

	A	B	C	D	E	F	G
1	<b>Threats to the distribution System</b>						
2							
3	<b>Category</b>	<b>Sub1</b>	<b>Sub2</b>	<b>Threat</b>	<b>Consequence Comments</b>	<b>Likelihood Comments</b>	<b>Scope</b>
4	Natural Forces	Earthquake	Landslides, Liquefaction, Fault Crossing and Shaking	Distribution shutdown zones may not be sized for effective emergency response to a gas hazard. Excessively large numbers of customers within each shutdown zone create a greater burden on relight and restoration.			
5	Natural Forces	Earthquake	Landslides	Steel Pipe - A pipe failure in a landslide event. May include a pipe break, release of gas, or restricted supply due to crush of pipe with no release.			
6	Natural Forces	Earthquake	Landslides	Plastic Pipe - A pipe failure in a landslide event. May include a pipe break, release of gas, or restricted supply due to crush of pipe with no release.			
7	Natural Forces	Earthquake	Landslides	Cast Iron Pipe - A pipe failure in a landslide event. May include a pipe break, release of gas, or restricted supply due to crush of pipe with no release.			
8	Natural Forces	Earthquake	Landslides	District Reg Stations - A reg station failure in a landslide event. May include a pipe break at station, release of gas, loss of pressure control or accessibility (Station is buried by landslide).			
9	Natural Forces	Earthquake	Landslides	Customer Meter Sets - A customer meter set failure in a landslide event. May include loss of meter function, release of gas and inability to control gas release due to failure below stop cock.			
10	Natural Forces	Earthquake	Landslides	Connections - fittings - Fittings on the gas supply system up to the customer piping. Failure in a landslide event causing uncontrolled release of gas.			
11	Natural Forces	Earthquake	Landslides	House lines - Customer piping failure in a landslide event. Includes release of gas and/or plugging of lines within buildings and underground as is the case with curb meters.			
12	Natural Forces	Earthquake	Liquefaction	Steel Pipe - A pipe failure in a Liquefaction event. May include a pipe break, release of gas, or restricted supply due to crush of pipe with no release.			
13	Natural Forces	Earthquake	Liquefaction	Plastic Pipe - A pipe failure in a landslide event. May include a pipe break, release of gas, or restricted supply due to crush of pipe with no release.			
14	Natural Forces	Earthquake	Liquefaction	Cast Iron Pipe - A pipe failure in a landslide event. May include a pipe break, release of gas, or restricted supply due to crush of pipe with no release.			
15	Natural Forces	Earthquake	Liquefaction	District Reg Stations - A reg station failure in a liquefaction event. May include a pipe break at station, release of gas, loss of pressure control or accessibility. Includes above and below ground stations.			
16	Natural Forces	Earthquake	Liquefaction	Customer Meter Sets - A customer meter set failure in a liquefaction event. May include loss of meter function, release of gas and inability to control gas release due to failure below stop cock.			
17	Natural Forces	Earthquake	Liquefaction	Connections - fittings - Fittings on the gas supply system up to the customer piping. Failure in a liquefaction event causing uncontrolled release of gas.			
18	Natural Forces	Earthquake	Liquefaction	House lines - Customer piping failure in a liquefaction event. Includes release of gas and/or plugging of lines within buildings and underground as is the case with curb meters.			

	H	I	J	K	L	M	N	O	P	Q	R
1											
2							<b>Likelihood</b>				
3	<b>Mitigation</b>	<b>Measures</b>	<b>Reporting</b>	<b>Date Received</b>	<b>Threat Info Source</b>	<b>SME ID Seq</b>	<b>KSF1 (srna1)</b>	<b>PCB5 (srna2)</b>	<b>WJM6 (SME3)</b>	<b>CIIL3 (srna4)</b>	<b>DMK6 (srna5)</b>
4	Following-up on my meetings with Areas 1 and 2 gas planners, and the leadership team overseeing gas distribution. I contacted Frank Mahoney regarding a pilot project for the Diablo Division. [REDACTED] said Diablo Division would be willing to participate in it.			4/3/2008	KSF1	KSF1, PCB5, WJM8, CIIL3, DMK6, APT5, GMV2, TLA3	II	M	II	II	II
5				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3, DMK6, APT5, GMV2, TLA3	L	L	M	M	H
6				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3, DMK6, APT5, GMV2, TLA3	M	M	L	H	H
7				4/13/2008	SMF	KSF1, PCB5, WJM8, CHL3, DMK6, APT5, GMV2, TLA3	H	H	H	H	H
8				4/13/2008	SMF	KSF1, PCB5, WJM8, CHL3, DMK6, APT5, GMV2, TLA3	I	I	I	H	I
9				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3, DMK6, APT5, GMV2, TLA3	L	L	L	H	H
10				4/13/2008	SML	KSF1, PCB5, WJM8, CIIL3, DMK6, APT5, GMV2, TLA3	M	II	M	II	M
11				4/13/2008	SML	KSF1, PCB5, WJM8, CIIL3, DMK6, APT5, GMV2, TLA3	L	L	L	II	II
12				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3, DMK6, APT5, GMV2, TLA3	L	L	M	L	L
13				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3, DMK6, APT5, GMV2, TLA3	H	M	L	M	L
14				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3, DMK6, APT5, GMV2, TLA3	H	H	H	H	H
15				4/13/2008	SMF	KSF1, PCB5, WJM8, CHL3, DMK6, APT5, GMV2, TLA3	I	M	I	I	I
16				4/13/2008	SMF	KSF1, PCB5, WJM8, CHL3, DMK6, APT5, GMV2, TLA3	I	I	M	I	H
17				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3, DMK6, APT5, GMV2, TLA3	M	M	H	M	L
18				4/13/2008	SML	KSF1, PCB5, WJM8, CIIL3, DMK6, APT5, GMV2, TLA3	L	L	L	L	II

	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
1																				
2						Consequence														
3	AF15 (sme6)	GMV2 (sme7)	ILA3 (sme8)	SML #9		KSF1 (sme1)	PCB5 (sme2)	WJM8 (sme3)	CHL3 (sme4)	DMK6 (sme5)	AF15 (sme6)	GMV2 (sme7)	ILA3 (sme8)	SML #9						
4	I	M	II			II	M	II	II	M	M	M	M							
5	L	M	H			M	H	M	H	L	H	M	M							
6	H	M	H			M	M	L	M	L	M	M	M							
7	H	M	H			M	I	M	M	I	M	M	M							
8	I	I	I			M	H	H	H	M	I	M	M							
9	L	L	H			M	L	L	L	L	L	L	L							
10	M	M	II			M	M	L	L	L	L	L	M							
11	L	L	II			II	L	L	L	L	L	L	L							
12	L	L	L			M	M	M	M	L	M	M	M							
13	L	L	M			M	L	L	M	L	M	M	M							
14	H	H	H			M	L	M	M	M	M	M	M							
15	I	I	I			M	M	H	H	M	H	M	M							
16	I	I	M			H	I	H	I	H	I	I	M							
17	M	M	M			M	L	L	L	L	L	L	M							
18	L	L	II			II	L	II	L	II	L	L	M							

	AM	AN	AO	AP	AQ	AR	AS	AT	AJ	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE
1																			
2														Likelihood					
3														SME #1	SME #2	SME #3	SML #4	SME #5	SME #6
4														3	2	3	3	3	3
5														1	1	2	2	3	1
6														2	2	1	3	3	3
7														3	3	3	3	3	3
8														1	1	1	3	1	1
9														1	1	1	3	3	1
10														2	3	2	3	2	2
11														1	1	1	3	3	1
12														1	1	2	1	1	1
13														3	2	1	2	1	1
14														3	3	3	3	3	3
15														1	2	1	1	1	1
16														1	1	2	1	3	1
17														2	2	3	2	1	2
18														1	1	1	1	3	1

	BF	BC	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ
1																					
2				Consequence									Risk Calculation								
3	SME #7	SME #8	SML #9	SME #1	SME #2	SME #3	SME #4	SML #5	SME #6	SME #7	SML #8	SML #9	SME #1	SML #2	SML #3	SME #4	SME #5	SME #6	SME #7	SME #8	SML #9
4	2	3	0	3	2	3	3	2	2	2	2	0	9	4	4	9	6	6	4	5	0
5	2	3	0	2	3	2	3	1	3	2	2	0	2	3	4	6	3	3	4	3	0
6	2	3	0	2	2	1	2	1	2	2	2	0	4	4	1	6	3	6	4	3	0
7	2	3	0	2	1	2	2	1	2	2	2	0	6	3	6	6	3	6	4	3	0
8	1	1	0	2	3	3	3	2	1	2	2	0	2	3	3	9	2	1	2	2	0
9	1	3	0	2	1	1	1	1	1	1	1	0	2	1	1	3	3	1	1	3	0
10	2	3	0	2	2	1	1	1	1	1	2	0	4	5	2	3	2	2	2	3	0
11	1	3	0	3	1	1	1	1	1	1	1	0	3	1	1	3	3	1	1	3	0
12	1	1	0	2	2	2	2	1	2	2	2	0	2	2	4	2	1	2	2	2	0
13	1	2	0	2	1	1	2	1	2	2	2	0	6	2	1	4	1	2	2	4	0
14	3	3	0	2	1	2	2	2	2	2	2	0	6	3	6	6	6	6	6	3	0
15	1	1	0	2	2	3	3	2	3	2	2	0	2	4	3	3	2	3	2	2	0
16	1	2	0	3	1	3	1	3	1	1	2	0	3	1	6	1	9	1	1	4	0
17	2	2	0	2	1	1	1	1	1	1	2	0	4	2	3	2	1	2	2	4	0
18	1	3	0	3	1	3	1	3	1	1	2	0	3	1	3	1	9	1	1	3	0

	CA	CB	CC	CD	CE
1					
2					
3	SML Count	Avg Risk Rank	With Even Likelihood		
	8	5.6	6.8		
4	8	3.9	3.9		
5	8	4.3	4.3		
6	8	5.0	5.0		
7	8	3.0	3.0		
8	8	1.9	1.9		
9	8	3.4	3.4		
10	8	2.0	2.0		
11	8	2.1	2.1		
12	8	2.8	2.8		
13	8	5.6	5.6		
14	8	2.6	2.6		
15	8	3.3	3.3		
16	8	2.5	2.5		
17	8	3.1	3.1		
18					

Natural Forces

	A	B	C	D	E	F	G
19	Natural Forces	Earthquake	Fault Crossings	Steel Pipe - A pipe failure in at a fault crossing in an earthquake event. May include a pipe break, release of gas, or restricted supply due to crush of pipe with no release.			
20	Natural Forces	Earthquake	Fault Crossings	Plastic Pipe - A pipe failure at a fault crossing in an earthquake event. May include a pipe break, release of gas, or restricted supply to crush of pipe with no release.			
21	Natural Forces	Earthquake	Fault Crossings	Cast Iron Pipe - A pipe failure at a fault crossing in an earthquake event. May include a pipe break, release of gas, or restricted supply to crush of pipe with no release.			
22	Natural Forces	Earthquake	Fault Crossings	District Reg Stations - A reg station failure at a fault crossing in an earthquake event. May include a pipe breaks at station, release of gas, loss of pressure control or accessibility. Includes above and below ground stations.			
23	Natural Forces	Earthquake	Fault Crossings	Customer Meter Sets - A customer meter set failure at a fault crossing in an earthquake event. May include loss of meter function, release of gas and inability to control gas release due to failure below stop cock.			
24	Natural Forces	Earthquake	Fault Crossings	Connections - fittings - Fittings on the gas supply system up to the customer piping. Failure at a fault crossing in an earthquake event causing uncontrolled release of gas.			
25	Natural Forces	Earthquake	Fault Crossings	House lines - Customer piping failure at a fault crossing in an earthquake event. Includes release of gas and/or plugging of lines within buildings and underground as is the case with curb meters.			
26	Natural Forces	Earthquake	Shaking	Steel Pipe - A pipe failure due to shaking in an earthquake event. May include a pipe break, release of gas, or restricted supply due to crush of pipe with no release.			
27	Natural Forces	Earthquake	Shaking	Plastic Pipe - A pipe failure due to shaking in an earthquake event. May include a pipe break, release of gas, or restricted supply to crush of pipe with no release.			
28	Natural Forces	Earthquake	Shaking	Cast Iron Pipe - A pipe failure due to shaking in an earthquake event. May include a pipe break, release of gas, or restricted supply to crush of pipe with no release.			
29	Natural Forces	Earthquake	Shaking	District Reg Stations - A reg station failure due to shaking in an earthquake event. May include a pipe breaks at station, release of gas, loss of pressure control or accessibility. Includes above and below ground stations.			
30	Natural Forces	Earthquake	Shaking	Customer Meter Sets - A customer meter set failure due to shaking in an earthquake event. May include loss of meter function, release of gas and inability to control gas release due to failure below stop cock.			
31	Natural Forces	Earthquake	Shaking	Connections - fittings - Fittings on the gas supply system up to the customer piping. Failure due to shaking in an earthquake event, causing uncontrolled release of gas.			
32	Natural Forces	Earthquake	Shaking	House lines - Customer piping failure due to shaking in an earthquake event. Includes release of gas and/or plugging of lines within buildings and underground as is the case with curb meters.			
33	Natural Forces	Natural Processes	Levee Crossings	All Pipe - A pipe failure during the failure of a levee. May include a pipe break, release of gas, or restricted supply due to crush of pipe with no release. May also include inaccessibility due to inundation and flooding.			
34	Natural Forces	Natural Processes	Flood	Distribution shutdown zones may not be sized for effective emergency response to a flood. Excessively large numbers of customers within each shutdown zone create a greater burden on relief and restoration.			
35	Natural Forces	Natural Processes	Flood	Steel Pipe - A pipe failure due to flood. Flood failures can result from loss of cover or failure of supporting structure (bridges and spans). May include a pipe break, release of gas, or restricted supply due to crush of pipe with no release.			

	H	I	J	K	L	M	N	O	P	Q	R
19				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, APT5, GMV2, TLA3	M	M	H	M	H
20				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, APT5, GMV2, TLA3	M	M	M	M	H
21				4/13/2008	SMF	KSF1, PCB5, WJM8, CHL3 DMK6, APT5, GMV2, TLA3	H	H	H	H	H
22				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, APT5, GMV2, TLA3	L	M	H	H	H
23				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, APT5, GMV2, TLA3	L	L	H	H	H
24				4/13/2008	SML	KSF1, PCB5, WJM8, CHL3 DMK6, APT5, GMV2, TLA3	M	M	II	II	II
25				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, APT5, GMV2, TLA3	L	L	H	H	H
26				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, APT5, GMV2, TLA3	L	L	L	L	M
27				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, APT5, GMV2, TLA3	L	L	L	L	M
28				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, APT5, GMV2, TLA3	L	M	H	M	H
29				4/13/2008	SMF	KSF1, PCB5, WJM8, CHL3 DMK6, APT5, GMV2, TLA3	I	M	I	M	M
30				4/13/2008	SMF	KSF1, PCB5, WJM8, CHL3 DMK6, APT5, GMV2, TLA3	M	I	H	M	H
31				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, APT5, GMV2, TLA3	M	M	L	M	H
32				4/13/2008	SML	KSF1, PCB5, WJM8, CHL3 DMK6, APT5, GMV2, TLA3	M	L	M	L	II
33				4/13/2008	SML	KSF1, PCB5, WJM8, CHL3 DMK6, APT5, GMV2, TLA3	II	M	II	II	M
34				8/7/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, APT5, GMV2, TLA3	M	L	L	L	L
35				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, APT5, GMV2, TLA3	L	L	L	L	L



	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
19	H	M	H			M	H	H	H	M	M	H	M							
20	H	M	H			M	M	H	M	M	M	M	M							
21	H	M	H			M	I	H	M	M	H	M								
22	H	M	H			M	M	H	H	H	H	M	H							
23	H	M	H			M	L	H	L	M	L	M	M							
24	II	M	II			M	L	II	L	M	L	M	M							
25	H	L	H			M	L	H	L	M	L	L	M							
26	L	M	M			M	L	L	M	M	M	L	M							
27	L	M	M			M	L	L	M	M	M	L	M							
28	M	M	H			M	M	M	M	M	M	M	M							
29	M	M	M			H	M	I	H	M	H	M	H							
30	M	M	H			M	I	H	I	H	I	M	M							
31	L	M	H			M	M	L	M	M	M	M	M							
32	M	M	II			II	L	M	L	II	L	M	M							
33	II	M	II			L	M	M	L	L	M	M	M							
34	L	L	L			M	M	L	L	L	L	L	L							
35	L	L	M			M	M	M	M	M	M	L	M							

	AM	AN	AO	AP	AQ	AR	AS	AT	AJ	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE
19														2	2	3	2	3	3
20														2	2	2	2	3	3
21														3	3	3	3	3	3
22														1	2	3	3	3	3
23														1	1	3	3	3	3
24														2	2	3	3	3	3
25														1	1	3	3	3	3
26														1	1	1	1	2	1
27														1	1	1	1	2	1
28														1	2	3	2	3	2
29														1	2	1	2	2	2
30														2	1	3	2	3	2
31														2	2	1	2	3	1
32														2	1	2	1	3	2
33														3	2	3	3	2	3
34														2	1	1	1	1	1
35														1	1	1	1	1	1

	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ
19	2	3	0	2	3	3	3	2	2	3	2	0	4	0	9	0	0	0	0	0	0
20	2	3	0	2	2	3	2	2	2	2	2	0	4	4	6	4	6	6	4	5	0
21	2	3	0	2	1	3	2	2	2	3	2	0	6	3	9	6	6	6	6	9	0
22	2	3	0	2	2	3	3	3	3	2	3	0	2	4	9	9	9	9	4	9	0
23	2	3	0	2	1	3	1	2	1	2	2	0	2	1	9	3	6	3	4	9	0
24	2	3	0	2	1	3	1	2	1	2	2	0	4	2	9	3	6	3	4	5	0
25	1	3	0	2	1	3	1	2	1	1	2	0	2	1	9	3	6	3	1	8	0
26	2	2	0	2	1	1	2	2	2	1	2	0	2	1	1	2	4	2	2	4	0
27	2	2	0	2	1	1	2	2	2	1	2	0	2	1	1	2	4	2	2	4	0
28	2	3	0	2	2	2	2	2	2	2	2	0	2	4	6	4	6	4	4	5	0
29	2	2	0	3	2	1	3	2	3	2	3	0	3	4	1	6	4	6	4	9	0
30	2	3	0	2	1	3	1	3	1	2	2	0	4	1	9	2	9	2	4	9	0
31	2	3	0	2	2	1	2	2	2	2	2	0	4	4	1	4	6	2	4	9	0
32	2	3	0	3	1	2	1	3	1	2	2	0	6	1	4	1	9	2	4	9	0
33	2	3	0	1	2	2	1	1	2	2	2	0	3	4	6	3	2	8	4	8	0
34	1	1	0	2	2	1	1	1	1	1	1	0	4	2	1	1	1	1	1	1	0
35	1	2	0	2	2	2	2	2	2	1	2	0	2	2	2	2	2	2	1	4	0

	CA	CB	CC	CD	CE
19	8	5.1	6.1		
20	8	5.0	5.0		
21	8	5.0	6.0		
22	8	5.9	6.9		
23	8	4.3	4.3		
24	8	4.6	4.6		
25	8	3.9	3.9		
26	8	2.3	2.3		
27	8	2.3	2.3		
28	8	4.5	4.5		
29	8	4.3	4.3		
30	8	4.6	4.6		
31	8	3.9	3.9		
32	8	4.1	4.1		
33	8	4.3	1.5		
34	8	1.5	1.1		
35	8	2.1	1.5		

Natural Forces

	A	B	C	D	E	F	G
36	Natural Forces	Natural Processes	Flood	Plastic Pipe - A pipe failure due to flood. Flood failures can result from loss of cover or failure of supporting structure (bridges and spans). May include a pipe break, release of gas, or restricted supply due to crush of pipe with no release.			
37	Natural Forces	Natural Processes	Flood	Cast Iron Pipe - A pipe failure due to flood. Flood failures can result from loss of cover or failure of supporting structure (bridges and spans). May include a pipe break, release of gas, or restricted supply due to crush of pipe with no release.			
38	Natural Forces	Natural Processes	Flood	District Reg Stations - A reg station failure due to flood. May include a pipe breaks at station, release of gas, loss of pressure control or accessibility. Includes above and below ground stations.			
39	Natural Forces	Natural Processes	Flood	Customer Meter Sets - A meter set failure due to flood. Flood failures can result from failure of supporting structure. May include a pipe break, release of gas, or restricted supply due to crush of pipe with no release.			
40	Natural Forces	Natural Processes	Flood	Connections - fittings - Fittings on the gas supply system up to the customer piping. Flood failures can result from failure of supporting structure. May include a pipe break, release of gas, or restricted supply due to crush of pipe with no release.			
41	Natural Forces	Natural Processes	Flood	House Lines - A house line failure due to flood. Flood failures can result from failure of supporting structure. May include a pipe break, release of gas, or restricted supply due to crush of pipe with no release.			
42	Natural Forces	Natural Processes	Erosion	Steel Pipe - A pipe failure due to long term erosion of cover. May include pipe over stress from excessive span or a pipe break, with or without a release of gas.			
43	Natural Forces	Natural Processes	Erosion	Plastic Pipe - A pipe failure due to long term erosion of cover. May include pipe over stress from excessive span or a pipe break, with or without a release of gas.			
44	Natural Forces	Natural Processes	Erosion	Cast Iron Pipe - A pipe failure due to long term erosion of cover. May include pipe over stress from excessive span or a pipe break, with or without a release of gas.			
45	Natural Forces	Natural Processes	Erosion	District Reg Stations - A pipe failure due to long term erosion of cover. May include pipe over stress from excessive span or a pipe break, with or without a release of gas.			
46	Natural Forces	Natural Processes	Erosion	Customer Meter Sets - A pipe failure due to long term erosion of cover. May include pipe over stress from excessive span or a pipe break, with or without a release of gas.			
47	Natural Forces	Natural Processes	Erosion	Connections - fittings - Fittings on the gas supply system up to the customer piping. A failure due to long term erosion of cover. May include pipe over stress from excessive span or a pipe break, with or without a release of gas.			
48	Natural Forces	Natural Processes	Erosion	House lines - Customer piping failure due to long term erosion of cover. May include pipe over stress from excessive span or a pipe break, with or without a release of gas.			
49	Natural Forces	Natural Processes	Fire Storm	Distribution shutdown zones may not be sized for effective emergency response to a fire storm. Excessively large numbers of customers within each shutdown zone create a greater burden on re-light and restoration.			
50	Natural Forces	Natural Processes	Fire Storm	Steel Pipe - A pipe failure causing the release of gas due to excessive heat or mechanical damage from falling debris.			
51	Natural Forces	Natural Processes	Fire Storm	Plastic Pipe - A pipe failure causing the release of gas due to excessive heat or mechanical damage from falling debris.			
52	Natural Forces	Natural Processes	Fire Storm	Cast Iron Pipe - A pipe failure causing the release of gas due to excessive heat or mechanical damage from falling debris.			

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36				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, AFT5 GMV2, T_A3	L	L	L	L	L
37				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, AFT5 GMV2, T_A3	M	M	M	M	M
38				8/7/2009	SMF	KSF1, PCB5, WJM8, CHI3 DMK6, AFT5 GMV2, T_A3	M	M	I	I	I
39				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, AFT5 GMV2, T_A3	M	M	L	H	M
40				8/7/2009	SME	KSF1, PCB5, WJM8, CHL3 DMK6, AFT5 GMV2, T_A3	L	L	L	L	L
41				4/13/2008	SML	KSF1, PCB5, WJM8, CHI3 DMK6, AFT5 GMV2, T_A3	L	L	L	L	L
42				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, AFT5 GMV2, T_A3	L	L	L	L	M
43				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, AFT5 GMV2, T_A3	M	L	L	L	M
44				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, AFT5 GMV2, T_A3	M	M	L	M	H
45				8/7/2009	SME	KSF1, PCB5, WJM8, CHL3 DMK6, AFT5 GMV2, T_A3	L	L	L	L	L
46				8/7/2009	SMF	KSF1, PCB5, WJM8, CHI3 DMK6, AFT5 GMV2, T_A3	I	I	I	I	I
47				8/7/2009	SMF	KSF1, PCB5, WJM8, CHI3 DMK6, AFT5 GMV2, T_A3	I	M	M	I	I
48				8/7/2009	SME	KSF1, PCB5, WJM8, CHL3 DMK6, AFT5 GMV2, T_A3	L	L	H	L	L
49				8/7/2009	SML	KSF1, PCB5, WJM8, CHI3 DMK6, AFT5 GMV2, T_A3	I	M	M	M	M
50				4/13/2008	SML	KSF1, PCB5, WJM8, CHI3 DMK6, AFT5 GMV2, T_A3	L	L	L	L	L
51				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, AFT5 GMV2, T_A3	M	M	L	M	M
52				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, AFT5 GMV2, T_A3	L	L	L	L	L

	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
36	L	L	M			L	L	L	L	L	L	L	M							
37	M	M	M			M	M	M	M	M	M	M	M							
38	I	M	H			I	M	M	I	M	M	M	H							
39	L	L	M			M	M	M	M	M	M	L	M							
40	L	L	M			L	L	M	L	L	L	L	M							
41	L	L	M			L	L	L	L	L	L	L	M							
42	L	L	M			M	M	M	M	M	M	M	M							
43	M	L	M			M	L	M	L	L	M	L	M							
44	H	L	M			M	M	L	L	L	L	M	M							
45	L	L	H			L	M	L	M	M	L	L	H							
46	I	I	M			I	I	M	M	I	I	I	M							
47	I	I	M			I	I	I	I	I	I	I	M							
48	L	L	M			L	L	H	L	L	L	L	M							
49	M	L	M			M	M	L	M	M	M	M	M							
50	L	L	M			M	L	L	L	L	L	L	M							
51	M	L	M			M	M	L	L	L	L	M	M							
52	L	L	M			M	L	L	L	L	L	L	M							

	AM	AN	AO	AP	AQ	AR	AS	AT	AJ	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE
36														1	1	1	1	1	1
37														2	2	2	2	2	2
38														2	2	1	1	1	1
39														2	2	1	3	2	1
40														1	1	1	1	1	1
41														1	1	1	1	1	1
42														1	1	1	1	2	1
43														2	1	1	1	2	2
44														2	2	1	2	3	3
45														1	1	1	1	1	1
46														1	1	1	1	1	1
47														1	2	2	1	1	1
48														1	1	3	1	1	1
49														3	2	2	2	2	2
50														1	1	1	1	1	1
51														2	2	1	2	2	2
52														1	1	1	1	1	1





	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ
36	1	2	0	1	1	1	1	1	1	1	2	0	1	1	1	1	1	1	1	4	0
37	2	2	0	2	2	2	2	2	2	2	2	0	4	4	4	4	4	4	4	4	0
38	2	3	0	1	2	2	1	2	2	2	3	0	2	4	2	1	2	2	4	9	0
39	1	2	0	2	2	2	2	2	2	1	2	0	4	4	2	6	4	2	1	4	0
40	1	2	0	1	1	2	1	1	1	1	2	0	1	1	2	1	1	1	1	4	0
41	1	2	0	1	1	1	1	1	1	1	2	0	1	1	1	1	1	1	1	4	0
42	1	2	0	2	2	2	2	2	2	2	2	0	2	2	2	2	4	2	2	4	0
43	1	2	0	2	1	2	1	1	2	1	2	0	4	1	2	1	2	4	1	4	0
44	1	2	0	2	2	1	1	1	1	2	2	0	4	4	1	2	3	3	2	4	0
45	1	3	0	1	2	1	2	2	1	1	3	0	1	2	1	2	2	1	1	9	0
46	1	2	0	1	1	2	2	1	1	1	2	0	1	1	2	2	1	1	1	4	0
47	1	2	0	1	1	1	1	1	1	1	2	0	1	2	2	1	1	1	1	4	0
48	1	2	0	1	1	3	1	1	1	1	2	0	1	1	9	1	1	1	1	4	0
49	1	2	0	2	2	1	2	2	2	2	2	0	6	4	2	4	4	4	2	4	0
50	1	2	0	2	1	1	1	1	1	1	2	0	2	1	1	1	1	1	1	4	0
51	1	2	0	2	2	1	1	1	1	2	2	0	4	4	1	2	2	2	2	4	0
52	1	2	0	2	1	1	1	1	1	1	2	0	2	1	1	1	1	1	1	4	0

	CA	CB	CC	CD	CE
38	8	1.4	1.0		
37	8	4.0	2.9		
38	8	3.3	2.3		
39	8	3.4	2.4		
40	8	1.5	1.1		
41	8	1.4	1.0		
42	8	2.5	1.8		
43	8	2.4	1.7		
44	8	2.9	2.1		
45	8	2.1	1.7		
46	8	1.5	1.2		
47	8	1.5	1.2		
48	8	2.4	1.7		
49	8	3.8	2.2		
50	8	1.5	0.9		
51	8	2.8	1.5		
52	8	1.5	0.9		

Natural Forces

	A	B	C	D	E	F	G
53	Natural Forces	Natural Processes	Fire Storm	District Reg Stations - A reg station failure causing the release of gas or lack of pressure control due to excessive heat or mechanical damage from falling debris in a fire storm event.			
54	Natural Forces	Natural Processes	Fire Storm	Customer Meter Sets - A meter set failure causing the release of gas or lack of pressure control due to excessive heat or mechanical damage from falling debris in a fire storm event.			
55	Natural Forces	Natural Processes	Fire Storm	Connections - fittings - A fitting failure causing the release of gas due to excessive heat or mechanical damage from falling debris in a fire storm event.			
56	Natural Forces	Natural Processes	Fire Storm	House lines - Customer piping failure due to excessive heat or mechanical damage from falling debris in a fire storm event. Includes release of gas and/or plugging of lines within buildings and underground as is the case with curb meters.			
57							
58				<b>Event Likelihood</b>			
59		Earthquaka		Includes Landslide, liquefaction, Fault crossings and Shaking.			
60		Natural Processes	Levee Crossings				
61		Natural Processes	Flood (Frosion)				
62		Natural Processes	Fire Storm				
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53				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, AFT5, GMV2, T_A3	M	H	L	M	M
54				4/13/2008	SME	KSF1, PCB5, WJM8, CHL3 DMK6, AFT5, GMV2, T_A3	H	H	H	M	H
55				4/13/2008	SMF	KSF1, PCB5, WJM8, CHL3 DMK6, AFT5, GMV2, T_A3	I	I	I	I	I
56				8/7/2009	SME	KSF1, PCB5, WJM8, CHL3 DMK6, AFT5, GMV2, T_A3	M	L	M	M	H
57											
58							KSF1	PCB5	WJM8	CHI3	DMK6
59						KSF1, PCB5, WJM8, CHL3 DMK6, AFT5, GMV2, T_A3	8	8	10	7	8
60						KSF1, PCB5, WJM8, CHL3 DMK6, AFT5, GMV2, T_A3	3	8	2	3	1
61						KSF1, PCB5, WJM8, CHL3 DMK6, AFT5, GMV2, T_A3	7	6	3	7	7
62						KSF1, PCB5, WJM8, CHL3 DMK6, AFT5, GMV2, T_A3	5	6	3	4	6
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53	M	L	H			M	H	M	H	H	H	M	M							
54	H	L	M			M	H	L	M	L	H	M	M							
55	I	I	M			I	I	I	I	I	I	M	M							
56	M	L	M			M	L	L	L	L	L	M	M							
57																				
58	ADT5	GMV2	TI A3																	
59	B	8	7																	
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53														2	3	1	2	2	2
54														3	3	3	2	3	3
55														1	1	1	1	1	1
56														2	1	2	2	3	2
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53	1	3	0	2	3	2	3	3	3	2	2	0	4	9	2	0	0	0	2	0	0
54	1	2	0	2	3	1	2	1	3	2	2	0	6	9	3	4	3	9	2	4	0
55	1	2	0	1	1	1	1	1	1	2	2	0	1	1	1	1	1	1	2	4	0
56	1	2	0	2	1	1	1	1	1	2	2	0	4	1	2	2	3	2	2	4	0
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53	8	5.1	3.0		
54	8	5.0	2.9		
55	8	1.5	0.3		
56	8	2.5	1.4		
57			Avg	Normalized to Earthquake	Normalized to Flood (not used)
58			8	1.00	1.391304348
59			2.878	0.36	0.5
60			5.78	0.72	1
61			4.828	0.58	0.804347826
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