excavation work. [[§192.935\(b\)\(1\)\(i\)](#)]
- ii. Collecting, in a central database, location-specific information on excavation damage that occurs in covered and non covered segments in the transmission system and the root cause analysis to support identification of targeted additional preventative and mitigative measures in the high consequence areas. This information must include recognized damage that is not required to be reported as an incident under Part 191. [[§192.935\(b\)\(1\)\(ii\)](#)]
- iii. Participating in one-call systems in locations where covered segments are present. [[§192.935\(b\)\(1\)\(iii\)](#)]
- iv. Monitoring of excavations conducted on covered pipeline segments by pipeline personnel. [[§192.935\(b\)\(1\)\(iv\)](#)]
 1. When there is physical evidence of encroachment involving excavation that the operator did not monitor near a covered segment, verify that the area near the encroachment must be excavated or that an above ground survey using methods defined in NACE RP0502-2002 must be conducted. [[§192.935\(b\)\(1\)\(iv\)](#)]
 - A. If an above ground survey is conducted, verify that any indication of coating holidays or discontinuities warranting direct examination must be excavated and remediated in accordance with [ASME B31.8S-2004, Section 7.5](#) and [§192.933](#). [[§192.935\(b\)\(1\)\(iv\)](#)]

H.02.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

H.02.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)	
<p>PG&E is performing Gas Event and Near Hit Reporting (WP1465-02) to perform root cause analysis of all excavation related damages (distribution and transmission) to improve damage prevention efforts. PG&E's procedure for performing excavations, or above ground surveys when evidence of unmonitored encroachment are found (WP4412-05, Section 5.B.) needs to clearly state that the "2 feet of the underground facility..." means 2-feet of the outermost edge of the pipeline. Also, the instructions for Form 62-4060 do not explicitly require that the form be submitted to IM staff if an excavation is performed to examine potential encroachment in an HCA and, possibly, on any locations not in HCAs.</p>	

H.02.b. If the threat of third party damage is identified by results of the §192.917(b) (Protocol C.02) and ASME B31.8S-2004, Appendix A7 data integration processes, verify that comprehensive additional preventive measures are implemented. [§192.917(e)(1)]

H.02.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

H.02.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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H.02 Documents Reviewed (Tab from bottom-right cell to add additional rows.)

Document Number	Rev	Date	Document Title

H.02 Inspection Notes

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H.02 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	H.02.01	Enhancements to the damage prevention program to require the use of qualified personnel for work that could adversely affect the integrity of a covered segment were not adequately developed and/or implemented	AF H.2	
	H.02.02	Enhancement to the Damage Prevention Program to require the collection in a central database location-specific information on excavation damage that occurs in covered and non-covered segments and the root cause analysis were not adequately developed and/or implemented	AF H.2	
	H.02.03	Enhancements to the Damage Prevention Program to require participation in a one-call system in locations where covered segments are present were not adequately developed and/or implemented	AF H.2	
	H.02.04	A process to require that either excavations be monitored or patrols be conducted at bi-monthly intervals was not adequately developed and/or implemented	AF H.2	
	H.02.05	P&M measures have not been implemented to address the threat of third party damage.	AF H.2	
	Other:			

H.03 Pipelines Operating Below 30% SMYS

Verify that the following preventive and mitigative requirements for pipelines operating below 30% SMYS have been addressed: [[§192.935\(d\)](#)]

H.03.a. For pipelines operating below 30% SMYS located in a high consequence area:

- i. Verify that the operator's processes for damage prevention program enhancements include requirements for the use of qualified personnel (see [Protocol L.02](#) - [§192.915\(c\)](#)) for work an operator is conducting that could adversely affect the integrity of a covered segment, such as marking, locating, and direct supervision of known excavation work. [[§192.935\(d\)](#) and [§192.935\(d\)\(1\)](#)] [Note: This requirement is also contained in [Protocol H.02.a.i](#) for pipelines operating above 30% SMYS.]
- ii. Verify that the operator's processes for damage prevention program enhancements include participating in one-call systems in locations where covered segments are present. [[§192.935\(d\)](#) and [§192.935\(d\)\(1\)](#)] [Note: This requirement is also contained in [Protocol H.02.a.iii](#) for pipelines operating above 30% SMYS.]
- iii. Verify that excavations near the pipeline are monitored, or patrols are conducted of the pipeline at bi-monthly intervals as required by §192.705. [[§192.935\(d\)](#) and [§192.935\(d\)\(2\)](#)]
 1. If indications of unreported construction activity are found, verify that required follow up investigations are conducted to determine if mechanical damage has occurred. [[§192.935\(d\)\(2\)](#)]

H.03.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

H.03.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

H.03.b. For pipelines operating below 30% SMYS located in a class 3 or 4 area but not in a high consequence area:

- i. Verify that the operator's processes for damage prevention program enhancements include requirements for the use of qualified personnel (see [Protocol L.02](#) - [§192.915\(c\)](#)) for work an operator is conducting that could adversely affect the integrity of a covered segment, such as marking, locating, and direct supervision of known excavation work. [[§192.935\(d\)](#), [§192.935\(d\)\(1\)](#) and §192 Table E.II.1] [Note: This requirement is also contained in [Protocol H.02.a.i](#) for pipelines operating above 30% SMYS.]
- ii. Verify that the operator's processes for damage prevention program enhancements include participating in one-call systems in locations where covered segments are present. [[§192.935\(d\)](#), [§192.935\(d\)\(1\)](#) and §192 Table E.II.1] [Note: This requirement is also contained in [Protocol H.02.a.iii](#) for pipelines operating above 30% SMYS.]
- iii. Verify that excavations near the pipeline are monitored, or patrols are conducted of the pipeline at bi-monthly intervals as required by §192.705. [[§192.935\(d\)](#), [§192.935\(d\)\(2\)](#) and §192 Table E.II.1]

1. If indications of unreported construction activity are found, verify that required follow up investigations are conducted to determine if mechanical damage has occurred.
[§192.935(d)(2) and §192 Table E.II.1]
- iv. Verify that the operator performs semi-annual leak surveys (quarterly for unprotected pipelines or cathodically protected pipe where electrical surveys are impractical). [§192.935(d)(3) and §192 Table E.II.1]

H.03.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

<p>H.03.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)</p>

H.03 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

H.03 Inspection Notes

H.03 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	H.03.01	Enhancements to the damage prevention program to require the use of qualified personnel for work that could adversely affect the integrity of a covered segment were not adequately developed and/or implemented	AF H.4	
	H.03.02	Enhancements to the damage prevention program to require participation in a one-call system in locations where covered segments are present were not adequately developed and/or implemented	AF H.4	
	H.03.03	A process to require that either excavations be monitored or patrols be conducted at bi-monthly intervals was not adequately developed and/or implemented	AF H.4	
	H.03.04	A process to require pipelines operating below 30% SMYS in a Class 3 or 4 location but not in an HCA to implement damage prevention program enhancements and leak surveys as required by 192.935(d) was not adequately developed and/or implemented	AF H.4	

H.03 Issue Categorization <i>For each potential issue, type an “X” in the first column for one “best fit” Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>		Area Finding	Risk Category (A-E)
	Other:		

H.04 Plastic Transmission Pipeline

For plastic transmission pipelines, verify that applicable third party damage requirements have been applied to covered segments of the pipeline. [[§192.935\(e\)](#)]

H.04.a. Verify that the operator's processes for damage prevention program enhancements include requirements for the use of qualified personnel (see [Protocol L.02](#) - [§192.915\(c\)](#)) for work an operator is conducting that could adversely affect the integrity of a covered segment, such as marking, locating, and direct supervision of known excavation work. [[§192.935\(e\)](#)] [Note: This requirement is also contained in previous [Protocol H.02.a.i](#) for non-plastic pipelines operating above 30% SMYS.]

H.04.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input type="checkbox"/>	No Issues Identified
<input type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input checked="" type="checkbox"/>	Not Applicable (explain in Statement of Issue)

H.04.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E operates no plastic transmission lines.

H.04.b. Verify that the operator's processes for damage prevention program enhancements include participating in one-call systems in locations where covered segments are present. [[§192.935\(e\)](#)] [Note: This requirement is also contained in [Protocol H.02.a.iii](#) for non-plastic pipelines operating above 30% SMYS.]

H.04.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input type="checkbox"/>	No Issues Identified
<input type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input checked="" type="checkbox"/>	Not Applicable (explain in Statement of Issue)

H.04.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E operates no plastic transmission lines.

H.04.c. Verify that the excavations on covered segments are monitored by pipeline personnel. [[§192.935\(e\)](#)] [Note: This requirement is also contained in [Protocol H.02.a.iv](#) for non-plastic pipelines operating above 30% SMYS.]

- i. When there is physical evidence of encroachment involving excavation that the operator did not monitor near a covered segment, verify that the area near the encroachment must be excavated or that an above ground survey using methods defined in NACE RP0502-

2002 must be conducted. [[§192.935\(e\)](#)] [Note: This requirement is also contained in [Protocol H.02.a.iv](#) for non-plastic pipelines operating above 30% SMYS.]

1. If an above ground survey is conducted, verify that any indication of coating holidays or discontinuities warranting direct examination must be excavated and remediated in accordance with [ASME B31.8S-2004, Section 7.5](#) and [§192.933. \[\[§192.935\\(e\\)\]\(#\)\]](#) [Note: This requirement is also contained in [Protocol H.02.a.iv](#) for non-plastic pipelines operating above 30% SMYS.]

H.04.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
X	Not Applicable (explain in Statement of Issue)

H.04.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E operates no plastic transmission lines.

H.04 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

H.04 Inspection Notes

H.04 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	H.04.01	Process/procedures for damage prevention program enhancements for plastic pipe were not implemented	AF H.2	
	H.04.02	Process/procedures for damage prevention program enhancements for plastic pipe were inadequate	AF H.2	
	H.04.03	No process/procedures existed for developing and implementing preventive and mitigative measures for plastic pipe	AF H.1	
	H.04.04	No framework existed that described the approach to be taken for developing preventive and mitigative measures for plastic pipe	AF H.1	
	Other:			

H.05 Outside Force Damage

Verify that the operator adequately addresses threats due to outside force (e.g., earth movement, floods, unstable suspension bridge). [[§192.935\(b\)\(2\)](#)]

H.05.a. If the operator makes a determination that outside force (e.g., earth movement, floods, unstable suspension bridge) is a threat to the integrity of a covered segment (e.g., via [Protocol C.01](#) activities), verify that measures have been taken to minimize the consequences to the covered segment. These measures include, but are not limited to, increasing the frequency of aerial, foot or other methods of patrols, adding external protection, reducing external stress, and relocating the line. [[§192.935\(b\)\(2\)](#)]

H.05.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

H.05.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E uses its RMI-04 and RMI-04A to determine “triggers” that would initiate a review of segments susceptible to outside force following heavy rain or g-force events. However, there appears to be no process for initiating additional patrols prior to the triggers occurring (i.e., for locations that may require more patrols than routinely required by 49 CFR §192). PG&E stated it actively works to relocate sections located within known earthquake crossings. The processes seem to address a response to an event; however, the process does not address what is done to increase patrols that may be conducted, for P&M, for existing known threats of outside force.

H.05 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

H.05 Inspection Notes

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H.05 Issue Categorization For each potential issue, type an “X” in the first column for one “best fit” Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	H.05.01	Preventive or mitigative measures to address the threat of outside force damage were not implemented	AF H.2	
	H.05.02	Preventive or mitigative measures selected to address the threat of outside force damage were not adequate to address the threat	AF H.2	
	H.05.03	Inadequate process or procedures for addressing threats due to	AF H.2	

H.05 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
		outside forces		
	H.05.04	No process or procedures are in place for addressing threats due to outside forces	AF H.2	
	Other:			

H.06 Corrosion

Verify that the operator takes required actions to address corrosion threats. [§192.917(e)(5)]

H.06.a. Verify that the operator makes a determination of whether or not corrosion exists on a covered pipeline segment that could adversely affect the integrity of the line (conditions specified in §192.933). [§192.917(e)(5)]

- i. If such corrosion is identified, then verify that:
 1. The corrosion is evaluated and remediated, as necessary, for all pipeline segments (both covered and noncovered) with similar material coating and environmental characteristics. [§192.917(e)(5)]
 2. A schedule is established for evaluating and remediating, as necessary, the similar segments consistent with the operator's established operating and maintenance procedures under Part 192 for testing and repair. [§192.917(e)(5)]

H.06.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

H.06.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

H.06 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

H.06 Inspection Notes	

H.06 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	H.06.01	Whether or not corrosion exists on a covered segment that could adversely affect the integrity of the line was not adequately determined	AF H.2	
	H.06.02	Corrosion was not remediated, as necessary, for all pipeline segments (both covered and non-covered) with similar material	AF H.2	

H.06 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
		coating and environmental characteristics		
	H.06.03	A schedule for evaluating and remediating corrosion was not developed and/or implemented, as necessary, for all pipeline segments (both covered and non-covered) with similar material coating and environmental characteristics	AF H.2	
	H.06.04	No procedures or process to address corrosion concerns on covered pipeline segments	AF H.2	
	H.06.05	Inadequate procedures or processes to address corrosion concerns on covered pipeline segments	AF H.2	
	Other:			

H.07 Automatic Shut-Off Valves or Remote Control Valves

Verify that the operator has a process to decide if automatic shut-off valves or remote control valves represent an efficient means of adding protection to potentially affected high consequence areas.

[§192.935(c)]

H.07.a. Verify that an adequate risk analysis-based process is used to determine if an automatic shut-off valve or remote control valve should be added. [§192.935(c)]

- i. Verify that, as a minimum, the following factors were considered: [§192.935(c)]
1. swiftness of leak detection and pipe shutdown capabilities
 2. the type of gas being transported
 3. operating pressure
 4. the rate of potential release
 5. pipeline profile
 6. the potential for ignition
 7. location of nearest response personnel

H.07.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

H.07.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E has not developed specific guidelines (especially none which consider items listed under H.07.a.) for utilizing in-line valves (although PG&E RMP-06 indicated this was to have been done by 12/31/2009) for pipeline integrity management. PG&E staff could provide no response why the guidelines were not completed by that date.

H.07 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

H.07 Inspection Notes

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H.07 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	H.07.01	An adequate process to decide if automatic shut-off valves or remote-control valves are an efficient means of adding protection	AF H.7	

H.07 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
		was not developed and/or implemented		
	H.07.02	Automatic shut-off valves or remote-control valves were not installed when the operator's analysis indicated these valves should be installed	AF H.7	
	Other:			

H.08 General Requirements (Implementation of Additional Measures)

Verify that the operator has identified and implemented (or scheduled) additional measures beyond those already required by Part 192 to prevent a pipeline failure and to mitigate the consequences of a pipeline failure in a high consequence area: [[§192.935\(a\)](#)]

H.08.a. Verify that a systematic, documented decision-making process is in place to decide which measures are to be implemented, involving input from relevant parts of the organization such as operations, maintenance, engineering, and corrosion control. [[§192.935\(a\)](#)]

H.08.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

H.08.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E stated that IM personnel consider P&M measures input from field staff through the pre-assessment (field interview) stage as well as at the tail end LTIMP meeting. However, there is no written formal process for this nor does anything state who has to be part of the LTIMP review team. The LTIMPs reviewed also provided no details as to how specific P&M measures were considered to address threats to each covered segment included in the LTIMP.

H.08.b. Verify that the decision-making process considers both the likelihood and consequences of pipeline failures. [[§192.935\(a\)](#)]

H.08.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

H.08.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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H.08.c. Verify that additional measures are identified and documented and have actually been implemented, or scheduled for implementation. [[§192.935\(a\)](#)]

H.08.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

H.08.c. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

Schedules appear to be extended from year to year without clear basis of why.

H.08 Documents Reviewed *(Tab from bottom-right cell to add additional rows.)*

Document Number	Rev	Date	Document Title

H.08 Inspection Notes

H.08 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
	H.08.01	A documented decision-making process to determine which measures should be implemented was not adequately developed and/or implemented	AF H.1	
	H.08.02	The decision-making process did not adequately consider both likelihood and consequences of pipeline failures	AF H.3	
	H.08.03	Implementation or planned implementation of preventive and mitigative measures was not timely	AF H.6	
	H.08.04	Significant preventive and mitigative measures were excluded from consideration and/or implementation without adequate justification	AF H.5	
	H.08.05	Preventive and mitigative program implementation was not adequately documented	AF H.8	
	Other:			

Protocol Area I. Performance Measures

- [I.01](#) General Performance Measures
- [I.02](#) Performance Measures Records Verification
- [I.03](#) Exceptional Performance Measurements
- [Table of Contents](#)

1.01 General Performance Measures

Inspect the operator's program to verify that, as a minimum, provisions exist for measuring integrity management program effectiveness in accordance with the four elements of [ASME B31.8S-2004, Section 9.4](#) and each identified threat in [ASME B31.8S-2004, Appendix A](#). [[§192.945\(a\)](#) and [ASME B31.8S-2004, Section 12\(b\)\(5\)](#)]

I.01.a. Verify that performance is measured semi-annually (completed through June 30th and December 31st of each year) for each of the following: [[ASME B31.8S-2004, Section 9.4](#)]

- Number of miles of pipeline inspected versus program requirements
- Number of immediate repairs completed as a result of the integrity management inspection program
- Number of scheduled repairs completed as a result of the integrity management program
- Number of leaks, failures and incidents (classified by cause).

I.01.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

I.01.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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I.01.b. Verify that performance is measured semi-annually in accordance with the threat-specific metrics of [ASME B31.8S-2004, Appendix A](#) (See [ASME B31.8S-2004, Table 9](#) for a summary listing).

I.01.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

I.01.b. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

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I.01 Documents Reviewed *(Tab from bottom-right cell to add additional rows.)*

Document Number	Rev	Date	Document Title

I.01 Inspection Notes

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I.01 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
	I.01.01	Required performance metrics were not adequately developed and/or measured	AF I.1	
	I.01.02	Collected performance metric data was not adequately documented	AF I.1	
	I.01.03	Analysis of performance metric data was not adequately documented	AF I.1	
	I.01.04	Corrective actions identified by the performance evaluation program were not adequately implemented	AF I.5	
	I.01.05	Procedures did not adequately document requirements for collecting and evaluating performance metrics	AF I.4	
	I.01.06	No process/procedures existed for collecting and evaluating performance metrics	AF I.4	
	Other:			

I.02 Performance Measures Records Verification

Inspect operator records to verify: [[§192.945\(a\)](#)]

I.02.a The four overall performance measures of [ASME B31.8S-2004, Section 9.4](#) have been submitted to PHMSA on a semi-annual basis in accordance with [§192.951](#). Note: Initial report by August 31, 2004, semi-annual reports by February 28th (or 29th) and August 31st of each year thereafter. [[§192.945\(a\)](#)]

I.02.a Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

I.02.a Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E counts mileage as being assessed at the end of the completion of direct examinations; however, per PHMSA FAQ-34, mileage is to be assessed at the conclusion of the “the last direct examination associated with direct assessment is made...” This would mean that PG&E needs to count mileage as completed after validation digs are performed, and not the last dig performed as part of the Phase 2 step of direct assessment. This is also consistent with NACE RP-0502, Section 6.4.2, which considers the direct examination dig, for process validation, to be the last examination associated with the direct assessment process.

I.02 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

I.02 Inspection Notes			

I.02 Issue Categorization For each potential issue, type an “X” in the first column for one “best fit” Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	I.02.01	The required performance metrics report was not filed	AF I.2	
	I.02.02	Procedures did not adequately document requirements to submit periodic performance metric reports	AF I.4	
	Other:			

1.03 Exceptional Performance Measurements

For operators that choose to demonstrate exceptional performance in order to deviate from certain requirements of the rule, verify the following.

I.03.a. Additional performance measures beyond those required in §192.945 (see [Protocol I.01](#)) are part of the operator's performance plan. [§192.913(b)(vii)]

I.03.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
X	Not Applicable (explain in Statement of Issue)

I.03.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

Exceptional performance method not used by PG&E.

I.03.b. All performance measures (all measures required by §192.945 and the additional performance measures) are submitted to PHMSA on a semi-annual frequency in accordance with §192.951. [§192.913(b)(vii)]

I.03.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
X	Not Applicable (explain in Statement of Issue)

I.03.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

Exceptional performance method not used by PG&E.

I.03 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

I.03 Inspection Notes			

I.03 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
	I.03.01	Additional performance metrics required by 192.913(b) were not adequately identified, measured, and/or analyzed (applies only to an operator that demonstrates exceptional performance in order to deviate from requirements)	AF I.3	
	I.03.02	Additional performance metrics were not reported (applies only to an operator that demonstrates exceptional performance in order to deviate from requirements)	AF I.2	
	I.03.03	Procedures did not adequately document requirements to identify, measure, analyze, and/or report additional performance metrics (applies only to an operator that demonstrates exceptional performance in order to deviate from requirements)	AF I.4	
	I.03.04	No process/procedures existed to identify, measure, analyze, and/or report additional performance metrics (applies only to an operator that demonstrates exceptional performance in order to deviate from requirements)	AF I.4	
	Other:			

Protocol Area J. Record Keeping

- [J.01](#) Records to be Maintained by the Operator
- [Table of Contents](#)

J.01 Records to be Maintained by the Operator

Verify that the following records, as a minimum, are maintained for the useful life of the pipeline:
[§192.947, [ASME B31.8S-2004, Section 12.1](#) and [ASME B31.8S-2004, Section 12.2\(b\)\(1\)](#)]

- J.01.a.**
- A written integrity management program [§192.947(a)]
 - Threat identification and risk assessment documentation per §192.917 [§192.947(b)]
 - A written baseline assessment plan per §192.919 [§192.947(c)]
 - Documents to support any decision, analysis, and process developed and used to implement and evaluate each element of the baseline assessment plan and integrity management program. Documents include those developed and used in support of any identification, calculation, amendment, modification, justification, deviation and determination made, and any action taken to implement and evaluate any of the program elements [§192.947(d)]
 - Training program documentation and training records per §192.915 [§192.947(e)]
 - Remediation schedule and technical basis documentation per §192.933 [§192.947(f)]
 - Direct assessment plan documentation per §192.923 through §192.929 [§192.947(g)]
 - Confirmatory assessment documentation per §192.931 [§192.947(h)]
 - Documentation of Notifications to PHMSA or State/Local Regulatory Agencies.
[§192.947(i)]

J.01.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

J.01.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E could not provide records to show that its steering committees are meeting on an annual basis, as required by PG&E RMP-01, Section 6.2 and PG&E RMP-06, Section 3.4. No meeting minutes from 2007 were provided. In addition, PG&E's records process needs to provide more detail/rational supporting decisions made through the meetings and confirmation that the meetings are conducted, and records reviewed per PG&E RMP-01. [EC meeting minutes (07/08/2009 e-mail from ██████████) is an example of this.]

J.01 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

J.01 Inspection Notes

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J.01 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.

			Area Finding	Risk Category (A-E)
	J.01.01	Process/procedure did not require that all records specified in 192.947 be maintained for the useful life of the pipeline	AF J.1	
	J.01.02	All records specified in 192.947 were not adequately maintained for the useful life of the pipeline	AF J.1	
	J.01.03	No process/procedures existed that documented requirements for maintaining records	AF J.1	
	Other:			

Protocol Area K. Management of Change (MOC)

- [K.01](#) Documentation and Notification of Changes to the Integrity Management Program
- [K.02](#) Attributes of the Change Process
- [Table of Contents](#)

K.01 Documentation and Notification of Changes to the Integrity Management Program

Verify that changes to the integrity management program have been handled in accordance with §[192.909](#) of the rule.

K.01.a. Verify that the reasons for program changes have been documented prior to implementation of the change(s). [§[192.909\(a\)](#)]

K.01.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

K.01.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E ICDA performed in 2005 and 2007 was done under a draft (framework) procedure. The approval of a new procedure didn't occur until late 2009 early 2010.

K.01.b. Verify, that for significant changes to the program, program implementation, or schedules, PHMSA and the State or local pipeline safety authority, if applicable, has been notified within 30 days after the operator has adopted the change. [§[192.909\(b\)](#)]

K.01.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

K.01.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

K.01 Documents Reviewed <i>(Tab from bottom-right cell to add additional rows.)</i>			
Document Number	Rev	Date	Document Title

K.01 Inspection Notes

K.01 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
	K.01.01	The reason for changes to the integrity management program were not adequately documented prior to implementing the changes	AF K.1	
	K.01.02	PHMSA and States, where applicable, were not adequately notified of significant changes to the integrity management program	AF K.3	
	K.01.03	Management of change procedures were inadequate	AF K.1	
	K.01.04	No process/procedures existed for management of change	AF K.1	
	Other:			

K.02 Attributes of the Change Process

Verify that the integrity management program meets the requirements of [ASME B31.8S-2004, Section 11](#) for a management of change process. [[§192.911\(k\)](#)]

K.02.a. Verify the existence of procedures that consider impacts of changes to pipeline systems and their integrity. [[ASME B31.8S-2004, Section 11\(a\)](#)]

K.02.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

K.02.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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K.02.b. Verify change procedures address technical, physical, procedural, and organizational changes. [[ASME B31.8S-2004, Section 11\(a\)](#)]

K.02.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

K.02.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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K.02.c. Verify the following are provided for by the change procedures: [[ASME B31.8S-2004, Section 11\(a\)](#)]

- i. Reason for change
- ii. Authority for approving changes
- iii. Analysis of implications
- iv. Acquisition of required work permits
- v. Documentation
- vi. Communication of the change to affected parties
- vii. Time limitations
- viii. Qualification of staff

K.02.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

K.02.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

There is no written process for communicating changes to vendors (i.e., MEARS) and what follow-up is reviewed to confirm that the changes were properly implemented by the vendor. Time limitations need to also be specified to make certain that changes are communicated well in advance of the expected date when changes are to be put into effect.

K.02.d. Verify that integrity management system changes are properly reflected in the pipeline system and that pipeline system changes are properly reflected in the integrity management program. [[ASME B31.8S-2004, Section 11](#)(b)]

K.02.d. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

K.02.d. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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K.02.e. Verify that equipment or system changes have been identified and reviewed before implementation. [[ASME B31.8S-2004, Section 11](#)(d)]

K.02.e. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

K.02.e. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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K.02 Documents Reviewed <i>(Tab from bottom-right cell to add additional rows.)</i>			
Document Number	Rev	Date	Document Title

K.02 Inspection Notes

K.02 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
	K.02.01	The impact of changes in pipeline systems and their integrity were not adequately considered	AF K.2	
	K.02.02	The breadth of changes required by ASME B31.8S, Section 11(a) was not adequately considered	AF K.1	
	K.02.03	The attributes specified in ASME B31.8S, Section 11(a), such as reason for change, authority for approving the change, etc. were not adequately addressed	AF K.1	
	K.02.04	Changes to pipeline systems were not adequately considered in the integrity management program	AF K.2	
	K.02.05	Changes to the integrity management program were not adequately considered on pipeline systems	AF K.1	
	K.02.06	The management of change process was not adequately implemented as required	AF K.1	
	Other:			

Protocol Area L. Quality Assurance

- [L.01](#) Program Requirements for the Quality Assurance Process
- [L.02](#) Personnel Qualification and Training Requirements
- [L.03](#) Invoking Non-Mandatory Statements in Standards
- [Table of Contents](#)

L.01 Program Requirements for the Quality Assurance Process

Verify that a quality assurance process exists that meets the requirements of [ASME B31.8S-2004, Section 12](#). [[§192.911](#)(1)]

L.01.a. Verify that responsibilities and authorities for the integrity management program have been formally defined. [[ASME B31.8S-2004, Section 12.2](#)(b)(2)]

L.01.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

L.01.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

L.01.b. Verify that reviews of the integrity management program and the quality assurance program have been specified to be performed on regular intervals, making recommendations for improvement. [[ASME B31.8S-2004, Section 12.2](#)(b)(3)]

L.01.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

L.01.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

In Year 2007, PG&E had a review performed by P-PIC; however, it appears that PG&E did not review the report from P-PIC, and formulate a position/response on its findings, until December 2009 (Rev7 to PG&E RMP-09 mentioned on page 10 of PG&E response). In October 2009, PG&E had an external review done of its ILI and DA but as of the time of the PUC Audit, PG&E had not formulated a position/response on that review's findings. PG&E needs to review the recommendations and act on them in a timely manner.

L.01.c. Verify that corrective actions to improve the integrity management program and the quality assurance process have been documented and are monitored for effectiveness. [[ASME B31.8S-2004, Section 12.2\(b\)\(7\)](#)]

L.01.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

L.01.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

There is no formal process created to document and monitor the effectiveness of corrective actions taken to improve the integrity management program. PG&E essentially considers the change form for PG&E RMP-06 as being the documentation for effectiveness; however, there are no other details as to what exactly was looked at during each annual process to review PG&E RMP-06. Also, no timetables are specified for the changes/reviews of the effectiveness.

L.01.d. Verify that when an operator chooses to use outside resources to conduct any process that affects the quality of the integrity management program, the operator ensures the quality of such processes and documents them within the quality program. [[ASME B31.8S-2004, Section 12.2\(c\)](#)]

L.01.d. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

L.01.d. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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L.01 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

L.01 Inspection Notes

L.01 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	L.01.01	The authorities and responsibilities for the integrity management program were not adequately defined	AF L.1	
	L.01.02	Adequate reviews of the integrity management program were not required and/or adequately implemented	AF L.1	
	L.01.03	Adequate corrective actions to improve the integrity management program were not adequately developed and/or implemented	AF L.2	
	L.01.04	When using outside resources to conduct processes that affect the quality of the integrity management process adequate quality was not ensured	AF L.1	
	L.01.05	Procedures did not adequately document requirements to address quality assurance	AF L.1	
	L.01.06	No process/procedures existed that documented requirements to address quality assurance	AF L.1	
	Other:			

L.02 Personnel Qualification and Training Requirements

Verify that personnel involved in the integrity management program are qualified for their assigned responsibilities. [§192.911(l), §192.915 and ASME B31.8S-2004, Section 12(b)(4)]

L.02.a. Verify that the Integrity Management Program requires supervisory personnel to have the appropriate training or experience for their assigned responsibilities. [§192.915(a)]

L.02.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

L.02.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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L.02.b. Verify the qualification of personnel that carry out assessments and who evaluate assessment results. [§192.915(b)]

L.02.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

L.02.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E receives OQ records for all MEARS personnel prior to their performing a covered task. ASME B31.8S, Section 12.2(b)(4) states in part: “the personnel involved in the integrity management program shall be competent, aware of the program and all of its activities, and be qualified to execute the activities within the program. Documentation of such competence, awareness, and qualification, and the processes for their achievement (emphasis added), shall be part of the quality control plan.” Based on review of records for [REDACTED], PG&E does not appear to have a written process (i.e., priority of training, specific timetables for training, etc.). Although training requirements are mentioned in various RMPs, we were uncertain, and unable to clearly confirm how and when the training is being provided.

L.02.c. Verify the qualification of personnel who participate in implementing preventive and mitigative measures including: [§192.915(c)]

- i. Personnel who mark and locate buried structures.
- ii. Personnel who directly supervise excavation work.

- iii. Other personnel who participate in implementing preventive and mitigative measures as appropriate. [[ASME B31.8S-2004, Section 12.2\(b\)\(4\)](#)]

L.02.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

L.02.c. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

L.02.d. Verify that the personnel who execute the activities within the integrity management program are competent and properly trained in accordance with the quality control plan. [[ASME B31.8S-2004, Section 11\(a\)\(8\)](#) and [ASME B31.8S-2004, Section 12.2\(b\)\(4\)](#)]

L.02.d. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

L.02.d. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

L.02 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

L.02 Inspection Notes

L.02 Issue Categorization <i>For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
	L.02.01	Personnel involved with integrity management, as define in 192.915, were not required to be qualified for their assigned responsibilities	AF L.3	
	L.02.02	Qualified vendors and/or individuals were not required, and/or were not used, to perform assessments or review assessment results	AF E.1	
	L.02.03	Qualified personnel were not utilized for assignments involving integrity management as required by 192.915	AF L.3	
	L.02.04	Training program requirements were not adequately linked to the integrity management program	AF L.3	
	L.02.05	No process/procedures existed that documented training program requirements	AF L.3	
	Other:			

L.03 Invoking Non-Mandatory Statements in Standards

Verify that non-mandatory requirements (e.g., "should" statements) from industry standards or other documents invoked by Subpart O (e.g., ASME B31.8S-2004 and NACE RP0502-2002) are addressed by one of the following approaches: [§192.7(a)]

L.03.a. Incorporated into the operator's plan and implemented as recommended in the standard; or

L.03.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
X	Not Applicable (explain in Statement of Issue)

L.03.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E has not, as a general policy, incorporated "should" statements as being "shall" into its IMP.

L.03.b. An equivalent alternative method for accomplishing the same objective is justified and implemented; or

L.03.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
X	Not Applicable (explain in Statement of Issue)

L.03.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E did provide a white paper for a "should" related to not reprioritizing initial indications. In the paper, the audit team believed the paper to provide a reason for not applying the "should" statement as a "shall" statement more than it providing justification for an equivalent alternative method for accomplishing the same objective.

L.03.c. A documented justification is included in the plan that demonstrates the technical basis for not implementing recommendations from standards or other documents invoked by Subpart O.

L.03.c. Inspection Results (Type an X in the applicable box below. Select only one.)	
	No Issues Identified
X	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

L.03.c. Statement of Issue *(Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)*

PG&E did provide a white paper for a “should” related to its reprioritizing of indications, including immediate indications, on any assessment first time or not. However, this paper was only put to file on May 20, 2010. PG&E stated there are similar documented justifications included for its various RMPs.

L.03 Documents Reviewed *(Tab from bottom-right cell to add additional rows.)*

Document Number	Rev	Date	Document Title

L.03 Inspection Notes

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L.03 Issue Categorization <i>For each potential issue, type an “X” in the first column for one “best fit” Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.</i>			Area Finding	Risk Category (A-E)
	L.03.01	Non-mandatory requirements from industry standards or other documents that are invoked by Subpart O were not adequately addressed	AF L.4	
	Other:			

Protocol Area M. Communications Plan

- [M.01](#) External and Internal Communication Requirements
- [M.02](#) Addressing Safety Concerns
- [Table of Contents](#)

M.01 External and Internal Communication Requirements

Verify that an integrity management communication plan exists that meets the requirements of [ASME B31.8S-2004, Section 10](#). [[§192.911\(m\)](#)]

M.01.a. Verify that the operator has submitted its API-1162 external communications plan to the PHMSA clearinghouse for approval.

M.01.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input checked="" type="checkbox"/>	No Issues Identified
<input type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input type="checkbox"/>	Not Applicable (explain in Statement of Issue)

M.01.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

M.01.b. Verify provisions for operator internal organizational communication exist to establish understanding of and support for the integrity management program. [[ASME B31.8S-2004, Section 10.3](#)]

M.01.b. Inspection Results (Type an X in the applicable box below. Select only one.)	
<input type="checkbox"/>	No Issues Identified
<input checked="" type="checkbox"/>	Potential Issues Identified (explain in Statement of Issue)
<input type="checkbox"/>	Not Applicable (explain in Statement of Issue)

M.01.b. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

PG&E RMP-06 requires company wide e-mails, from VP of Gas Transmission and Distribution, to be distributed informing transmission staff about IM activities; however, in 2008 (PG&E exception report generated) and in 2009 (no PG&E exception report generated) no company wide e-mail was sent to staff. USRB advised that PG&E RMP-06, Section 14.6 be more detailed to add other activities that currently were stated by PG&E staff as being performed, but don't appear to be captured under PG&E RMP-06, Section 14.6 (i.e., program metrics provided to senior management).

M.01 Documents Reviewed (Tab from bottom-right cell to add additional rows.)

Document Number	Rev	Date	Document Title

M.01 Inspection Notes

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M.01 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	M.01.01	The external communications plan was not submitted	AF M.1	
	M.01.02	The internal communications plan was inadequate or not implemented	AF M.2	
	M.01.03	No process/procedures existed for external communications	AF M.1	
	M.01.04	No process/procedures existed for internal communications	AF M.2	
	Other:			

M.02 Addressing Safety Concerns

Verify that provisions exist to address safety concerns raised by:

M.02.a. PHMSA and State or local pipeline safety authorities (when a covered segment is located in a State where PHMSA has an interstate agreement). [[§192.911\(m\)\(1\)](#) and [§192.911\(m\)\(2\)](#)].

M.02.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

M.02.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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M.02 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

M.02 Inspection Notes

M.02 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.			Area Finding	Risk Category (A-E)
	M.02.01	A process to address safety concerns raised by PHMSA (and States or local authorities, where applicable) was not adequately developed and/or implemented	AF M.1	
	Other:			

Protocol Area N. Submittal of Program Documents

- [N.01](#) Integrity Management Program Document Submittal
- [Table of Contents](#)

N.01 Integrity Management Program Document Submittal

Verify that the operator includes provisions in its program to submit, upon request, the operator's risk analysis or integrity management program to: [[§192.911\(n\)](#)]

N.01.a. PHMSA and State or local pipeline safety authorities, as applicable. [[§192.911\(n\)](#)]

N.01.a. Inspection Results (Type an X in the applicable box below. Select only one.)	
X	No Issues Identified
	Potential Issues Identified (explain in Statement of Issue)
	Not Applicable (explain in Statement of Issue)

N.01.a. Statement of Issue (Leave blank if no issue is identified. In addition to stating the issue, indicate the Issue Category and supporting evidence for each issue. Number multiple issues, e.g., 1, 2, 3, etc. There must be a one-to-one correlation between issues and issue categories. No issue should be related to more than one issue category. No issue category should be related to more than one issue.)

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N.01 Documents Reviewed (Tab from bottom-right cell to add additional rows.)			
Document Number	Rev	Date	Document Title

N.01 Inspection Notes

N.01 Issue Categorization For each potential issue, type an "X" in the first column for one "best fit" Issue Category and then enter the appropriate Risk Category (A-E) from the Enforcement Guidance. Note – Completion of Issue Categorization is optional for state inspections.		Area Finding	Risk Category (A-E)
	N.01.01 Procedures did not adequately address requirements to submit, upon request, the risk analysis or integrity management program to PHMSA and State or local officials, as applicable	AF N.1	
	Other:		

Additional Notes