

Long Range Gas Transmission Pipeline Planning Input **Top 100 Segments**

PG&E has a comprehensive inspection and monitoring program to ensure the safety of its natural gas transmission pipeline system. PG&E monitors system status in real time on a 24-hour basis, and regularly conducts leak inspections, surveys, and patrols of all of our natural gas pipelines. Any issues identified as a threat to public safety are immediately addressed.

PG&E also uses the data it collects to help plan and prioritize future work. One of the tools PG&E uses is a risk management program that inventories each of the 20,000 segments within PG&E's natural gas transmission pipeline system and evaluates them against criteria such as:

- the potential for third party damage like dig-ins from construction,
- the potential for corrosion,
- the potential for ground movement, and
- the physical design and characteristics of the pipe segment.

PG&E also considers the proximity to high density populations, potential reliability impacts and environmentally sensitive areas.

Based on all of these factors, PG&E determines which segments warrant further evaluation, monitoring or other future action. PG&E also creates a list of the "Top 100" segments to help inform future work plans. As conditions change from year to year, PG&E reevaluates the segments included on the list.

There are a range of actions PG&E may take for the segments identified on the list. For example, if a segment is on the list due to a high level of construction activity in the area, PG&E might enhance the physical markings of the lines and conduct outreach to help avoid accidental dig-ins. In other cases, PG&E may increase its monitoring or propose to rebuild the line sometime in the future.

Below is PG&E's current list of segments for longer-term evaluation and planning. This list also is available on PG&E's website at www.pge.com/pipelineplanning, along with maps to assist customers with specific questions about the location of PG&E's natural gas transmission lines. The segments have been grouped together for planning purposes. The current ranking for each segment is also provided.

Factor Key:

A pipeline segment may be placed into planning for further study and long-range planning based upon its risk for one of five factors:

- ffi **Potential for Third-Party Damage:** Third-party damage is the number one risk to PG&E's pipeline system. Indications that a pipe may be at risk for third-party damage include whether or not the line segment has a history of third party damage, the depth at which the pipe is buried, the pipe's diameter, the degree of marking available for the pipe's location, and local awareness in the immediate area of the pipeline's location. Some of the actions PG&E would take to reduce this risk factor would include additional marking of the pipeline location (when possible), additional education in the immediate area for the 811 system to call before digging, and monitoring of construction activity and/or permits in the area around the pipeline.
- ffi **Potential for Corrosion:** Factors include items such as: the coating design, the resistivity of the soil, and other ground-based factors which could reduce the thickness of the pipe wall. Some of the actions PG&E would take to reduce this risk include regular and ongoing monitoring (PG&E monitors both electronically and physically, physically checking every 2 months at over 6,000 locations in its natural gas transmission system), increasing or replacing the pipe's external protective coating, or replacement of the pipe itself.
- ffi **Potential for Ground Movement:** Factors include the proximity to seismically active areas, and the potential for soil erosion around the pipeline. Some of the actions PG&E would take to reduce this risk include enhancing the strength of the pipe, increased monitoring, or burying the pipe a greater depth beneath the ground level (for erosion prevention).
- ffi **Physical Design and Characteristics:** Factors include items such as: the age of pipe, the type of welding performed on the pipe, the fittings used in the pipeline, and the materials used to manufacture the pipe. Some of the actions PG&E would take to reduce this risk factor include replacement of the pipe or fittings in order to upgrade or improve the design or characteristics of the line segment.
- ffi **Overall:** Did not score high in any one factor of the above factors, but scored moderately high in more than one factor.

Status Key:

- ffi **Monitoring:** PG&E engineers are monitoring and reviewing these line segments to see if they need to be addressed through a project.
- ffi **Initiated:** PG&E engineers have determined that the line segment merits further study and analysis.
- ffi **Engineering:** PG&E engineers are defining the scope of the project and readying it for construction.
- ffi **Construction:** The project is currently under construction.
- ffi **Complete:** The project has been completed and will come off the planning grid.

Map No.	Pipeline Segment (Ranking)	Segment Footage	Description	Factor	Status
1	L103, segment 117.1, Mile Points 11.00 – 11.42 (71) L103, segment 117.5, Mile Points 11.42 – 11.65 (72)	3415'	Relocate 6 miles of pipe between [Redacted] to replace two smaller segments of pipe within the larger pipeline. This section of L103 travels across the San Andreas fault line and through hillsides which are susceptible to landslides and soil erosion problems.	Potential for Ground Movement	Engineering
2	L107, segment 127.1, Mile Points 14.00 – 14.82 (74) L107, segment 127.5, Mile Points 14.82 – 15.12 (tied for	8493'	Evaluating the potential replacement of 13,835 feet of pipe between [Redacted] and [Redacted] due to the design materials used and the potential for ground movement. This section of L107 is located across the open hills from south Livermore to Arroyo del Valle.	Physical Design and Characteristics	Initiated

Map No.	Pipeline Segment (Ranking)	Segment Footage	Description	Factor	Status
	89, 90) L107, segment 127.57, Mile Points 15.13 – 15.36 (tied for 89, 90) L107, segment 127.6, Mile Points 15.36 – 15.36 (91) L107, segment 127.7, Mile Points 15.36 – 15.70 (tied for 79, 80)				
3	L107, segment 129, Mile Points 15.89 – 16.40 (tied for 79, 80) L107, segment 131.5, Mile Points 17.11 – 18.00 (82)	10,707'	Evaluate the potential replacement of 14,730 feet of pipe between [Redacted] south of [Redacted] to the [Redacted] due to the design materials used and the potential for ground movement. This segment of L107 is located across the open hills south of [Redacted] from [Redacted] [Redacted]	Physical Design and Characteristics	Initiated

Map No.	Pipeline Segment (Ranking)	Segment Footage	Description	Factor	Status
	L107, segment 132.2, Mile Points 18.00 – 18.67 (73)				
4	L107, segment 139, Mile Points 21.07 – 22.29 (77)	6441'	Evaluate the potential replacement of [Redacted] of pipe between [Redacted] due to the potential for ground movement. This section of L107 is located across the open hills through the [Redacted]	Potential for Ground Movement	Initiated
5	L108, segment 124.6, Mile Points 12.72 – 12.72 (tied for 43, 44) L108, segment 125, Mile Points 12.72 – 12.76 (tied for 43, 44)	447'	Replace 2.5 miles of pipe from [Redacted] to [Redacted] due to the design materials used. Construction was completed in 2010.	Physical Design and Characteristics	Complete
6	L108, segment 146.35, Mile Points 39.18 – 39.21 (tied for 2,	1559'	Evaluate the potential replacement of 8,000 feet of pipe through the rural area near [Redacted] near [Redacted] due to the design materials used.	Physical Design and Characteristics	Initiated

Map No.	Pipeline Segment (Ranking)	Segment Footage	Description	Factor	Status
	3, 4) L108, segment 146.6, Mile Points 39.21 – 39.23 (tied for 2, 3, 4) L108, segment 147, Mile Points 39.23 – 39.47 (tied for 2, 3, 4)				
7	L108, segment 179.5, Mile Points 62.57 – 63.29 (15)	3831'	Replace 8,900 feet of pipe through the industrial area from Redacted due to the design materials used. Construction currently is planned for 2011.	Physical Design and Characteristics	Engineering
8	L109, segment 137, Mile Points 15.00 – 15.38 (56) L109, segment 137.19, Mile Points 15.38 – 15.65 (tied for 60, 61, 62)	6005'	PG&E conducted an analysis of the cathodic system that protects this pipeline segment from corrosion. Based on this analysis, the system was adjusted for better protection. Analysis of the system in 2009 showed a marked improvement. Engineering will continue monitoring the segment, but no further action is contemplated at this time.	Potential for Corrosion	Monitoring

Map No.	Pipeline Segment (Ranking)	Segment Footage	Description	Factor	Status
	L109, segment 137.32, Mile Points 15.65 – 16.01 (tied for 60, 61, 62) L109, segment 137.8, Mile Points 16.19 – 16.33 (tied for 60, 61, 62)				
9	L114, segment 106, Mile Points 3.18 – 3.80 (tied for 84, 85) L114, segment 120, Mile Points 7.32 – 7.69 (tied for 87, 88)	5272'	PG&E is conducting an engineering review of the potential for ground movement along 5,272 feet of pipe near the [Redacted] [Redacted] Based on this review, PG&E will determine whether any repair or replacement action is warranted.	Potential for Ground Movement	Monitoring
10	L114, segment 153.2, Mile Points 28.00 – 28.87 (69)	4675'	Evaluate the potential replacement of 7,000 feet of pipe between [Redacted] located [Redacted] [Redacted] [Redacted] due to the potential for ground movement.	Potential for Ground Movement	Initiated

Map No.	Pipeline Segment (Ranking)	Segment Footage	Description	Factor	Status
11	L130, segment 101, Mile Points 0.00 – 0.50 (34)	2530'	Evaluate the potential replacement of 4,000 feet of pipe crossing the [Redacted] [Redacted] [Redacted] due to the potential for ground movement. This section of pipeline is located underwater.	Potential for Ground Movement	Initiated
12	L131, segment 151, Mile Points 37.89 – 38.49 (70)	3421'	Evaluate the potential replacement of 4,990 feet of pipeline between [Redacted] in Livermore [Redacted] due to the potential for ground movement. This pipeline is located on the [Redacted] south of [Redacted]	Potential for Ground Movement	Initiated
13	L131, segment 157.2, Mile Points 42.16 – 42.35 (59)	764'	Replace 1,350 feet of pipe at [Redacted] due to the potential for ground movement. This segment of L131 is located on a steep 26% sloping hillside in the [Redacted] [Redacted], just southeast of [Redacted]. Construction is in progress in 2010.	Potential for Ground Movement	Construction
14	L131, segment 165, Mile Points 46.96 – 48.23 (31) L131, segment 167.9, Mile Points 48.94	14,687'	Evaluate the potential replacement of 22,363 feet of pipe between the [Redacted] due to the potential for ground movement. This section of L131 is located over the steep slopes from the [Redacted] [Redacted] and through a 10-15 foot easement through central [Redacted]. Construction currently is scheduled for 2012.	Potential for Ground Movement	Initiated

Map No.	Pipeline Segment (Ranking)	Segment Footage	Description	Factor	Status
	– 49.36 (12) L131, segment 169, Mile Points 49.38 – 50.46 (22)				
15	L131, segment 115, Mile Points 7.39 – 7.75 (75)	2066'	PG&E is conducting an engineering review of 2,066 feet of pipe located in the rural area near [Redacted] [Redacted] [Redacted]. Based on this review, PG&E will determine whether any repair or replacement action is warranted.	Potential for Ground Movement	Initiated
16	L132, segment 106.7, Mile Points 1.35 – 1.87 (26)	2628'	Replace pipe at several locations and install other facilities in order to internally inspect L132 through the urban areas between [Redacted] reservoir due to the potential for ground movement. Based on this inspection, PG&E will determine whether any repair or replacement action is warranted. Construction currently is scheduled for 2012-13.	Potential for Ground Movement	Engineering
17	L138, segment 116, Mile Points 22.70 – 23.40 (49) L138, segment 130,	6061'	PG&E is conducting an engineering review of 6,061 feet of pipe between [Redacted] [Redacted] near [Redacted] for susceptibility to external corrosion. Based on this review, PG&E will determine whether any repair or replacement action is warranted.	Potential for Corrosion	Initiated

Map No.	Pipeline Segment (Ranking)	Segment Footage	Description	Factor	Status
	Mile Points 38.43 – 38.58 (16) L138, segment 130.11, Mile Points 38.59 – 38.59 (20) L138, segment 145, Mile Points 48.29 – 48.64 (18)				
18	L147, segment 110.6, Mile Points 3.26 – 3.28 (46)	105'	PG&E is conducting an engineering review of the design materials of 105 feet of pipe near [Redacted] and [Redacted]. Based on this review, PG&E will determine whether any repair or replacement action is warranted.	Physical Design and Characteristics	Initiated
19	L173, segment 102.1, Mile Points 1.01 – 1.11 (38) L173, segment 102.6, Mile Points 1.45 – 1.50 (29)	765'	An engineering review of this 765 foot pipe segment near [Redacted] has been conducted to assess risk for potential third party damage. One third party dig-in occurred nearby; however, that portion of the pipeline has since been sleeved. Most of the area has been fully developed and with completion of the [Redacted] the risk of third party damage has been reduced and no further action is warranted.	Potential for Third-Party Damage	Initiated

Map No.	Pipeline Segment (Ranking)	Segment Footage	Description	Factor	Status
	0401-01, segment 104.8, Mile Points 2.48 – 2.76 (14)				
23	0407-01, segment 104.8, Mile Points 1.83 – 1.88 (45)	247'	PG&E is conducting an engineering review of the design materials of PG&E has replaced 247 feet of pipe near [Redacted]. Based on this review, PG&E will determine whether any repair or replacement action is warranted.	Physical Design and Characteristics	<u>Initiated</u> <u>Completed</u>
24	L114-1, segment 103, Mile Points 7.33 – 7.73 (tied for 87, 88) L114-2, segment 101, Mile Points 3.18 – 3.80 (tied for 84, 85) SP4Z, segment 112, Mile Points 7.45 – 7.82 (83)	7345'	Evaluate the potential of removing 7,500 feet of 3 pipes crossing the [Redacted] underwater, near the [Redacted] due to the potential for ground movement.	Potential for Ground Movement	Initiated

Map No.	Pipeline Segment (Ranking)	Segment Footage	Description	Factor	Status
25	L118A, segment 166.13, Mile Points 30.38 – 30.40 (76) L118A, segment 166.17, Mile Points 30.40 – 31.06 (55)	2114'	Evaluate the potential replacement of 8,850 feet of pipe through agricultural areas near [Redacted] near [Redacted] due to the potential for third party damage.	Potential for Third-Party Damage	Initiated
26	L119B, segment 101, Mile Points 0.00 – 0.01 (54)	1437'	PG&E is conducting an engineering review of the design materials of 1,437 feet of pipe [Redacted] and [Redacted]. Based on this review, PG&E will determine whether any repair or replacement action is warranted.	Physical Design and Characteristics	Initiated
27	1202-16, segment 100, Mile Points 0.00 – 0.08 (19) 1202-16, segment 101, Mile Points 0.08 – 0.19 (tied for 23, 24, 25) 1202-16, segment 101.1,	10,331'	All segments (10,331 feet) of pipe along [Redacted] [Redacted] [Redacted] have been evaluated. Seven excavations were performed to examine the pipe for potential corrosion. Engineering will continue to monitor these segments to determine whether future action is warranted.	Potential for Corrosion	Monitoring

Map No.	Pipeline Segment (Ranking)	Segment Footage	Description	Factor	Status
	Mile Points 0.19 – 0.27 (tied for 23, 24, 25)				
	1202-16, segment 101.2, Mile Points 0.27 – 0.49 (27)				
	1202-16, segment 102, Mile Points 0.49 – 1.03 (tied for 23, 24, 25)				
	1202-16, segment 103, Mile Points 1.03 – 1.05 (13)				
	1202-16, segment 103.1, Mile Points 1.05 – 1.11 (35)				
	1202-16, segment 103.3, Mile Points 1.11 – 1.20 (33)				

Map No.	Pipeline Segment (Ranking)	Segment Footage	Description	Factor	Status
	1202-16, segment 115, Mile Points 1.67 – 2.42 (21) 1202-16, segment 117, Mile Points 2.58 – 2.59 (97)				
28	L142S, segment 114, Mile Points 7.30 – 8.70 (28)	7425'	PG&E is conducting an engineering review of 7,425 feet of pipe along [Redacted] between [Redacted] and [Redacted] due to the potential for external corrosion. Based on this review, PG&E will determine whether any repair or replacement action is warranted.	Potential for Corrosion	Initiated
29	1509-04, segment 106, Mile Points 0.78 – 0.88 (47)	531'	PG&E is conducting an engineering review of 531 feet of pipe through the suburban area near [Redacted] in [Redacted] for the potential for damage by third parties. Based on this review, PG&E will determine whether any repair or replacement action is warranted.	Potential for Third-Party Damage	Initiated
30	1509-05, segment 120.1, Mile Points 6.23 – 6.28 (tied for 36, 37)	1371'	PG&E is conducting an engineering review of 1,371 feet of pipe through the suburban area near [Redacted] [Redacted] for the potential for damage by third parties. Based on this review, PG&E will determine whether any repair or replacement	Potential for Third-Party Damage	Initiated

Map No.	Pipeline Segment (Ranking)	Segment Footage	Description	Factor	Status
	1509-05, segment 120.2, Mile Points 6.28 – 6.29 (48) 1509-05, segment 120.3, Mile Points 6.29 – 6.33 (tied for 36, 37) 1509-05, segment 121, Mile Points 6.33 – 6.49 (40)		action is warranted.		
31	1815-15, segment 130.3, Mile Points 2.04 – 2.13 (5)	437'	PG&E is conducting an engineering review of 437 feet of pipe through the suburban area near Redacted and Redacted . Based on this review, PG&E will determine whether any repair or replacement action is warranted.	Overall	Initiated
32	L195A3-1, segment 100, Mile Points 0.00 – 0.00 (tied for 57, 58)	885'	PG&E has reduced the operating pressure and is continuing to conduct an engineering review on approximately 2,000 feet of pipe located underwater, crossing the Redacted for the potential for damage by third parties. Based on this review, PG&E will determine whether any repair or	Potential for Third-Party Damage	Initiated

Map No.	Pipeline Segment (Ranking)	Segment Footage	Description	Factor	Status
	L195A3-1, segment 102, Mile Points 0.00 – 0.04 (tied for 57, 58) L195A3-1, segment 102.1, Mile Points 0.04 – 0.17 (42)		replacement action is warranted.		
33	L210A, segment 117.5, Mile Points 18.73 – 18.86 (1) L210A, segment 118.1, Mile Points 18.97 – 19.47 (10)	5949'	Install facilities to internally inspect Redacted between Redacted Currently under construction.	Overall	Construction
34	L300A, segment 240.3, Mile Points 277.85 – 278.01 (30) L300A, segment 240.61,	1272'	PG&E is conducting an engineering review of 1,272 feet of pipe through the suburban area between Redacted Redacted for the potential for damage by third parties. Based on this review, PG&E will determine whether any repair or replacement action is warranted.	Potential for Third-Party Damage	Initiated

Map No.	Pipeline Segment (Ranking)	Segment Footage	Description	Factor	Status
	Mile Points 278.01 – 278.10 (32)				
35	L300B, segment 193, Mile Points 161.02 – 161.07 (tied for 67, 68) L300B, segment 194, Mile Points 161.43 – 161.48 (tied for 67, 68)	843'	PG&E is conducting an engineering review of the design materials of 843 feet of pipe through the rural area. Based on this review, PG&E will determine whether any repair or replacement action is warranted.	Physical Design and Characteristics	Initiated
36	L316A, segment 111, Mile Points 0.61 – 0.78 (92) L316A, segment 112, Mile Points 0.79 – 1.00 (94) L316A, segment 113, Mile Points 1.00 –	7777'	An engineering review of these five segments (7,777 feet) of pipe between [Redacted] [Redacted] has been conducted. No further assessment or work is planned at this time.	Potential for Corrosion	Monitoring

Map No.	Pipeline Segment (Ranking)	Segment Footage	Description	Factor	Status
	1.09 (86) L316A, segment 115, Mile Points 1.19 – 1.23 (81) L316A, segment 116, Mile Points 1.23 – 2.05 (78) L316A, segment 117, Mile Points 2.05 – 2.31 (93)				
37	DCUST1416, segment 100, Mile Points 0.00 – 0.01 (6)	28'	PG&E is conducting an engineering review of 28 feet of pipe through the rural area near [Redacted]. Based on this review, PG&E will determine whether any repair or replacement action is warranted.	Potential for Ground Movement	Initiated
38	DFDS3543, segment 100, Mile Points 10.91 – 10.91 (11)	3'	PG&E is conducting an engineering review of 3 feet of pipe near [Redacted] in [Redacted]. Based on this review, PG&E will determine whether any repair or replacement action is warranted.	Overall	Initiated
39	DRIP7966,	10'	PG&E is conducting an engineering review of the	Potential for	Initiated

Map No.	Pipeline Segment (Ranking)	Segment Footage	Description	Factor	Status
	Mile Points 0.00 – 0.00 (7)		potential for ground movement along 10 feet of pipe Redacted Based on this review, PG&E will determine whether any repair or replacement action is warranted.	Ground Movement	
40	DRIP7971, segment 651, Mile Points 0.00 – 0.00 (17)	10'	PG&E is conducting an engineering review of the potential for ground movement along 10 feet of pipe near Redacted in San Jose Redacted. Based on this review, PG&E will determine whether any repair or replacement action is warranted.	Potential for Ground Movement	Initiated
41	SP3, segment 160.3, Mile Points 198.49 – 198.49 (41) SP3, segment 160.36, Mile Points 198.49 – 198.49 (tied for 50, 51, 52, 53) SP3, segment 160.4, Mile Points 198.49 – 198.49	294'	Replace approximately 300 feet of pipe at Redacted Redacted due to the potential for ground movement. Construction currently is scheduled for 2011.	Potential for Ground Movement	Engineering

Map No.	Pipeline Segment (Ranking)	Segment Footage	Description	Factor	Status
	(tied for 50, 51, 52, 53) SP3, segment 160.5, Mile Points 198.49 – 198.52 (tied for 50, 51, 52, 53) SP3, segment 160.6, Mile Points 198.52 – 198.55 (tied for 50, 51, 52, 53)				
42	X6337, segment 100, Mile Points 10.84 – 10.84 (tied for 8, 9) X6337, segment 101, Mile Points 10.84 – 10.84 (tied for 8, 9)	60'	PG&E is conducting a review of two 30-foot segments of pipe near Redacted Redacted to determine the construction history of these pipeline segments. Based on this review, PG&E will determine whether any repair or replacement action is warranted.	Physical Design and Characteristics	Initiated

Map No.	Pipeline Segment (Ranking)	Segment Footage	Description	Factor	Status
43	X6526, segment 505, Mile Points 0.24 – 0.24 (66)	9'	PG&E is conducting an engineering review of the design materials of about 9 feet of pipe through the rural area. Based on this review, PG&E will determine whether any repair or replacement action is warranted.	Physical Design and Characteristics	Initiated
44	DREG4197, segment 801, Mile Points 0.00 – 0.00 (95)	18'	PG&E is conducting an engineering review of 18 feet of pipe near [Redacted] in [Redacted]. Based on this review, PG&E will determine whether any repair or replacement is warranted.	Overall	Initiated
45	7221-15, segment 101, Mile Points 0.04 – 1.31 (96)	6709'	PG&E is conducting an engineering review of 6,709 feet of pipe along [Redacted] between [Redacted] [Redacted]. Based on this review, PG&E will determine whether any repair or replacement action is warranted.	Overall	Initiated
46	DREG3875, segment 101, Mile Points 0.00 – 0.00 (98)	285'	PG&E is conducting an engineering review of 285 feet of pipe near [Redacted] in [Redacted]. Based on this review, PG&E will determine whether any repair or replacement action is warranted.	Overall	Initiated
47	STUB7912, segment 551, Mile Points 0.04 – 0.04 (100)	2'	PG&E is conducting an engineering review of 2 feet of pipe near [Redacted]. Based on this review, PG&E will determine whether any repair or replacement action is warranted.	Overall	Initiated

