Docket No. SA-534

Exhibit No. 2-AW

NATIONAL TRANSPORTATION SAFETY BOARD

Washington, D.C.

PG&E LINE 132 BASELINE INTEGRITY MANAGEMENT ASSESSMENT

(23 Pages)

PACIFIC GAS AND ELECTRIC COMPANY
San Bruno Gas Transmission Line Incident
Data Response

PG&E Data Request No.:	NTSB_001-005		
PG&E File Name:	San Bruno GT Line Incident_DR_NTSB_001-001		
Request Date:	September 10, 2010	Requester DR No.:	001
Date Sent:	September 12, 2010	Requesting Party:	NTSB
PG&E Witness:		Requester:	Carl Gunther

QUESTION 5

Integrity management assessments- initial and subsequent readings including ILI Data, direct assessments?

Is the rupture site an HCA in your IM plan?

ANSWER 5

Please see the attached integrity assessments performed on Line 132 in 2004 and 2009:

ECDA Survey Data manual (3 volumes)

Corrosion 2004 manual (ECDA Survey) (1 volume) (to be delivered 9/13/10)

Excerpts of Integrity Management Program Baseline Assessment Plan for Line 132 (only), Rev. 5 (10 pages)

The rupture site is an HCA in PG&E's IM plan

Integrity Management Program
Baseline Assessment Plan
for

PACIFIC GAS AND ELECTRIC COMPANY

Rev 5

Prepared By: _____ Date: 12/21/2009
Thach N. Ha, Senior Gas Engineer
Gas System Integrity

Approved By: _____ Date: 12/22/2009
William J. Manegold, Integrity Management Program Manager
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Approved By: _____ Date: 12-27-09
Sara Burke, Manager
Integrity Management

Approved By: _____ Date: 12-28-09
Bob Fassett, Director
Integrity Management & Technical Support

Approved By: _____ Date: 12-28-09
Glen Carter, Senior Director
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Approved By: _____ Date: 1-22-2010
Robert T. Howard, Vice President
Gas Transmission and Distribution

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Program Summary

This report is a revised version of the Baseline Assessment Plan (BAP) for the Pacific Gas and Electric Company. Like previous reports, this revision has been prepared in accordance with the requirements of 49CFR192 subpart O and PG&E's Integrity Management & Gas Issues RMP-06 Procedure. As noted in revision 4, at the request of the California State Lands Commission, this report also includes segments of line 57C that are not within HCA's. In this revision to the BAP, the results of the 2009 risk evaluation have been added. Assessment plan changes were also updated and the changes to individual segments have been documented in the audit change log (kept separate from this document). The last assessment field was also updated, to reflect what has been accomplished to date. Lastly, segments with an assessment plan prefix of S are part of station piping and will be included in the DA assessment of the station to which they belong.

In preparing this plan, method 2 from 49CFR192 was used to identify the high consequence areas. Detailed descriptions of how method 2 was used can be found in RMP-06, RMP-08 and the individual county by county reviews the pipelines traverse.

HCA reviews were performed by looking at changes in the audit change table on an ongoing basis and by reviewing parcel data for each pipeline, it's calculated potential impact radius, and an appropriate buffer to account for photography and mapping tolerances. This process is also described in RMP-06 and RMP-08, as well as the county by county reports that were prepared in 2008 and the audit change log.

Piping outside of stations is documented in PG&E's GIS system. Maps detailing the piping to be assessed inside stations are stored in PG&E's Gas Engineering offices in Walnut Creek and are incorporated by reference into this plan.

In general, piping material within PG&E stations is of equal or superior quality to the line pipe approaching the station. It was nevertheless assumed that if the piping approaching a station to be assessed was considered to be at high risk (for purposes of ranking the priority of our pipelines for assessment), the piping for that station would also be considered at high risk, and those stations would be assessed first.

There are some cases where HCA piping within a station will be assessed using the In Line Inspection (ILI) method due to the placement of a launcher or receiver used for assessing pipe outside the station. All other piping requiring assessment will be assessed using the DA method. The assessment dates shown reflect the year of the required DA work. For the assessment year of any pipe to be ILI'd, please see pages 8-81 of this report.

There are some cases where HCA piping within a station will be assessed using the In Line Inspection (ILI) method due to the placement of a launcher or receiver used for assessing pipe outside the station. All other piping requiring assessment will be assessed using the DA method. The assessment dates shown reflect the year of the required DA work.

The pipe segments inside each station are assumed to be subject to the same threats as those HCA segments approaching that station with the exception that all station piping operating under 60% SMYS is considered not to be subject to the threat of Stress Corrosion Cracking. All piping requiring assessment for this threat has been evaluated for that threat.

2009 BAP Revision 5
Assessment Change Log

IMP	County	Route	New HCA Segments	Added Footage	Proposed Asmt_Plan	Removed HCA Segments	Removed Footage	County HCA Review (Y/N)	Date Entered	Change Detail	Reason for Change	Implication Analysis
153_0.00	Alameda	153	123.8	345.00	I14			Y	9/14/2009	New HCA - New housing tract. Alameda2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	Amador	GCUST5854			E11	201	419.00	Y	9/12/2009	Removed - due to more accurate placement of pipeline. Amador2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	Amador	GCUST5855			E11	457	270.00	Y	9/12/2009	Removed - due to more accurate placement of pipeline. Amador2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
050A_0.00	Butte	050A	189.1, 189.3, 189.8	818.00	E15			Y	8/20/2009	New HCA - New identified site. Butte2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
197A_0.00	Calaveras	197A	122.2,122.5,123,124.3,124.4,124.5,124.6,125	2459.00	E16			N	5/7/2009	New HCA. New school opened in San Andreas	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
197A_0.00	Calaveras	STUB8198, STUB8199	122, 124.3	13.00	E16			N	5/7/2009	New HCA. New school opened in San Andreas		
Removed	Colusa	0630-01			E10	104.9	559.00	Y	8/7/2009	Removed - DA team verified not ID Site. Colusa2009HCA	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	Colusa	DCUST8811			E10		80.00	Y	8/7/2009	Removed - DA team verified not ID Site. Colusa2009HCA	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
057A_0.00	ContraCosta	057A	103.5, 104, 104.2, 104.4, 105	2057.00	I11			N	6/24/2009	New HCA. Orwood Resort	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
057B_0.00	ContraCosta	057B	109.3, 110, 111, 112, 112.1	3257.00	E12			N	6/24/2009	New HCA. Orwood Resort	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
114_0.00	ContraCosta	114	127.3, 127.8	2095.00	I14			Y	9/17/2009	New HCA - New identified site. ContraCosta2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
191_0.00	ContraCosta	191	102.2	675.00	E17			Y	9/17/2009	New HCA - New identified site. ContraCosta2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
0617-08_0.00	ElDorado	0617-06	218.5	236.00	E10			Y	7/1/2009	New HCA ID site. Adjust to assess. same schedule as nearby pipe. ElDorado2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
1522-01_0.00	ElDorado	1522-01	102	378.00	E10			Y	7/1/2009	New HCA ID site. Adjust to assess. same schedule as nearby pipe. ElDorado2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	ElDorado	0617-06			E14	212.68, 212.7, 212.8,213,214, 215,217.5	1804.00	Y	7/1/2009	Removed -Berkshire Park is a common area does not have picnic tables or play ground area. Change to Z98. ElDorado 2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	ElDorado	0617-10			E14	112,112.70	902.00	Y	7/1/2009	Removed - Better 2008 images to determine ID sites. Change to Z98. ElDorado2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	Fresno	118A			E15	113	887.00	Y	9/15/2009	Removed - Abandoned site. Fresno2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
111A_0.00	Fresno	111A-1	107.2	353.00	E14			Y	9/15/2009	New HCA - New identified site. Fresno2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
118A_0.00	Fresno	118A	103.22, 103.27, 119.7, 121.8, 122, 123, 117.05	2939.00	E11			Y	9/15/2009	New HCA - New identified site. Fresno2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
134A_0.00	Fresno	134A	139.2	107.00	E14			Y	9/15/2009	New HCA - New identified site. Fresno2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
138_0.00	Fresno	138D	102, 102.5,	2125.00	E10			Y	9/15/2009	New HCA - New identified site. Fresno2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
1004-01_0.00	Glenn	1004-01	118	342.00	E15			Y	8/19/2009	New HCA - New identified site (Care Facility). Glenn2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	Humboldt	126A			E13	113.05	499.00	Y	8/10/2009	Removed - GPS of Pipeline provides more accurate location of pipeline. Humboldt2009 HCA Review.	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	Humboldt	137B			E13	103.3	256.00	Y	8/10/2009	Removed - GPS of Pipeline provides more accurate location of pipeline. Humboldt2009 HCA Review.	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	Humboldt	177A			E15	216.3, 221.07	1112.00	Y	8/10/2009	Removed - GPS of Pipeline provides more accurate location of pipeline. Humboldt2009 HCA Review.	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
375_0.00	Kern	375	104.3	900.00	E11			Y	9/4/2009	New HCA - New identified site. Kern2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
142S_0.00	Kern	142S	116.1	442.00	I11			Y	9/4/2009	New HCA - New identified site. Kern2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
300B_0.00	Kern	300B	257.9, 258.1, 258.3, 258.5	2576.00	E11			Y	9/4/2009	New HCA - New identified site. Kern2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	Kern	300A			E14	193.3, 194, 194.2	4110.00	Y	9/4/2009	Removed - Abandoned site. Kern2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
118A_0.00	Madera	118A	153.5, 152.7	562.00	E11			Y	9/20/2009	New HCA - New identified site. Madera2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
118B_0.00	Madera	118B	126.8, 127	747.00	E11			Y	9/20/2009	New HCA - New identified site (Care Facility). Madera2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
021F_10.75	Marin	021F	132.25	595.00	E13			Y	8/28/2009	New HCA - New playground. Marin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
0401-01_0.00	Marin	X7588	100.3	4.00	E13			Y	8/28/2009	New HCA - New identified site. Marin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
0401-01_0.00	Marin	X7589	100.3	4.00	E13			Y	8/28/2009	New HCA - New identified site. Marin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
118G_0.00	Merced	118G	105,106,107,108,109,110,111,112,113,114,115,116,117,118,119,104.5,120	12665.00	E15			N	5/20/2009	New HCA. New pipeline installed in Merced	Part of Annual HCA Review	None: Segments will be added/ removed from time to time

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2008 BAP Revision 5
Assessment Change Log

IMP	County	Route	New HCA Segments	Added Footage	Proposed Asmt_Plan	Removed HCA Segments	Removed Footage	County HCA Review (Y/N)	Date Entered	Change Detail	Reason for Change	Implication Analysis
103_0.00	Monterey	103	144.3	350.00	E11			Y	8/23/2009	New HCA - New identified site (Care Facility). Monterey2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
187_0.00	Monterey	187	153.7	690.00	E13			Y	8/23/2009	New HCA - New identified site. Monterey2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
1813-02_0.00	Monterey	1813-02	166.05	367.00	E13			Y	8/23/2009	New HCA - New identified site. Monterey2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
187_0.00	Monterey	DF3444	253, 301	15.00	E13			Y	8/23/2009	New HCA - New identified site. Monterey2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
021H_0.00	Napa	021H	122.6, 122.8, 123, 123.11, 123.115, 123.12	1702.00	E10			N	5/14/2009	New HCA. New school opened -AmericanCanyonSchool	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
202_0.00	Nevada	202	110.1, 110.3	618.00	E11			Y	7/31/2009	New HCA - New identified site (Care Facility). Nevada2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
1521-01_0.00	Nevada	1521-01	102.05	959.00	E11			Y	7/31/2009	New HCA - New identified site. Nevada2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
123_0.00	Placer	123	108.7, 119.5, 120, 118, 118.1, 118.2, 116.91, 116.92, 116.6	3775.00	E15			Y	9/23/2009	New HCA - New identified sites and a Care Facility. Placer2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
173_0.00	Placer	173	103.75	352.00	E14			Y	9/23/2009	New HCA - New identified site. Placer2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
124A_0.00	Placer	124A	100, 100.5	1290.00	I10			Y	9/23/2009	New HCA - New identified site. Placer2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
124B_0.00	Placer	124B	101.4, 101.6, 102	814.00	I10			Y	9/23/2009	New HCA - New identified site. Placer2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
1518_03_0.00	Placer	1518-03	110.5	943.00	E12			Y	9/23/2009	New HCA - New identified site. Placer2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
1519-01_0.00	Placer	1519-01	109.45	836.00	E14			Y	9/23/2009	New HCA - New identified site. Placer2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
173_0.00	Placer	173-B	101.7	320.00	E13			Y	8/23/2009	New HCA - New identified site. Placer2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	Sacramento	DREG4091			E10	100, 102, 103	108.00	Y	9/17/2009	Removed - Building now vacant. Sacramento2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
108_0.00	Sacramento	108	187.1	56.00	E12			Y	9/17/2009	Identified site. Sacramento2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
0607-01_0.00	Sacramento	0607-01	121, 123.5	95.00	E16			Y	9/17/2009	New HCA - New identified site. Sacramento2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
0607-01_0.00	Sacramento	0607-01	123.5	1204.00	E12			Y	9/17/2009	Identified site. Sacramento2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
0608-01_0.00	Sacramento	0608-01	150.5, 151, 151.8	1443.00	E16			Y	9/17/2009	New HCA - New identified site. Sacramento2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
0613-01_0.00	Sacramento	0613-01	100, 101	592.00	E12			Y	9/17/2009	Identified site. Sacramento2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
0613-01_0.00	Sacramento	0613-01	109.7	85.00	E16			Y	9/17/2009	New HCA - New identified site. Sacramento2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
0617-01_0.00	Sacramento	0617-01	101.3, 101.4	26.00	E12			Y	9/17/2009	New HCA - New identified site. Sacramento2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
0617-06_0.00	Sacramento	0617-06	199.5, 199.6, 200, 200.5, 210, 210.2, 210.4, 210.5, 210.6, 211	5290.00	E17			Y	9/17/2009	New HCA - New identified site. Sacramento2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
0617-01_0.00	Sacramento	X6923	100.1, 100.3, 100.5	5.00	E12			Y	9/17/2009	Identified site. Sacramento2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
0617-01_0.00	Sacramento	X6924	100.1, 100.2, 100.3	5.00	E12			Y	9/17/2009	Identified site. Sacramento2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
108_0.00	Sacramento	108	178.15, 178.35, 178.4, 178.45, 178.5	4465.00	E16			N	9/22/2009	New HCA - New pipeline with new identified sites.	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	SanBernadino	300B			E14	187.1	3159.00	Y	9/8/2009	Removed - No longer a Care Facility	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	SanJoaquin	2			I13	217.3, 218.2	3322.00	Y	9/19/2009	Removed - New improved 2008 images. SanJoaquin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	SanJoaquin	108			I11	131.2, 131.51, 131.52	1857.00	Y	9/19/2009	Removed - New improved 2008 images. SanJoaquin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
108_0.00	SanJoaquin	108	128.9, 129, 131.22	2131.00	I11			Y	9/19/2009	New HCA - New identified site. SanJoaquin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	SanJoaquin	401			I12	624, 624.3, 625	4467.00	Y	9/19/2009	Removed - New improved 2008 images. SanJoaquin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
304_0.00	SanJoaquin	304	103.2, 103.7	115.00	E11			Y	9/19/2009	New HCA - New identified site. SanJoaquin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	SanJoaquin	1602-01			E09	102.1	1981.00	Y	9/19/2009	Removed - New improved 2008 images. SanJoaquin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
1602-01_0.00	SanJoaquin	1602-01	103.2	707.00	E16			Y	9/19/2009	New HCA - New identified site. SanJoaquin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	SanJoaquin	1609-01			E14	101.5, 101.9, 102, 102.5	4395.00	Y	9/19/2009	Removed - New improved 2008 images. SanJoaquin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time

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2009 BAP Revision 5
Assessment Change Log

IMP	County	Route	New HCA Segments	Added Footage	Proposed Asmt_Plan	Removed HCA Segments	Removed Footage	County HCA Review (Y/N)	Date Entered	Change Detail	Reason for Change	Implication Analysis
1606-01_0.00	SanJoaquin	1606-01	202	250.00	E16			Y	9/19/2009	New HCA - New identified site. SanJoaquin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
1607-01_0.00	SanJoaquin	1607-01	105.5	104.00	E14			Y	9/19/2009	New HCA - New identified site. SanJoaquin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	SanJoaquin	1617-01			E14	107.2	362.00	Y	9/19/2009	Removed - New improved 2008 images. SanJoaquin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
1617-01_0.00	SanJoaquin	1617-01	104.2, 105.5	547.00	E14			Y	9/19/2009	New HCA - New identified site. SanJoaquin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	SanJoaquin	162A			E09	103.43	711.00	Y	9/19/2009	Removed - New improved 2008 images. SanJoaquin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	SanJoaquin	DREG4901			E14	201	79.00	Y	9/19/2009	Removed - New improved 2008 images. SanJoaquin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
	SanJoaquin	DREG4892	501	78.00	E16			Y	9/19/2009	New HCA - New identified site. SanJoaquin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	SanJoaquin	GCUST5842			E14	209.5	696.00	Y	9/19/2009	Removed - New improved 2008 images. SanJoaquin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
	SanJoaquin	GCUST5838	401	158.00	E15			Y	9/19/2009	New HCA - New identified site. SanJoaquin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
	SanJoaquin	GCUST5842	215.4	130.00	E16			Y	9/19/2009	New HCA - New identified site. SanJoaquin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	SanJoaquin	GCUST5843			E14	444	111.00	Y	9/19/2009	Removed - New improved 2008 images. SanJoaquin2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
109_0.00	SanMateo	109	164.8, 165	312.00	E14			Y	9/22/2009	New HCA - New identified site. SanMateo2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
109_0.00	SanMateo	109	173.2	152.00	E11			Y	9/22/2009	New HCA - New identified site (Care Facility). SanMateo2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
132_0.00	SanMateo	132	169.05, 195	1405.00	E14			Y	9/22/2009	New HCA - New identified site. SanMateo2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	SantaClara	101			E15	113.8	1129.00	Y	7/23/2009	Removed -Microsoft bing photography indicates 2 warehouses with equipment laydown area and no designated parking spaces. SantaClara2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
1816-01_3.44	SantaCruz	1816-01	238.8	107.00	E13			Y	9/11/2009	New HCA - New identified site. SantaCruz2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
021H_0.00	Solano	021H	122.05	1122.00	E10			Y	9/18/2009	New HCA - New identified site. Solano2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
0604-04_0.00	Solano	0604-04	53	731.00	E14			Y	9/18/2009	New HCA - New identified site. Solano2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
0604-04_0.00	Solano	0604-07	200	245.00	E14			Y	9/18/2009	New HCA - New identified site (Care Facility). Solano2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
210C_0.00	Solano	210B	117.8	1195.00	I11			Y	9/18/2009	New HCA - New identified site. Solano2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
210C_0.00	Solano	210C	103.5	950.00	I13			Y	9/18/2009	New HCA - New identified site. Solano2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
021E_0.00	Sonoma	021E	117.6	672.00	I14			Y	8/22/2009	Identified site. Sonoma2009 HCA Review. Was ILI'd in 2007	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
7222-01_0.00	Stanislaus	7222-01	137, 138, 139, 140, 141, 142, 143, 143.7, 144, 145	1421.00	E14			N	6/25/2009	New HCA. New pipe rerouted line from original location	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
7223-01_0.00	Stanislaus	7223-01	100, 101	40.00	E14			N	6/25/2009	New HCA. New pipe rerouted line from original location	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
1615-01_0.00	Stanislaus	1615-01	117.1	974.00	E16			Y	9/2/2009	New HCA - New identified site. Stanislaus2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
7221-10_0.00	Stanislaus	7221-10	110.1, 121.06, 121.1	1525.00	E14			Y	9/2/2009	New HCA - New identified site. Stanislaus2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
7222-01_0.00	Stanislaus	7222-01	155.25, 155.3, 156	732.00	E14			Y	9/2/2009	New HCA - New identified site. Stanislaus2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
7223-01_0.00	Stanislaus	7223-01	103.3	440.00	E14			Y	9/2/2009	New HCA - New identified site. Stanislaus2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
7224-09_0.00	Stanislaus	7224-09	105.3	776.00	E10			Y	9/2/2009	New HCA - New identified site. Stanislaus2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
7233-01_0.00	Stanislaus	7233-01	103.065	360.00	E14			Y	9/2/2009	New HCA - New identified site. Stanislaus2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
1501-01_0.00	Sutter	1501-03	100.3	30.00	E11			Y	9/17/2009	New HCA - New identified site. Sutter2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
1501-01_0.00	Sutter	STUB6164	551	5.00	E11			Y	9/17/2009	New HCA - New identified site. Sutter2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	Sutter	050A			E14	116.1	349.00	Y	9/17/2009	Removed - due to more accurate placement of pipeline. Sutter2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
177A_0.00	Tehama	177A	132.7, 133, 158	2920.00	E15			Y	9/20/2009	New HCA - New identified site (Care Facilities). Tehama2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
Removed	Trinity	177A			E11	181	1448.00	Y	6/18/2009	Removed - due to more accurate placement of pipeline. Trinity2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
116_0.00	Yolo	116	117.2	126.00	E10			Y	8/27/2009	Identified site. Yolo2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time

2009 BAP Revision 5
Assessment Change Log

IMP	County	Route	New HCA Segments	Added Footage	Proposed Asmt_Plan	Removed HCA Segments	Removed Footage	County HCA Review (Y/N)	Date Entered	Change Detail	Reason for Change	Implication Analysis
172A_0.00	Yolo	172A	152	539.00	I12			Y	8/27/2009	Identified site. Yolo2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time
124A_0.00	Yuba	124A	120.6	1082.00	I10			Y	9/13/2009	New HCA - New identified site. Yuba2009 HCA Review	Part of Annual HCA Review	None: Segments will be added/ removed from time to time

Privileged and Confidential
PG&E Proprietary Information

IMA_NAME	ROUTE	EGMENT N	GASMAPID	MP1	MP2	W_THICK	OD	MOP	SMYS_MOP	CAT_TYP	YR_INSTALL	FOOTAGE	ASSESSI	FAC_TYPE	TRANS	DEI	HCA_ID	ASMT_PLAN	LST_ASMT	IMP	ZON	2009HCA		IC_THR	SCC	THRE	Manuf TH	CONST				HE_TY
132 0.00	132	160.01	205113741	22.588	22.637	-0.281	24.000	375	-35.6	HAA	1/1/1947	258	3	LT	T		A5	E16	E09	322		19.9	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	160.05	205113743	22.637	22.760	-0.281	24.000	375	-35.6	HAA	1/1/1947	649	3	LT	T		A5	E16	E09	322		18.8	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	160.06	205113745	22.760	22.827	-0.281	24.000	375	-35.6	HAA	1/1/1947	354	3	LT	T		A5	E16	E09	322		18.8	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	160.07	205113746	22.827	22.910	-0.281	24.000	375	-35.6	HAA	1/1/1947	439	3	LT	T		I5	E16	E09	322		18.8	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	160.1	205103020	22.910	22.980	0.312	24.000	375	34.3	TAPE	1/1/1967	357	3	LT	T		I5	E16	E09	322		15.5	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	160.2	205103021	22.980	23.000	-0.281	24.000	375	-35.6	HAA	1/1/1947	106	3	LT	T		I5	E16	E09	322		19.9	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	160.7	205113735	23.000	23.425	-0.281	24.000	375	-35.6	HAA	1/1/1947	2284	3	LT	T		B5	E16	E09	322		24.7	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	161.6	205113734	23.841	24.169	-0.281	24.000	375	-35.6	HAA	1/1/1947	1717	3	LT	T		A5	E16	E09	322		19.9	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	161.7	205113732	24.169	24.235	-0.281	24.000	375	-35.6	HAA	1/1/1947	349	3	LT	T		A5	E16	E09	322		19.9	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	169.05	205153595	29.068	29.179	0.313	30.000	375	34.6	TAPE	1/1/1971	480	3	LT	T		I5	E14		402		31.2	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	169.1	205116368	29.179	29.226	0.313	30.000	375	34.6	TAPE	1/1/1971	240	3	LT	T		I5	E14	E07	402		22.8	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	169.3	205111520	29.226	29.370	0.313	30.000	375	34.6	TAPE	1/1/1971	746	3	LT	T		I5	E16	E09	402		15.0	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	170	205113729	29.370	30.344	0.375	30.000	375	28.8	HAA	1/1/1948	6089	3	LT	T		B5	E11	E04	402		16.8	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	171	205113728	30.669	30.960	0.375	30.000	375	28.8	HAA	1/1/1948	1544	3	LT	T		A5	E16	E09	402		26.6	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	171.01	205117941	30.960	31.005	0.375	30.000	375	28.8	HAA	1/1/1948	243	3	LT	T		A5	E11	E07	402		25.8	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	171.03	205117944	31.112	31.157	0.375	30.000	375	28.8	HAA	1/1/1948	237	3	LT	T		A5	E16	E09	402		26.8	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	171.04	205111507	31.157	31.652	0.375	30.000	375	28.8	HAA	1/1/1948	2629	3	LT	T		A5	E16	E09	402		26.8	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	171.05	205117945	31.652	31.731	0.375	30.000	375	28.8	HAA	1/1/1948	423	3	LT	T		A5	E11	E07	402		18.8	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	171.25	205145467	32.740	32.920	0.375	30.000	375	28.8	HAA	1/1/1948	986	3	LT	T		I9	E13		402		26.5	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	171.6	205102184	32.920	33.000	0.313	36.000	375	41.5	HAA	1/1/1967	419	3	LT	T		I9	E13		482		23.8	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	171.3	205102183	32.920	32.920	0.313	30.000	375	34.6	HAA	1/1/1967	3	3	LT	T		I9	E13		402		20.0	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	172	205145464	33.000	33.147	0.313	36.000	375	41.5	HAA	1/1/1967	776	3	LT	T		I9	E13		482		23.8	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	172.2	205113726	33.482	33.570	0.313	36.000	375	41.5	HAA	1/1/1967	467	3	LT	T		I5	E14	E07	482		14.7	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	172.3	205102179	33.570	33.571	0.313	30.000	375	34.6	HAA	1/1/1967	5	3	LT	T		I5	E14	E07	402		12.8	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	173	205113723	33.571	33.888	0.375	30.000	375	28.8	HAA	1/1/1948	1883	3	LT	T		I5	E14	E07	402		16.8	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	173.2	205128861	33.888	33.979	0.375	30.000	375	28.8	HAA	1/1/1948	479	3	LT	T		I8	E14	E07	402		23.5	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	175.05	205117948	34.556	34.636	0.375	30.000	375	28.8	HAA	1/1/1948	423	3	LT	T		A5	E16	E09	402		17.4	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	175.1	205113722	34.636	35.030	0.375	30.000	375	28.8	HAA	1/1/1948	2096	3	LT	T		A5	E16	E09	402		17.4	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	175.15	205117949	35.030	35.111	0.375	30.000	375	28.8	HAA	1/1/1948	430	3	LT	T		A5	E14	E07	402		16.5	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	178.02	205113791	37.415	37.672	0.313	36.000	375	41.5	HAA	1/1/1964	1507	3	LT	T		I5	E14	E07	482		14.7	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	178.04	205117952	37.708	37.799	0.313	36.000	375	41.5	HAA	1/1/1964	536	3	LT	T		A5	E14	E07	482		14.7	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	178.05	205111516	37.799	38.390	0.313	36.000	375	41.5	HAA	1/1/1964	3464	3	LT	T		B5	E16	E09	482		21.3	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	178.2	205102499	38.390	38.390	0.313	24.000	375	24.0	TAPE	1/1/1995	25	3	LT	T		I5	E16	E09	322		10.0	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	178.3	205102498	38.390	38.400	0.500	30.000	375	18.8	TAPE	1/1/1995	31	3	LT	T		I5	E16	E09	402		10.1	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	178.1	205102500	38.390	38.390	0.547	36.000	375	20.6	TAPE	1/1/1995	4	3	LT	T		I5	E16	E09	482		9.3	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	178.4	205102504	38.400	38.400	0.500	24.000	375	15.0	TAPE	1/1/1995	19	3	LT	T		I5	E16	E09	322		9.8	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	178.5	205151396	38.400	38.406	0.500	24.000	375	15.0	TAPE	1/1/1995	27	3	LT	T		I5	E16	E09	322		9.8	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	178.55	205151397	38.405	38.680	0.500	24.000	375	15.0	TAPE	1/1/1995	1252	3	LT	T		I5	E16	E09	322		9.8	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	178.6	205102501	38.680	38.930	0.313	24.000	375	24.0	TAPE	1/1/1995	1316	3	LT	T		I5	E16	E09	322		10.0	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	178.7	205101825	38.930	38.931	0.375	30.000	375	25.0	TAPE	1/1/1995	5	3	LT	T		I5	E16	E09	402		10.4	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	179.3	205101191	38.931	38.998	0.313	30.000	375	34.6	HAA	1/1/1961	354	3	LT	T		I5	E16	E09	402		18.8	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	179.6	205101823	38.998	39.036	0.313	30.000	375	34.6	HAA	1/1/1961	211	3	LT	T		I5	E16	E09	402		18.8	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	180	205101824	39.040	39.370	0.375	30.000	375	35.7	HAA	1/1/1956	1742	3	LT	T		B5	E16	E09	402		19.5	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	181	205101800	39.370	39.480	0.375	30.000	375	28.8	HAA	1/1/1948	610	3	LT	T		A5	E16	E09	402		17.4	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	181.2	205101818	39.480	39.480	0.375	30.000	375	25.0	TAPE	1/1/1995	6	3	LT	T		A5	E16	E09	402		10.4	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	181.3	205101815	39.480	39.500	0.500	24.000	375	15.0	TAPE	1/1/1995	28	3	LT	T		A5	E16	E09	322		9.8	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	181.4	205101820	39.500	39.530	0.500	24.000	375	15.0	TAPE	1/1/1995	517	3	LT	T		A5	E16	E09	322		9.8	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	181.5	205101821	39.530	39.540	0.500	24.000	375	15.0	TAPE	1/1/1995	33	3	LT	T		A5	E16	E09	322		9.8	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	181.6	205101816	39.540	39.580	0.375	30.000	375	28.8	HAA	1/1/1948	200	3	LT	T		A5	E16	E09	402		17.4	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	181.6	205101817	39.540	39.540	0.375	30.000	375	28.8	TAPE	1/1/1995	6	3	LT	T		A5	E16	E09	402		10.4	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	182.3	205101801	39.580	39.650	0.375	30.000	375	28.8	HAA	1/1/1954	360	3	LT	T		A5	E16	E09	402		17.7	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	182.6	205101802	39.650	39.720	0.375	30.000	375	28.8	HAA	1/1/1948	367	3	LT	T		A5	E16	E09	402		17.7	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	182.9	205101803	39.720	39.850	0.375	30.000	375	28.8	HAA	1/1/1948	661	3	LT	T		A5	E16	E09	402		17.7	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	183	205101804	39.850	40.000	0.375	30.000	375	28.8	HAA	1/1/1948	769	3	LT	T		B5	E16	E09	402		17.7	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	183.3	205153546	40.000	40.045	0.375	30.000	375	28.8	HAA	1/1/1948	235	3	LT	T		B5	E16	E09	402		17.7	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	183.4	205153547	40.045	40.080	0.375	30.000	375	28.8	HAA	1/1/1948	185	3	LT	T		B5	E16	E09	402		17.7	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	183.6	205101806	40.080	40.090	0.360	30.000	375	26.0	TAPE	1/1/1969	22	3	LT	T		B5	E16	E09	402		14.0	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	184	205101807	40.090	40.580	0.360	36.000	375	31.3	TAPE	1/1/1969	2614	3	LT	T		A5	E16	E09	482		16.7	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	184.3	205101808	40.580	40.660	0.360	36.000	375	36.1	TAPE	1/1/1969	417	3	LT	T		A5	E16	E09	482		14.1	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	184.6	205101809	40.660	40.690	0.405	36.000	375	32.0	TAPE	1/1/1969	148	3	LT	T		A5	E16	E09	482		14.1	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	184.9	205101810	40.690	40.770	0.360	36.000	375	36.1	TAPE	1/1/1969	437	3	LT	T		A5	E16	E09	482		14.1	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	185	205101812	40.770	41.470	0.375	30.000	375	28.8	HAA	1/1/1948	4262	3	LT	T		B5	E16	E09	402		23.6	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	185.2	205101811	40.770	40.770	0.360	30.000	375	30.0	TAPE	1/1/1969	11	3	LT	T		A5	E16	E09	402		13.6	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	187	205101813	41.470	41.580	0.313	30.000	375	34.6	HAA	1/1/1961	581	3	LT	T		B5	E16	E09	402		23.7	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	188	205101814	41.580	41.590	0.375	30.000	375	28.8	HAA	1/1/1948	60	3	LT	T		B5	E16	E09	402		22.7	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	188.2	205101979	41.590	42.120	0.375	30.000	375	28.8	HAA	1/1/1948	2773	3	LT	T		B5	E16	E09	402		28.8	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	188.1	205101980	41.590	41.590	0.375	30.000	375	-28.8	HAA	7/11/1975	19	3	LT	T		B5	E16	E09	402		20.9	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	188.3	205101795	42.120	42.130	0.313	30.000	375	34.6	TAPE	1/1/1970	60	3	LT	T		I5	E16	E09	402		25.4	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	189	205101796	42.130	43.550	0.375	30.000	375	28.8	HAA	1/1/1948	7481	3	LT	T		B5	E16	E09	402		33.7	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	189.3	205101797	43.550	43.590	0.375	30.000	375	42.9	HAA	1/1/1953	212	3	LT	T		A5	E16	E09	402		26.5	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	189.6	205101798	43.590	43.607	0.375	30.000	375	42.9	HAA	1/1/1953	92	3	LT	T		A5	E16	E09	402		26.5	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	189.7	205151409	43.607	43.610	-0.375	30.000	375	-42.9		1/1/1988	12	3	LT	T		A5	E16	E09	402		25.8	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	189.75	205151410	43.610	43.613	-0.375	30.000	375	-42.9		1/1/1988	18	3	LT	T		A5	E16	E09	402		25.8	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	189.8	205101982	43.613	43.630	0.375	30.000	375	42.9	HAA	1/1/1953	89	3	LT	T		A5	E16	E09	402		26.5	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	189.9	205101799	43.630	43.640	0.313	30.000	375	34.6	HAA	1/1/1960	61	3	LT	T		A5	E16	E09	402		23.7	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	191	205113718	43.640	43.746	0.375	30.000	375	28.8	HAA	1/1/1948	570	3	LT	T		A5	E16	E09	402		22.4	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	193	205102061	45.080	45.230	0.375	30.000	375	28.8	HAA	1/1/1948	787	3	LT	T		I5	E16	E09	402		29.9	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	194	205120838	45.230	45.280	0.313	30.000	375	34.6	HAA	1/1/1968	261	3	LT	T		I5	E16	E09	402		28.0	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	194.1	205120839	45.280	45.430	0.313	30.000	375	34.6	HAA	1/1/1968	783	3	LT	T		I5	E16	E09	402		33.8	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	194.5	205113715	45.430	45.522	0.375	30.000	375	28.8	HAA	1/1/1948	482	3	LT	T		I5	E16	E09	402		37.4	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	195	205153993	45.522	45.699	0.375	30.000	375	28.8	HAA	1/1/1948	926	3	LT	T		A5	E14		402		43.5	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	195.2	205117954	45.790	45.810	0.375	30.000	375	28.8	HAA	1/1/1948	105	3	LT	T		A5	E16	E09	402		22.4	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	195.3	205113713	45.810	45.845	0.375	30.000	375	28.8	HAA	1/1/1967	185	3	LT	T		A5	E16	E09	402		16.8	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	195.6	205113714	45.845	45.880	0.375	30.000	375	28.8	HAA	1/1/1967	184	3	LT	T		A5	E16	E09	402		26.8	Yes	No	No	No	No	Yes	Yes	Yes	No
132 0.00	132	196	205102078	45.880	46.000	0.375	30.000	375	28.8	HAA	1/1/1948	537	3	LT	T		I5	E16	E09	402		32.4	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	197	205102079	46.000	46.590	0.375	30.000	375	28.8	HAA	1/1/1948	3104	3	LT	T		I6	E16	E09	402		29.1	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	197.5	205151419	46.590	46.606	0.313	24.000	145	21.1	HAA	1/1/1948	85	3	LT	T		I5	E16	E09	200		22.0	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	197.3	205102013	46.590	46.590	-0.281	24.000	375	-45.8	HAA	1/1/1948	21	3	LT	T		I5	E16	E09	322		25.6	Yes	No	No	Yes	No	Yes	Yes	Yes	No
132 0.00	132	197.7	205151420	46.606	46.770	0.313	24.000	145	21.1	HAA	1/1/1948	880	3	LT	T		I5	E16	E09	200		22.0	Yes	No	No	Yes	No	Yes	Yes	Yes	No

2009 BAP Revision 5
Key for 2008 BAP sheet

IMA_NAME	A	Designation of Integrity Management Area Name. Not used in threat analysis. Included for reference in preparing the BAP.	Information Only
ROUTE	B	Designation given to the pipeline. Not used in risk calculations or threat analysis. Used for reference.	Information Only
SEGMENT_NO	C	Unique segment identifier	Information Only
GASMAPID	D	GIS Unique segment identifier	Information Only
MP1	E	Beginning Mile Post for that Pipe Segment. Not used in threat analysis. Included for future reference.	Information Only
MP2	F	Ending Mile Post for that Pipe Segment. Not used in threat analysis. Included for future reference.	Information Only
W_THICK	G	Pipe wall (Inches)	Information Only in Threat Analysis. Used in Risk Analysis.
OD	H	Outside Diameter of Pipe (Inches)	Information Only in Threat Analysis. Used in Risk Analysis.
MOP	I	Maximum Operating Pressure (psig)	Information Only in Threat Analysis. Used in Risk Analysis.
SMYS_MOP	J	Ratio of operating pressure stress to that of SMYS	Used as a factor in determining if the Manufacturing Threat was addressed by past PT and determining if the Hard Spot Threat Exists.
COAT_TYPE	K	Coating Type Coded as UNK, WAX, BARE, COAL TAR, CONC, FBE, HAA, MECH, PAINT, PC, PCJ, PL, SOMA, STL, TAPE, XTRUPL, and Blank	Information Only in Threat Analysis. Used in Risk Analysis.
YR_INSTALL	L	Year pipe was installed (Date)	Used as a factor in determining Hard Spot Threat
FOOTAGE	M	Length of Pipe Segment in Feet. Not used in threat analysis. Included for reference in mitigation considerations.	Information Only
CLASSESSENT	N	Present Class (Text)	Information Only
FAC_TYPE	O	Facility Type. Not used in threat analysis. Included for future reference.	Information Only
TRANS_DEF	P	Coding to identify transmission lines meeting the definition of Part 192. Not used in threat analysis. Included for future reference. Also used to identify those segments the California State Lands Commission has required be included in the BAP, whethe	Information Only
HCA_ID	Q	Code for designation as an High Consequence Area, the reason, and the individual who identified it. Not used in threat analysis. Included for future reference.	Information Only
ASMT_PLAN	R	Coded alpha-numeric expression that designates the integrity assessment type and year the assessment is to be performed. The left alpha character represents the type of assessment (E- ECDA, I-ILI, R-Replace, P-Pressure Test) and the right two numbers rep	Information Only - from GIS
LST_ASMT	S	Code to designate when and how the last integrity assessment was performed. Not used in threat analysis. Included for future planning of reassessment date.	Information Only - from GIS
IMP_Zone	T	Potential Impact Zone - Not used in threat analysis. For reference in preparing the BAP.	Information Only - from GIS
2009 HCA_Risk	U	From GIS, High Consequence Area Risk based on last calculation. (Not used in threat analysis, but will be used as a comparison with current calculated values to determine if a reprioritization of assessments or preventive or mitigative actions is require	Information Only - from GIS
EC_Threat	V	From GIS (from previous threat analysis), indicator to identify the existence of an external corrosion threat. (Not used in threat analysis, but will be used as a comparison with subsequent threat analysis to determine if a new assessments are required,	Information Only - from GIS

IC_THREAT	W	From GIS (from previous threat anslysis), indicator to identify the existence of an internal corrosion threat. (Not used in threat analysis, but will be used as a comparison with subsequent threat analysis to determine if a new assessments are required,	Information Only - from GIS
SCC_Threat	X	From GIS (from previous threat analysis), indicator to identify the existence of an Stress Corrosion Cracking threat. (Not used in threat analysis, but will be used as a comparison with subsequent threat analysis to determine if a new assessments are req	Information Only - from GIS
MANU_Threat	Y	From GIS (from previous threat analysis), indicator to identify the existence of an manufacturing threat. (Not used in threat analysis, but will be used as a comparison with subsequent threat analysis to determine if a new assessments are required, or re	Information Only - from GIS
TP_Threat	AA	From GIS (form previous threat analysis), indicator to identify the existence of an third party threat. (Not used in threat analysis, but will be used as a comparison with subsequent threat analysis to determine if a new assessments are required, or repr	Information Only - from GIS
Incor.Ops Threat	AB	From GIS (from previous threat analysis), indicator to identify the existence of an Hard Spot threat. (Not used in threat analysis, but will be used as a comparison with subsequent threat analysis to determine if a new assessments are required, or reprio	Information Only - from GIS
OF_THREAT	AC	From GIS (from previous threat analysis), indicator to identify the existence of an Outside Force (Ground Movement) threat. (Not used in threat analysis, but will be used as a comparison with subsequent threat analysis to determine if a new assessments a	Information Only - from GIS
HS_Threat_FNL	AD	From GIS (from previous threat analysis), indicator to identify the existence of an Hard Spot threat. (Not used in threat analysis, but will be used as a comparison with subsequent threat analysis to determine if a new assessments are required, or reprio	Information Only - from GIS

PACIFIC GAS AND ELECTRIC COMPANY
San Bruno Gas Transmission Line Incident
Data Response

PG&E Data Request No.:	NTSB_001-005		
PG&E File Name:	San Bruno GT Line Incident_DR_NTSB_001-005		
Request Date:	September 10, 2010	Requesting Party:	NTSB
Date Sent:	September 13, 2010	Requestor:	NTSB

QUESTION 5

Integrity management assessments - initial and subsequent readings including ILI Data, direct assessements?

Is the rupture site an HCA in you IM plan?

ANSWER 5 – SUPPLEMENTAL

Please see attached Corrosion 2004 manual (ECDA Survey) (1 volume)

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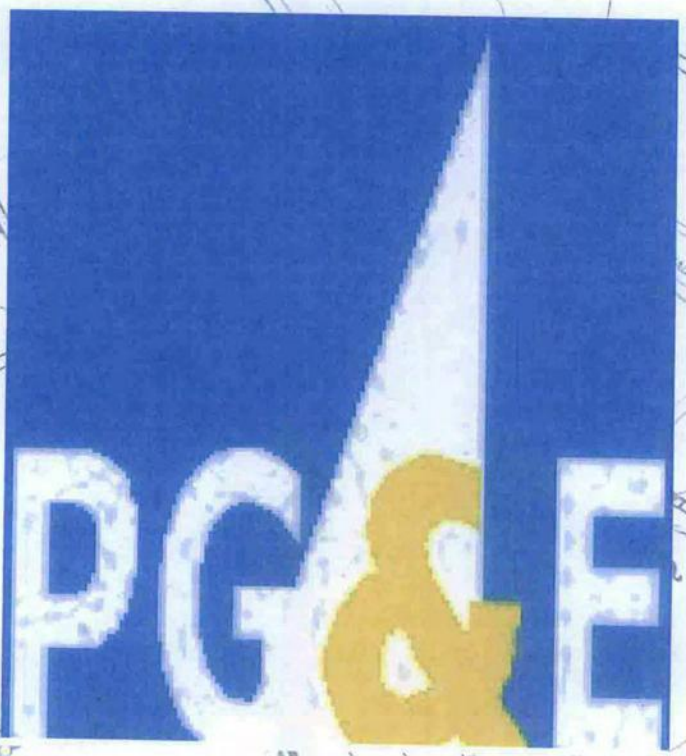
CORROSION SURVEY

2004



N-Seg 132

MP 20.00 to MP 51.53

PACIFIC GAS AND ELECTRIC COMPANY

ENGINEERING & OPERATIONS
GAS TRANSMISSION AND DISTRIBUTION
GAS ENGINEERING
GAS SYSTEM INTEGRITY
Risk Management

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Long Term Integrity Management Plan

NSeg 132-2004

Prepared By: _____ Date: 10/12/09
Chih-Hung Lee, Sr. Consultant Gas Engineer

Prepared By: _____ Date: 10/12/09
Lee Haynes, Corrosion Engineer

Reviewed By: _____ Date: 1-6-10
William J. Manegold, Supervisor, Integrity Management

Approved By: _____ Date: 4-26-10
Sara E. Burke, Manager, Integrity Management

Rev. No.	Date	Description	Prepared By	Approved Manager, Integrity Management
1				
2				
3				
4				

Table of Contents

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1.0 PURPOSE AND SUMMARY

The purpose of this report is to document the development of a Long Term Integrity Plan (LTIMP) and the Prevention and Mitigation (P/M) strategies for NSeg 132-2004. It covers HCAs in:

- 132, The section of L-132-0.00 from MP 22.59 to MP 40.77 (from near Woodhill drive at the Woodside/Redwood City border to north west of the Avalon off ramp to 280 in South San Francisco) and includes 24", 30" and 36" OD, 0.281", 0.313", 0.375", 0.406", 0.5" and 0.547", WT pipes and the pipe specifications include Grade B, SMLS, and X-52, X-60 DSAW. It was originally installed in 1947 and 1948.

- 132A, includes 12", 16" and 24" Grade B, SMLS and X42 and X-52 ERW and DSAW pipes installed in 1944, 1969 and 1981 and connects lines 109 and 132 at Sierra Vista Crossover in Mountain View to Line 101 at MP 9.78 in Mountain View.

- 147 includes 20" and 24" OD 0.281", 0.313" and 0.25" WT, Grade B, SMLS and X 42, X-52 and X-60 DSAW pipes were installed in 1947.and connect line 132 (at the Edgewood Crossover east of Redwood City) to line 101 (near Old County Rd and Commercial Street in San Carlos).

- 8805-03 includes 16" and 10" OD, 0.219" and 0.25", 0.188" WT pipes. DFDS3645 (8" OD, 0.322" WT Grade B SMLS) installed in 1989 and X-6430 (16" OD, 0.281" WT, 6" OD 0.156 WT) installed in 1968. It taps off line 132 and runs to the Whisman/Middlefield reg station.

(See detailed segments listed in Section 3, except casings and earthen crossings are assessed elsewhere.) The LTIMP will be incorporated in Section 6 of IMP L-132_0.00, IMP 132A_0.00, 147_0.00 and 8805-03_0.00. The LTIMP is required by GSI (Gas System Integrity) Procedure RMP-06 Section 7 following integrity assessments. The pipelines in question were originally installed in various years and the maximum operating pressures (MOP) of the covered pipelines are 375 psig for Nseg132-2004. The detail pipe information and operating conditions are shown in Attachment 3. All information relevant to the threats identified in RMP-06 has been reviewed and addressed for the pipe segments in this document. The major threat to these sections of pipelines was corrosion. Since 1940s, various sections of Nseg 132-2004 have been replaced or relocated. The 1940's pipe is still representing a significant fraction, about 50% (26,107 ft.) and 1950s and 60s pipe 34% (18,070 ft.) of the total NSeg footage (52,392 ft).

The primary inspection method was DA see "Corrosion Survey Report, 2004, NSeg 132" Dated 16/6/2004. This inspection uncovered no immediate indication due to external corrosion. The DA assessment included close interval survey (CIS) and Pipeline Current Mapper (PCM) or direct current voltage gradient (DCVG). A sample size of 11 locations including: 6 "Scheduled", 3 "Monitored" and 2 "No Indications" were directly examined, no active corrosion was found on the lines. Although there were no indications required mitigation left on the pipeline, the Executive Summary for Nseg 132-2004 Survey Report recommended that a number of steps be taken, as

shown in Section 8 to maximize pipeline safety and the planned reassessment interval. The high priority recommended prevention/mitigation (P/M) task listing in Section 8 will be tracked in IMACS (Integrity Management Assessment Computer System).

2.0 BACKGROUND

NSeg 132-2004 consists of 84 HCA pipe segments with a length totaling 52,392 feet. The Integrity Management Plan contains the extent, relevant pipe properties, and threats associated with each segment of pipe. The corrosion survey was performed by Mears. The intent of this ECDA was to provide a baseline assessment for the threat of external corrosion and was performed in accordance with PG&E Procedure RMP-09 "Procedure for ECDA Inspection". The results of the ECDA were incorporated into GIS as shapefiles (Shared Drive V: "Walnutcrk01": \Integrity_Management_Themes\IMA\0_Nseg-132\132_2004\DA\(All Pipeline Sections in Section 3)\CIS Reads, PCM Reads, DCVG Indications, etc.) for integration with surrounding features, risk mitigation planning, and review with later assessments.

In addition, locations of potential third party damage were also reviewed. Although third party damage was looked for, this threat is primarily managed through prevention and mitigation.

3.0 SCOPE

This NSeg 132-2004 report addresses the High Consequence Areas (HCAs) in following sections:

- 8805-03 (MP 0.00 to MP 0.56) and X6430 (Whisman & Middlefield Reg. Sta.) maintained by De Anza Division.
- 132A (MP 0.00 to MP 1.45) connecting L-132 and L-101 maintained by De Anza Division
- L-147 (MP 0.55 to MP 3.57) and DFDS3645, connecting L-132 and L-101, maintained by Peninsula Division.
- L-132 (MP 22.58 to MP 40.77) maintained by Peninsula Division.

The 84 covered segments (see Attachment 3, casings and earthen crossings are assessed in separate inspections.) are in IMAs L-132_0.00, IMP 132A_0.00, 174_0.00 and 8805-03_0.00 (see location plot in Attachment 3A). It is intended that this report augment the Integrity Management Plan to describe and provide documented support for prevention and mitigation decisions and reassessment schedules for the subject IMAs.

4.0 PROCESS

This Long Term Integrity Plan was developed using a team of engineers with varied expertise to review the assessment results of the ECDA conducted by Mears with integrated information about the pipe, past assessments and inspections, and surroundings to determine the most appropriate prevention and mitigation actions and a reassessment date. The review was generally conducted utilizing GIS with hardcopy information available for reference when information about recent

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inspections was necessary. Working together the team reviews GIS information, ECDA data and report, and data from other sources for threats, while looking for opportunities to mitigate threats and reduce risk. The checklist provided in Attachment 1 of this report was used to ensure that the review encompassed the necessary considerations.

5.0 REVIEW TEAM

The primary review team consisted of the following personnel:

Name	Expertise relevant to Review
Bill Manegold	Risk/Integrity Management
Chih-Hung Lee	Risk/Integrity Management
Mike West	Corrosion / Cathodic Protection
Lee Haynes	Corrosion / Cathodic Protection
Drew Kelly	Pipeline Engineer

6.0 DATA GATHERING & INTEGRATION

Summary data relevant to determining risk, identifying applicable threats, and selecting assessment methods is contained in the GT&D GIS and was used in this review. In addition to the default Server Pipeline Database and land base, Table 1 shows the additional shapefiles and layers that were also used in the review:

Hardcopies of the following reports were available and referenced when more detailed information about the assessment or inspection was required:

- Corrosion Survey Report 2004, NSeg 132, Dated 12/6/04
- Executive Summary for Nseg 132-2004 Survey, Change #1, Dated 5/28/2009

TABLE 1		
Description	Name	Location
Default Server Database[1]	N/A	
CIS Data	Nseg 132 CIS Reads	Shapefile: V:\Integrity_Management_themes\IMA\0_NSEG-132\132_2004\DA
DCVG Data	Nseg 132 DCVG Reads	Shapefile: V:\Integrity_Management_themes\IMA\0_NSEG-132\132_2004\DA
PCM Data	Nseg 132 PCM Reads	Shapefile: V:\Integrity_Management_themes\IMA\0_NSEG-132\132_2004\DA
Soil Resistivity Data	Nseg 132 Soil Resistivity Reads	Shapefile: V:\Integrity_Management_themes\IMA\0_NSEG-132\132_2004\DA
Soil Data	CAXXX	\\walnutcrk01\SysIntegrity\DA\WLA\Soil_surveys\County\CAXXX.shp
Pipelines w/ high potential for third party damage	mag_loc.shp	Shared Drive 'Walnutcrk01:\ENG \ LIBRARY \ GISDATA \3rdParty'
Erosion	erosion.shp	Shared Drive ' Walnutcrk01:\ENG\ LIBRARY \ GISDATA \GEOLOGY \ SEISLIQ \ STATEWID"
GM - Faults	pgefaults.shp	Shared Drive ' Walnutcrk01:\ENG\ LIBRARY \ GISDATA \GEOLOGY \ SEISLIQ \ STATEWID\GeoHarzards Current'
GM - Landslides	Landslides.shp	Shared Drive ' Walnutcrk01:\ENG\ LIBRARY \ GISDATA \GEOLOGY \ SEISLIQ \ STATEWID\GeoHarzards Current'
GM – Unstable Slopes	Slprev_pipebuff_nad83.SHP	Shared Drive ' Walnutcrk01:\ENG\ LIBRARY \ GISDATA \GEOLOGY \ SEISLIQ \ STATEWID\GeoHarzards Current'
GM -Liquefaction	Liqrev_nad83.SHP	Shared Drive ' Walnutcrk01:\ENG\ LIBRARY \ GISDATA \GEOLOGY \ SEISLIQ \ STATEWID\GeoHarzards Current'
Foreign Pipelines (Data from NPMS)	co_wopge.shp	Shared Drive ' Walnutcrk01:\ENG \ LIBRARY \ GISDATA \ FOREIGN \ All other Foreign \ npms
Foreign Pipelines (Data from Commercial Database)	crupipe.arc, lpgpipe.arc, miscpipe.arc, natpipe.arc, refpipe.arc	Shared Drive ' Walnutcrk01:\ENG \ LIBRARY \ GISDATA \ FOREIGN \ All other Foreign \ MSCA1197
Electric Transmission	etran_line.shp	Shared Drive ' Walnutcrk01:\ENG \ LIBRARY \ GISDATA \ Electric Trans \ Elec Trans Line
BART Rail lines	raillines.shp	Shared Drive ' Walnutcrk01:\ENG \ LIBRARY \ GISDATA \ BART
Parcel Data	Alameda.prcl_pic.shp Contra Costa.prcl_pic.shp	Shapefile: Walnutcrk01\Mapping:\Integrity Managment Plans\HCA determination\Parcels_in_PIC_by_County

Notes:

1 For the Default Server Database, the following layers were loaded and available for review. CP, Aform, Hform, Valve, Station, Staion Opdia, Pipeline (legendized based on HCA_ID), Inactive Pipe, all landbase layers except pge_devision, Pipe Repair, Proposed Work, Construction Reports, and Pipe (Foreign)

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7.0 REVIEW

The review team worked together to develop the LTIMP. The first step in the process was to review the assessed scope vs. the intended scope. Per Nseg 132-2004 Inspection Final Report dated 12/6/2004, the inspected sections (scope) are consistent with the pipe segments described in Section 3. Attachment 2 shows notes of the review, the locations are described by CIS stations and/or mile points (MP).

ASME B31.8S is designed to guide users in managing the system integrity of gas pipelines. The nine threat categories identified in this supplement are used below to evaluate threats to Line NSeg 132-2004. Mitigating actions to address some of these risks are noted with more detailed proposals outlined in Attachment 1. A segment by segment review of the pipeline with more detailed information about the various attributes contributing to the overall threat to the pipeline (see RMP 06) is contained in the 2008 Gas Transmission System Wide Risk Analysis.

External Corrosion (EC) Threat:

Because it is made of a corrodible material, NSeg 132-2004 is considered to be at risk from external corrosion. All leak record and main inspection form data (A-Forms) in GIS were reviewed in assessing the severity of the threat. There was one corrosion leak (L-147 MP 2.86 in 1991) on this Nseg covered pipeline segments. The original coating on all covered pipeline segments was hot applied asphalt (HAA) and the replacement pipes were coated with Tape (see Attachment 3). The records show the earliest cathodic protection (CP) on L-132 and adjacent pipelines are in1960. CP on the older sections of this pipeline prior to 1960 was undetermined. However, the pipeline may be still under CP with uneven effectiveness. The CIS of the line provided confirmation of the current CP effectiveness on the line and showed where it needed to be enhanced. See the mitigation plan in Section 8 for details.

Internal Corrosion (IC) Threat:

There is no pipe segment in NSeg 132-2004 have been identified with IC threats and no internal indications were found during the IC inspection of this Nseg, therefore, no IC mitigation is needed at this time. However, a further review of pipeline liquid downstream of Milpitas to Peninsula (including L-109, L-101 and L-132) is currently undergoing. When the result is finalized, the IC threat will be updated.

Stress Corrosion Cracking (SCC) Threat:

No part of IMA NSeg 132-2004 line is currently considered to be susceptible to SCC (all points are more than 20 miles downstream of a compressor station and no segments operate at more than 60% SMYS), never-the-less SCC was checked for in some sample bell hole examination and no SCC damage was found.

Manufacturing Threat (Pipe Seam and Pipe):

8805-03 and X6430 with unknown pipe, enable the manufacturing threat. Per 49 CFR Part 192.917 (4), we reviewed the MOP of these segments, see following table, going forward the MOP of these lines will be 375 psig. From A Forms in GIS our pipeline survey sheets (which have been carried over into GIS), there is no long seam failure or leak on the covered NSeg 132-2004 segments. There were no leaks

referencing material or manufacturing failure that had occurred since this pipeline was installed.

(V:\Documentation\Weld Const Material Threats\MOPSeamIssues\Penninsula Division\Section 6.0 SCADA data)

Pipeline Sections	From 12/15/1999 to 12/15/2004	From 12/15/2004 to Current
L-132A Sierra Vista Ave Crosstie to Rengstorff Ave Sta. Station	402 psig (12/11/2003)	375 psig
L-147 Edgewood Road Crosstie to L-101 at Commercial Station.	402 psig (12/11/2003)	375 psig
DFM 8805-03 and X6430	403 psig (12/11/2003)	400 psig

Construction threat (Pipe Girth Weld, Fabrication Weld, Wrinkle Bend or Buckle, Stripped Threads/Broken Pipe/Coupling, Shop Fabricated Miter Bend,):

There is 3,590 feet of the original L-132A pipe installed in 1944 still in service. Due to a concern for potentially non-ductile girth welds failure, pipes installed before 1947 are assumed to have non-ductile girth welds. Reviewing the A Form found no girth weld leak in this Nseg segments. Going forward, this threat will be addressed by preventative measures for future pipe line excavations (See Gas Information Bulletin 151 Rev. 2 – Preventing Mechanical Damage to Gas Transmission Lines.) In addition, Shop Fabricated Miter Bends similar to those on L-109 also exist on L-132, L-132A and L-147. From the internal pipeline NDE system (IPNS) pull pig inspection of L-109 pipe on the girth welds (GWs) in 1996 and 1998. All the Miter Bends within the inspected pipeline sections were replaced with regular elbow segments due to poor weld quality. The inspection results of the miter bends and the GWs will be considered in the construction threat algorithm of the future risk calculations. The same risk will be considered for these miter bends and GWs. The inspection results of the miter bends and the GWs will be considered in the construction threat algorithm of the future risk calculations.

Equipment Threat:

Equipment on this line consists primarily of San Francisco Load Cender, Martin Station, Milpitas Terminal, regulator stations, main line valves and services. Equipment threats are addressed through normal maintenance and no additional preventative measures are contemplated for this pipeline at this time. For seismic emergency responses, there is a control valve located where the Half Moon Bay DFM is tapped into TL-132 and 132 (east of the fault). It trips on excess flow and low pressure. It is maintained more frequently than the annual requirement.

3rd Party Damage Threat:

NSeg 132-2004 has similar 3rd party damage threat as other pipelines in HCAs. A review of A-forms reveals one 3rd party dig-in on NSeg 132-2004 segments (L-147 MP 0.61 in 1970). Line markers, PG&E's standby policy and PG&E's notification to

customers along the pipeline ROW supplement existing USA (Underground Service Alert) requirements that help protect this pipe.

Incorrect Operations Threat:

This is assumed to be a threat for all pipelines. For NSeg 132-2004, it is addressed with current operator training requirements and division emergency response training. There are no special training requirements associated with operating this pipeline. Pressures on this line are monitored 24 hours a day and 7 days a week (24-7) by the SCADA system at PG&E centers in San Francisco and Brentwood. Gas transmission lines L-101, L-109 and L-132 supply gas from Milpitas Terminal to the San Francisco Peninsula. Generally, L-109 and L-132 run close to each other up the middle of the Peninsula and have many crossties. L-101 follows the eastern shoreline and is crosstied to L-109 and L-132 through L-147 and L-132A. Through the crossties the three transmission lines can support each other in case of interruption of one of the lines

Weather Related Outside Force Threat: GM (Earthquake Faults, Landslides, Floods, etc)

Seismic retrofit project 1994 & 1995 relocated pipe to avoid crossing San Andreas fault near MP 38.4 However there are still two L-132 San Andreas fault crossings at MP 38.00 and MP 37.86 (on segment 178.05). The San Andreas fault is a major active earthquake fault. These two fault crossings are high priority items on the Transmission Pipeline Fault Crossings List and project funding is requested in 2011 budget to mitigate these crossings. There are no other significant fault crossings for this Nseg.. The maximum ground accelerations around NSeg 132-2004 segments varies and they are expected to be up to 0.7g for L-132 MP 30.00 to MP 41.00, and 0.5g to 0.6g for the rest of the pipelines, all due to the San Andreas faults earthquake scenario. The pipeline also passes through several areas identified as having some low to moderate liquefaction potential. There are some segments of pipe that pass through areas identified as having moderate, and moderate to high, landslide risk which will be addressed through our current practice of patrolling the pipeline in search of any kind of unusual activity that might need to be addressed. It is believed normal patrolling will allow adequate time to respond to any developing landslide, however, to respond to potential landslides due to heavy rainfall, a rainfall response plan (RMI-04A) may call for additional patrols after rainfall reaches the threshold. In addition, to respond to earthquakes across the service territory, a gas transmission response plan (RMI-04) for earthquakes has been developed.

Hard Spot Threat

No segments on this line are currently considered susceptible to the HS threat and there was no history of hard spot failure on this line. Because of this fact, no special hard spot assessment of this line was performed. The current version of CFR 192 and B31.8S do not require assessment of this threat, and it was not looked for in this assessment.

8.0 RECOMMENDED PREVENTION/MITIGATION

Prevention/Mitigation measures recommended in this report are in addition to the Systemwide prevention/mitigation activities described in RMP-06. The mitigation strategy was based on the data gathered in the Integrity Assessment Review Notes

in Attachment 2, the data integrated from sources described in Section 6.0, and a review process as described in Section 7.0. In addition, the considerations of the LTIMP Checklist (Attachment 1) were used to establish the appropriate prevention and mitigation strategies. Priority for performing the P/M Recommendations were based on the perceived safety risk and code compliance requirements. Generally, recommendations that were needed to be implemented before a thorough P/M Plan could be developed, or where higher risk conditions needed remediation were given high priority.