

SDG&E, June 15, 2021

Rulemaking (R) 15-01-008 to Adopt Rules and Procedures Governing Commission Regulated Natural Gas Pipelines and Facilities to Reduce Natural Gas Leaks Consistent with Senate Bill 1371, Lenn.
In Response to Data Request, R15-01-008 2021 June Report
Appendix 4: Rev. 03/31/21

Notes:

Use a formula-derived value with the formula used in the Annual Emissions column. Do not use a copy and paste-as-value.

At the end of Annual Emissions Column, add a column total in a cell for a column total, and then highlight orange.

If all the mains and services are not surveyed annually, use the tab "Unsurveyed Pipeline Leaks" to estimate emissions.

Do not record above ground MSA leaks on this tab. Use Appendix 6 instead. Do continue to list above ground leaks associated with the Distribution Main & Services pipeline system.

After completing the tab on "Pipeline Leaks" and "Unsurveyed Pipeline Leaks," fill in the table for "Pipeline Leak Summary."

Sum Total Emissions from leaks carried over from before 2020

Sum Total Emissions from Survey leaks discovered in 2020

Sum Total Emissions from O&M leaks discovered in 2020

Grand Total of all 2020 emissions from leaks

3,283
137
3,401

Distribution Main & Service Pipeline Leaks:

Note: fix change to O&M leak duration for this reporting year.

ID	Geographic Location	Pipe Classification	Pipe Material	Pipe Size (nominal)	Pipe Age (months)	Pressure (psi)	Leak Grade	Upgraded Leak Grade or Downgraded Leak Grade	Above Ground or Below Ground	Leak Discovery Method	Discovery Date (MM/DD/YYYY)	Re-Grade Date (MM/DD/YYYY)	Repair Date (MM/DD/YYYY)	Scheduled Repair Date (MM/DD/YYYY)	Reason for Not Scheduling a Repair	Number of Days Leaking	Number of Days to Repair	Emission Factor (MM/DD/YYYY)	Annual Emissions (MM/DD/YYYY)	Explanatory Notes / Comments
200276 92115	MB	PC	1 1/2"	911	Less than or equal to 60	Code 1			B	M	4/29/2020					1.00	1	0.0612	0.0612	
200596 92029	DB	P	1 1/4"		Less than or equal to 60	Code 2			B	S	4/14/2020	4/16/2020				107.00	3	0.0089	0.9523	
202232 92075	MB	PC	1 1/2"	855	Less than or equal to 60	Code 1			B	M	11/10/2020	11/10/2020				1.00	1	0.0612	0.0612	
200564 91942	DB	PC	3/4"		Less than or equal to 60	Code 1			B	M	3/25/2020	3/25/2020				1.00	1	0.0276	0.0276	
200408 92064	DB	PC	1 1/2"	635	Less than or equal to 60	Code 1			B	M	3/2/2020	3/4/2020				64.00	3	0.0276	1.7664	
200075 91941	DB	PC	3/4"		Less than or equal to 60	Code 1			B	M	1/10/2020	1/10/2020				1.00	1	0.0276	0.0276	
202627 92021	DB	P	1/2" CTS		Less than or equal to 60	Code 2			B	M	12/29/2020					3.00	1	0.0089	0.0267	
200261 92103	DB	PC	1 1/4"		Less than or equal to 60	Code 1			B	M	12/31/2020					1.00	1	0.0276	0.0276	
202298 99999	MB	PC	3"	671	Less than or equal to 60	Code 2			B	S	11/16/2020					366.00	1	0.0612	22.3992	
200620 99999	DB	PC	3/4"		Less than or equal to 60	Code 2			B	M	4/7/2020					366.00	1	0.0276	10.1016	
202366 92037	DB	PC	3/4"	671	Less than or equal to 60	Code 2			B	S	12/1/2020					366.00	1	0.0276	10.1016	
201760 92008	MB	PC	2"	851	Less than or equal to 60	Code 1			B	S	9/10/2020					366.00	1	0.0612	22.3992	
202206 91901	MB	PC	6"	383	Greater than 60	Code 2			B	S	11/20/2020					366.00	1	0.0612	22.3992	
201993 99999	DB	P	1/2" CTS		Less than or equal to 60	Code 1			B	M	10/30/2020	10/9/2020				1.00	1	0.0089	0.0089	
202273 92040	DB	P	1/2" IPS		Less than or equal to 60	Code 1			B	S	11/11/2020	11/12/2020				317.00	2	0.0089	2.8213	
201208 92102	DB	P	1 1/4"	375	Less than or equal to 60	Code 2			B	S	6/22/2020	7/6/2020				188.00	13	0.0089	1.6732	
201167 92102	DB	P	1/2" CTS		Less than or equal to 60	Code 2			B	S	6/18/2020	7/7/2020				189.00	20	0.0089	1.6821	
200681 92021	DB	P	1/2" IPS	383	Less than or equal to 60	Code 1			B	M	4/12/2020	4/12/2020				1.00	1	0.0089	0.0089	
201600 92020	MB	P	2"		Less than or equal to 60	Code 1			B	M	8/11/2020					1.00	1	0.2988	0.2988	
201717 92103	DB	P	1/2" CTS		Less than or equal to 60	Code 1			B	M	9/10/2020	9/10/2020				1.00	1	0.0089	0.0089	
202149 92071	DB	P	1/2" CTS		Less than or equal to 60	Code 1			B	S	11/24/2020	10/9/2020				298.00	-10	0.0089	2.6222	
200604 92024	DB	P	1 1/4"		Less than or equal to 60	Code 1			B	M	3/30/2020	3/30/2020				1.00	1	0.0089	0.0089	
200429 92075	DB	P	1/2" CTS		Less than or equal to 60	Code 1			B	M	3/16/2020	3/16/2020				1.00	1	0.0089	0.0089	
200670 92075	DB	P	1/2" CTS		Less than or equal to 60	Code 1			B	M	4/10/2020	4/10/2020				1.00	1	0.0089	0.0089	
200610 92056	DB	P	1/2" CTS		Less than or equal to 60	Code 1			B	M	3/31/2020	3/31/2020				1.00	1	0.0089	0.0089	
200618 92009	DB	P	1/2" CTS		Less than or equal to 60	Code 1			B	M	3/31/2020	3/31/2020				1.00	1	0.0089	0.0089	
202237 92101	DB	P	1/2" IPS	114	Less than or equal to 60	Code 1			B	M	11/12/2020	11/12/2020				1.00	1	0.0089	0.0089	
200010 91941	DB	P	1 1/4"		Less than or equal to 60	Code 1			B	M	1/1/2020	1/1/2020				1.00	1	0.0089	0.0089	
202042 92124	DB	P	1 1/4"		Less than or equal to 60	Code 1			B	S	10/14/2020	10/15/2020				289.00	2	0.0089	2.5721	
200795 92104	DB	P	1/2" IPS		Less than or equal to 60	Code 1			B	M	4/26/2020	4/26/2020				1.00	1	0.0089	0.0089	
200430 92105	DB	P	1/2" IPS		Less than or equal to 60	Code 1			B	S	3/9/2020	3/9/2020				69.00	1	0.0089	0.6411	
201400 92105	DB	P	1/2" CTS	112	Less than or equal to 60	Code 2			B	M	8/11/2020	8/11/2020				19.00	18	0.0089	0.1691	
200195 92084	MB	P	2"	39	Less than or equal to 60	Code 2			B	M	1/24/2020	2/26/2020				34.00	34	0.2988	10.1592	
200919 92071	MB	P	2"		Less than or equal to 60	Code 2			B	M	5/13/2020	5/13/2020				1.00	1	0.2988	0.2988	
200620 92009	MB	P	2"		Less than or equal to 60	Code 2			B	S	1/5/2020	5/14/2020				131.00	10	0.2988	40.138	
200721 92028	MB	P	3"		Less than or equal to 60	Code 2			B	S	10/20/2020	10/23/2020				297.00	4	0.2988	88.7436	
200621 92118	DB	P	1 1/4"		Less than or equal to 60	Code 2			B	S	1/10/2020	1/27/2020				27.00	18	0.0089	0.4403	
202281 92071	DB	P	1 1/4"		Less than or equal to 60	Code 2			B	S	11/20/2020	11/20/2020				325.00	2	0.0089	2.8923	
201309 92124	DB	P	3"		Less than or equal to 60	Code 2			B	S	7/6/2020	8/6/2020				219.00	1	0.0089	1.9491	
202040 92124	DB	P	1 1/4"		Less than or equal to 60	Code 2			B	S	10/15/2020					399.00	1	0.0089	2.5721	
202201 92040	DB	P	1/2" CTS		Less than or equal to 60	Code 2			B	S	11/6/2020	11/7/2020				306.00	4	0.0089	2.7234	
201401 92021	DB	P	1"		Less than or equal to 60	Code 2			B	S	7/23/2020	9/20/2020				264.00	60	0.0089	2.4486	
201380 99999	MB	PC	2"	779	Less than or equal to 60	Code 1			B	S	12/10/2020	12/10/2020				338.00	1	0.0612	20.4856	
202341 99999	DB	PC	3/4"		Less than or equal to 60	Code 1			B	M	11/30/2020	11/30/2020				1.00	1	0.0276	0.0276	
202195 99999	DB	PC	3/4"		Less than or equal to 60	Code 2			B	M	10/8/2020	10/8/2020				1.00	1	0.0276	0.0276	
201739 99999	DB	PC	3/4"		Less than or equal to 60	Code 2			B	S	9/4/2020	10/8/2020				262.00	35	0.0276	7.7832	
200664 92107	MB	PC	1 1/2"		Less than or equal to 60	Code 1			B	M	3/25/2020	3/25/2020				1.00	1	0.0612	0.0612	
202091 91911	DB	PC	3/4"	155	Less than or equal to 60	Code 2			B	S	4/12/2020	4/12/2020				63.00	19	0.0276	1.7388	
201087 92105	DB	PC	3/4"		Less than or equal to 60	Code 2			B	S	6/8/2020	7/1/2020				183.00	24	0.0276	5.0508	
200258 91950	DB	PC	3/4"		Less than or equal to 60	Code 2			B	M	1/6/2020	1/6/2020				1.00	1	0.0276	0.0276	
201412 92037	DB	PC	3/4"		Less than or equal to 60	Code 1			B	S	7/22/2020	7/22/2020				204.00	1	0.0276	5.8304	
200142 92103	DB	PC	1 1/2"		Less than or equal to 60	Code 1			B	M	1/24/2020	1/26/2020				26.00	3	0.0276	0.7176	
200834 91917	DB	PC	3/4"	399	Less than or equal to 60	Code 1			B	S	5/7/2020	5/8/2020				129.00	3	0.0276	3.5604	
200672 92105	DB	PC	3/4"	399	Less than or equal to 60	Code 1			B	S	4/1/2020	4/2/2020				93.00	2	0.0276	2.5668	
200349 92105	DB	PC	3/4"	803	Less than or equal to 60	Code 1			B	M	1/7/2020	1/7/2020				1.00	1	0.0276	0.0276	
201030 92104	DB	PC	3/4"	835	Less than or equal to 60	Code 1			B	M	1/30/2020	1/30/2020				151.00	1	0.0276	4.1676	
200407 92111	DB	PC	3/4"		Less than or equal to 60	Code 1			B	M	1/2/2020	3/2/2020				1.00	1	0.0276	0.0276	
202209 92105	DB	PC	3/4"		Less than or equal to 60	Code 1			B	M	11/27/2020	11/17/2020				1.00	1	0.0276	0.0276	
200186 92116	DB	PC	3/4"	1145	Less than or equal to 60	Code 1			B	M	1/16/2020	1/16/2020				1.00	1	0.0276	0.0276	
201270 92106	DB	PC	3/4"	767	Less than or equal to 60	Code 1			B	M	6/30/2020	6/30/2020				1.00	1	0.0276	0.0276	
200146 91950	DB	PC	3/4"	294	Less than or equal to 60	Code 1			B	M	2/15/2020	2/15/2020				1.00	1	0.0276	0.0276	
201662 92120	DB	PC	3/4"	609	Less than or equal to 60	Code 1			B	M	8/25/2020	8/25/2020				1.00	1	0.0276	0.0276	
200193 92109	DB	PC	3/4"	623	Less than or equal to 60	Code 1			B	M	2/28/2020	2/28/2020				1.00	1	0.0276	0.0276	
201171 92102	DB	PC	3/4"	447	Less than or equal to 60	Code 1			B	S	6/18/2020	6/18/2020				170.00	1	0.0276	4.692	
201410 92037	DB	PC	3/4"	839	Less than or equal to 60	Code 1			B	M	8/22/2020	8/22/2020				1.00	1	0.0276	0.0276	
200266 92071	DB	PC	3/4"	623	Less than or equal to 60	Code 1			B	M	2/9/2020	2/9/2020				1.00	1	0.0276	0.0276	
201484 92064	DB	PC	3/4"		Less than or equal to 60	Code 1			B	M	7/8/2020	7/8/2020				1.00	1	0.0276	0.0276	

2002031 91941	MB	PC	2"	Less than or equal to 60	Code 2	B	S	5/28/2020	6/9/2020	161.00	13	0.0612	9.8532
200291 92104	MB	PC	1 1/2"	Less than or equal to 60	Code 2	B	M	1	2/12/2020	1.00	1	0.0612	0.0612
2005175 91550	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	5	4/2/2020	120.00	30	0.0276	3.112
200640 91802	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	42	4/2/2020	113.00	21	0.0276	3.1188
2009204 91945	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	189	4/17/2020	189.00	29	0.0276	5.2164
2004445 92114	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	3	3/6/2020	83.00	18	0.0276	2.2908
2012841 92115	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	639	2/20/2020	203.00	22	0.0276	5.6028
2008861 91941	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	5	5/2/2020	141.00	14	0.0276	3.8916
2004213 92115	DB	PC	3/4"	Less than or equal to 60	Code 2	B	M	3	3/3/2020	98.00	98	0.0276	2.7048
2002416 91911	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	647	3/6/2020	316.00	13	0.0276	2.1528
2011853 92104	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	6	6/9/2020	182.00	12	0.0276	5.0232
2004010 92106	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	827	3/2/2020	77.00	16	0.0276	2.1252
2002042 91977	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	139	3/10/2020	149.00	16	0.0276	4.1124
2004934 92109	DB	PC	3/4"	Less than or equal to 60	Code 2	B	M	3	3/16/2020	43.00	43	0.0276	1.1868
2012019 91945	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	959	6/22/2020	191.00	18	0.0276	5.2716
2017775 91941	DB	PC	3/4"	Less than or equal to 60	Code 2	B	M	9	10/11/2020	31.00	31	0.0276	0.0516
2010251 91950	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	755	7/24/2020	208.00	58	0.0276	5.4856
2012315 91945	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	491	7/16/2020	198.00	24	0.0276	5.4648
2011467 91945	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	887	6/14/2020	188.00	21	0.0276	5.1888
2012795 92021	DB	PC	3/4"	Less than or equal to 60	Code 1	B	S	839	7/1/2020	212.00	30	0.0276	5.8512
2003279 91950	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	835	2/19/2020	1.00	1	0.0276	0.0276
2002631 92105	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	803	3/8/2020	62.00	24	0.0276	1.7112
2005196 92106	DB	PC	3/4"	Less than or equal to 60	Code 2	B	M	609	3/19/2020	41.00	41	0.0276	1.1216
2014536 92111	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	959	8/14/2020	227.00	19	0.0276	6.2652
2002399 91932	DB	PC	3/4"	Less than or equal to 60	Code 2	B	M	8	2/5/2020	8.00	8	0.0276	0.2208
2011621 92116	DB	PC	3/4"	Less than or equal to 60	Code 3	B	S	862	6/17/2020	230.00	42	0.0276	5.796
2009557 92069	DB	PC	3/4"	Less than or equal to 60	Code 2	B	M	5	5/19/2020	1.00	1	0.0276	0.0276
2013206 92037	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	851	7/8/2020	294.00	15	0.0276	5.6304
2011991 91945	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	659	6/22/2020	152.00	19	0.0276	5.2992
2006242 91910	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	971	4/1/2020	428.00	28	0.0276	3.2844
2010979 91945	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	863	6/9/2020	182.00	22	0.0276	5.0232
2010774 92105	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	863	6/5/2020	170.00	14	0.0276	4.692
2004482 91950	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	839	3/17/2020	76.00	10	0.0276	2.0976
2004047 91977	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	175	3/10/2020	69.00	8	0.0276	1.9044
2011560 92102	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	6	6/17/2020	182.00	14	0.0276	5.0232
2005467 91902	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	743	3/25/2020	196.00	22	0.0276	2.9256
2006799 91941	DB	PC	3/4"	Less than or equal to 60	Code 2	B	M	827	4/11/2020	26.00	9	0.0276	0.1716
2000028 92122	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	611	1/2/2020	17.00	16	0.0276	0.4692
2002960 92114	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	207	5/29/2020	84.00	84	0.0276	2.1184
2008197 92102	DB	PC	1 1/2"	Less than or equal to 60	Code 2	B	M	827	1/28/2020	1.00	5	0.0276	0.138
2013015 92021	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	76/2020	8/4/2020	217.00	30	0.0276	5.8892
2008879 91977	DB	PC	3/4"	Less than or equal to 60	Code 2	B	M	755	3/10/2020	1.00	2	0.0276	0.0552
2000439 92113	DB	PC	3/4"	Less than or equal to 60	Code 2	B	M	1019	1/8/2020	35.00	35	0.0276	0.966
2006361 92105	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	42/2020	4/21/2020	112.00	21	0.0276	3.0912
2006246 91977	DB	PC	3/4"	Less than or equal to 60	Code 3	B	M	12/2020	4/21/2020	9	9	0.0276	0.2484
2010501 91950	DB	PC	3/4"	Less than or equal to 60	Code 3	B	S	6/2020	7/29/2020	211.00	58	0.0276	5.8236
2011154 92105	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	862	6/12/2020	176.00	14	0.0276	4.8576
2011151 92105	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	863	6/11/2020	177.00	15	0.0276	4.8852
2023506 92037	DB	PC	3/4"	Less than or equal to 60	Code 2	B	M	1139/2020	11/9/2020	1.00	1	0.0276	0.0276
2005289 92106	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	743	4/13/2020	121.00	30	0.0276	3.1396
2008141 92106	DB	P	1"	Less than or equal to 60	Code 1	B	M	827	4/28/2020	1.00	1	0.0089	0.0089
2015111 92117	DB	P	1 1/2" CTS	Less than or equal to 60	Code 1	B	M	8/4/2020	8/4/2020	1.00	1	0.0089	0.0089
2010002 92021	DB	P	1 1/2" CTS	Less than or equal to 60	Code 1	B	M	1/6/2020	1/6/2020	1.00	1	0.0089	0.0089
2022071 91902	DB	P	1 1/2" CTS	Less than or equal to 60	Code 1	B	M	11/7/2020	11/7/2020	1.00	1	0.0089	0.0089
2015052 92103	DB	P	2"	Less than or equal to 60	Code 1	B	M	6/1/2020	6/1/2020	1.00	1	0.0089	0.0089
2020220 92124	MB	P	2"	Less than or equal to 60	Code 2	B	M	10/14/2020	12/7/2020	342.00	55	0.2888	102.1896
2011998 92104	DB	P	1 1/2" CTS	Less than or equal to 60	Code 2	B	S	491	6/22/2020	181.00	8	0.0089	1.6109
2013179 92104	DB	P	1 1/2" CTS	Less than or equal to 60	Code 2	B	S	478/2020	4/19/2020	171.00	2	0.0089	1.1218
2006345 91902	DB	P	1 1/2" CTS	Less than or equal to 60	Code 2	B	S	127	4/23/2020	113.00	21	0.0089	1.0057
2014231 92071	DB	P	2"	Less than or equal to 60	Code 2	B	M	12/17/2020	12/17/2020	1.00	1	0.0089	0.0089
2011454 92104	DB	PC	1 1/4"	Less than or equal to 60	Code 1	B	S	851	6/16/2020	11/17/2020	155	0.0276	8.8872
2006335 92113	DB	PC	3/4"	Less than or equal to 60	Code 2	B	M	42/2020	4/23/2020	22.00	22	0.0276	0.6072
2007460 92071	MB	PC	2"	Less than or equal to 60	Code 1	B	M	39	4/21/2020	1.00	1	0.0612	0.0612
2007590 92102	MB	PC	1 1/2"	Less than or equal to 60	Code 1	B	M	82	4/21/2020	1.00	1	0.0612	0.0612
2025629 92008	MB	PC	1 1/2"	Less than or equal to 60	Code 1	B	M	10	12/17/2020	1.00	1	0.0612	0.0612
2013879 92126	DB	PC	3/4"	Less than or equal to 60	Code 1	B	S	11/4/2020	11/4/2020	309.00	1	0.0276	8.2384
2008962 91977	DB	PC	3/4"	Less than or equal to 60	Code 1	B	S	5/8/2020	5/9/2020	130.00	2	0.0276	3.588
2008001 91977	DB	PC	3/4"	Less than or equal to 60	Code 1	B	S	4/12/2020	4/11/2020	1.00	1	0.0276	0.0276
2008964 91977	DB	PC	3/4"	Less than or equal to 60	Code 1	B	S	5/8/2020	5/9/2020	130.00	2	0.0276	3.588
2023501 92109	DB	PC	1"	Less than or equal to 60	Code 1	B	M	11/9/2020	11/9/2020	1.00	1	0.0276	0.0276
2010188 92037	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	10/13/2020	10/14/2020	288.00	2	0.0276	7.9488
2008351 91977	DB	PC	3/4"	Less than or equal to 60	Code 1	B	S	4/9/2020	5/13/2020	134.00	14	0.0276	3.6984
2023399 92021	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	12/1/2020	12/1/2020	1.00	1	0.0276	0.0276
2008351 91977	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	4/9/2020	4/9/2020	134.00	14	0.0276	3.6984
2018206 92020	DB	PC	3/4"	Less than or equal to 60	Code 1	B	S	9/16/2020	9/17/2020	261.00	2	0.0276	7.2036
2007311 92116	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	4/16/2020	4/16/2020	1.00	1	0.0276	0.0276
2025080 92107	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	12/14/2020	12/14/2020	1.00	1	0.0276	0.0276
2007789 91932	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	10/29/2020	10/29/2020	1.00	1	0.0276	0.0276
2011188 92119	DB	PC	3/4"	Less than or equal to 60	Code 1	B	S	7/8/2020	7/8/2020	1.00	1	0.0276	0.0276
2015111 92037	DB	PC	3/4"	Less than or equal to 60	Code 1	B	S	8/4/2020	10/29/2020	303.00	87	0.0276	8.3628
2020151 92115	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	2/21/2020	2/21/2020	1.00	1	0.0276	0.0276
2006213 91945	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	12/28/2020	12/28/2020	1.00	1	0.0276	0.0276
2002041 92110	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	1/9/2020	1/9/2020	1.00	1	0.0276	0.0276
2010646 92117	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	1/10/2020	4/13/2020	1.00	1	0.0276	0.0276
2006794 92114	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	4/11/2020	4/11/2020	1.00	1	0.0276	0.0276
2012919 92115	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	7/2/2020	7/2/2020	1.00	1	0.0276	0.0276
2025151 92115	DB	PC	3/4"	Less than or equal to 60	Code 2	B	M	12/14/2020	12/14/2020	1.00	1	0.0276	0.0276
2025986 92116	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	12/21/2020	12/21/2020	1.00	1	0.0276	0.0276
2024475 91942	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	12/8/2020	12/8/2020	1.00	1	0.0276	0.0276
2011134 91911	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	10/24/2020	10/24/2020	1.00	1	0.0276	0.0276
2018675 92113													

2008969	92105	DB	PC	1"	Less than or equal to 60	Code 2	B	M	5/8/2020	9/8/2020	124.00	124	0.0276	3.4224
2018444	91950	DB	PC	3/4"	Less than or equal to 60	Code 2	B	M	7/25/2020	8/12/2020	19.00	19	0.0276	0.5344
2022818	92116	DB	PC	3/4"	Less than or equal to 60	Code 2	B	M	11/19/2020	12/5/2020	17.00	17	0.0276	0.4692
2022929	92021	DB	P	1 1/4"	Less than or equal to 60	Code 1	B	S	11/20/2020	12/9/2020	344.00	340	0.0089	3.0616
2012500	92104	DB	P	1/2" CTS	Less than or equal to 60	Code 1	B	S	6/24/2020	6/27/2020	129.00	129	0.0276	1.3933
2022214	91910	DB	P	1/2" CTS	Less than or equal to 60	Code 1	B	M	11/10/2020	11/10/2020	1.00	1	0.0089	0.0089
2010336	92105	DB	P	1/2" IPS	Less than or equal to 60	Code 2	B	S	6/2/2020	6/8/2020	160.00	7	0.0089	1.424
2008278	92054	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	4/9/2020	4/9/2020	1.00	1	0.0276	1
2006187	91910	MB	PC	1 1/2"	Less than or equal to 60	Code 2	B	S	3/3/2020	4/17/2020	108.00	18	0.0612	6.6096
2023261	92037	MB	P	1 1/2"	Less than or equal to 60	Code 1	B	S	12/7/2020	12/7/2020	342.00	13	0.0612	20.9504
2011787	91950	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	6/18/2020	6/18/2020	1.00	1	0.0276	0.0276
2010342	92116	DB	PC	3/4"	Less than or equal to 60	Code 1	B	S	5/29/2020	5/29/2020	1.00	1	0.0276	0.0276
2018786	92116	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	6/23/2020	6/23/2020	1.00	1	0.0276	1
2012606	92106	DB	PC	1"	515 Less than or equal to 60	Code 1	B	S	6/9/2020	6/9/2020	182.00	2	0.0276	5.0232
2008084	92020	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	4/13/2020	4/13/2020	1.00	1	0.0276	0.0276
2010711	92102	DB	PC	1"	Less than or equal to 60	Code 1	B	M	6/4/2020	6/4/2020	154.00	1	0.0276	4.3056
2000077	92109	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	12/2/2020	12/2/2020	1.00	1	0.0276	0.0276
2007646	92105	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	4/23/2020	4/23/2020	1.00	1	0.0276	0.0276
2007225	92113	DB	PC	1"	Less than or equal to 60	Code 1	B	M	4/14/2020	4/14/2020	1.00	1	0.0276	0.0276
2020561	91932	DB	PC	3/4"	611 Less than or equal to 60	Code 1	B	M	10/19/2020	10/19/2020	1.00	1	0.0276	0.0276
2020150	92108	DB	PC	1"	Less than or equal to 60	Code 1	B	M	3/14/2020	3/14/2020	1.00	1	0.0276	0.0276
2022788	91910	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	11/18/2020	11/18/2020	1.00	1	0.0276	0.0276
2019376	92110	DB	PC	8"	Less than or equal to 60	Code 1	B	M	10/2/2020	10/2/2020	1.00	1	0.0276	0.0276
2013699	92111	DB	PC	3/4"	Less than or equal to 60	Code 2	B	M	7/15/2020	7/15/2020	1.00	1	0.0276	1
2015291	92117	DB	PC	1"	Less than or equal to 60	Code 2	B	S	8/6/2020	9/10/2020	254.00	26	0.0276	7.0104
2008212	92107	DB	PC	2 3/4"	Less than or equal to 60	Code 2	B	S	4/29/2020	5/21/2020	142.00	23	0.0276	3.9532
2019798	91977	DB	PC	3/4"	755 Less than or equal to 60	Code 2	B	S	6/22/2020	7/13/2020	195.00	32	0.0276	5.382
2010721	91910	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	4/24/2020	6/15/2020	167.00	12	0.0276	4.6092
2014662	92111	DB	PC	3/4"	599 Less than or equal to 60	Code 2	B	S	7/28/2020	10/1/2020	275.00	66	0.0276	7.59
2008930	92102	DB	PC	3/4"	Less than or equal to 60	Code 2	B	M	5/21/2020	5/21/2020	1.00	1	0.0276	0.0276
2012296	92106	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	6/12/2020	8/20/2020	233.00	69	0.0276	6.4308
2019042	92114	DB	PC	3/4"	Less than or equal to 60	Code 2	B	M	9/27/2020	11/9/2020	44.00	44	0.0276	1.2144
2005152	92056	DB	P	1/2" IPS	Less than or equal to 60	Code 1	B	M	3/18/2020	3/18/2020	1.00	1	0.0089	0.0089
2010538	91950	MB	P	2"	575 Less than or equal to 60	Code 2	B	S	4/21/2020	6/11/2020	161.00	10	0.2988	46.3944
2008611	92124	MB	P	2"	491 Less than or equal to 60	Code 1	B	S	4/13/2020	4/13/2020	1.00	1	0.2988	0.2988
2013482	92083	MB	P	2"	539 Less than or equal to 60	Code 1	B	M	8/19/2020	8/12/2020	225.00	3	0.2988	67.23
2021428	92103	MB	P	1 1/4"	536 Less than or equal to 60	Code 1	B	M	12/21/2020	12/21/2020	1.00	1	0.2988	1
2003351	92064	DB	P	1/2" CTS	539 Less than or equal to 60	Code 1	B	S	2/19/2020	2/20/2020	51.00	2	0.0089	0.4539
2003997	92024	DB	P	1/2" CTS	443 Less than or equal to 60	Code 1	B	M	2/18/2020	2/18/2020	1.00	1	0.0089	0.0089
2013711	92026	MB	P	1 1/4"	503 Less than or equal to 60	Code 1	B	S	7/16/2020	7/16/2020	196.00	2	0.2988	59.1624
2014289	92056	MB	P	3"	539 Less than or equal to 60	Code 1	B	S	7/23/2020	7/27/2020	209.00	5	0.2988	62.4492
2015291	92008	MB	P	1 1/4"	395 Less than or equal to 60	Code 1	B	S	8/6/2020	8/6/2020	1.00	1	0.2988	0.2988
2000102	92009	MB	P	3"	527 Less than or equal to 60	Code 1	B	M	1/6/2020	1/6/2020	1.00	1	0.2988	0.2988
2000310	92106	MB	P	2"	479 Less than or equal to 60	Code 1	B	S	1/6/2020	1/6/2020	1.00	1	0.2988	0.2988
2006787	92083	MB	P	2"	479 Less than or equal to 60	Code 1	B	M	4/10/2020	4/10/2020	1.00	1	0.2988	0.2988
2003038	92014	MB	P	2"	587 Less than or equal to 60	Code 1	B	M	1/7/2020	1/7/2020	1.00	1	0.2988	0.2988
2005247	92130	MB	P	2"	451 Less than or equal to 60	Code 1	B	S	2/20/2020	2/20/2020	83.00	4	0.2988	24.4004
2000851	92040	MB	P	2"	599 Less than or equal to 60	Code 1	B	M	1/10/2020	1/10/2020	1.00	1	0.2988	0.2988
2007080	92009	DB	P	1/2" CTS	575 Less than or equal to 60	Code 1	B	M	4/15/2020	4/15/2020	1.00	1	0.0089	0.0089
2027447	92118	DB	P	1/2" CTS	587 Less than or equal to 60	Code 1	B	M	4/26/2020	4/26/2020	127.00	17	0.0089	1.1933
2007192	92029	DB	P	1/2" IPS	Less than or equal to 60	Code 1	B	S	4/14/2020	4/14/2020	107.00	1	0.0089	0.9523
2002392	92084	DB	P	1/2" CTS	575 Less than or equal to 60	Code 1	B	S	2/9/2020	2/12/2020	43.00	8	0.0089	0.3827
2010006	92029	DB	P	1/2" CTS	575 Less than or equal to 60	Code 1	B	S	4/26/2020	4/26/2020	147.00	1	0.0089	1.3083
2006152	92057	DB	P	2"	527 Less than or equal to 60	Code 1	B	M	3/31/2020	3/31/2020	1.00	1	0.0089	0.0089
2001509	92083	DB	P	1 1/4"	Less than or equal to 60	Code 1	B	M	12/31/2020	12/31/2020	1.00	1	0.0089	0.0089
2013764	92026	DB	P	1"	515 Less than or equal to 60	Code 2	B	S	7/14/2020	8/19/2020	232.00	35	0.0089	2.0648
2016134	92084	DB	P	1/2" CTS	Less than or equal to 60	Code 2	B	S	8/19/2020	9/12/2020	145.00	14	0.0089	2.1805
2017941	92075	MB	P	2"	563 Less than or equal to 60	Code 2	B	M	8/14/2020	8/14/2020	24.00	24	0.2988	7.1712
2020224	92057	MB	P	3"	527 Less than or equal to 60	Code 2	B	M	2/21/2020	2/21/2020	19.00	19	0.2988	5.4772
2010221	92102	DB	P	2"	575 Less than or equal to 60	Code 2	B	S	5/28/2020	5/28/2020	149.00	1	0.2988	44.2112
2018622	92008	MB	P	2"	515 Less than or equal to 60	Code 2	B	S	7/15/2020	7/27/2020	209.00	13	0.2988	62.4492
2015261	92056	MB	P	3"	479 Less than or equal to 60	Code 2	B	S	8/6/2020	8/20/2020	233.00	13	0.2988	69.4204
2014496	92111	MB	P	1 1/4"	453 Less than or equal to 60	Code 1	B	S	12/4/2020	6/13/2020	226.00	21	0.2988	67.3388
2013773	92069	DB	P	1/2" IPS	Less than or equal to 60	Code 2	B	S	7/14/2020	7/29/2020	211.00	14	0.0089	1.8779
2000031	92064	DB	P	1/2" CTS	402 Less than or equal to 60	Code 2	B	M	12/2/2020	3/30/2020	69.00	69	0.0089	0.6141
2013395	92129	DB	P	1/2" IPS	Less than or equal to 60	Code 2	B	M	10/20/2020	6/4/2020	16.00	16	0.0089	0.1424
2006066	92024	DB	P	1/2" CTS	Less than or equal to 60	Code 2	B	M	3/9/2020	4/17/2020	19.00	19	0.0089	0.1991
2007327	91941	DB	P	1 1/4"	625 Less than or equal to 60	Code 2	B	S	4/7/2020	4/7/2020	228.00	1	0.2988	1.1992
2015117	92069	DB	P	1 1/4"	Less than or equal to 60	Code 2	B	S	8/4/2020	8/18/2020	231.00	15	0.0089	2.0559
2013671	92026	DB	P	1"	Less than or equal to 60	Code 2	B	S	7/15/2020	7/29/2020	211.00	15	0.0089	1.8779
2009704	92111	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	1/10/2020	1/10/2020	1.00	1	0.0276	1
2004058	92075	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	3/2/2020	3/2/2020	1.00	1	0.0276	0.0276
2001205	92014	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	12/2/2020	1/23/2020	1.00	1	0.0276	0.0276
2004439	92114	MB	PC	1 1/2"	851 Less than or equal to 60	Code 1	B	S	8/7/2020	4/7/2020	67.00	4	0.0612	4.1004
2006156	91950	MB	PC	1 1/2"	88 Less than or equal to 60	Code 1	B	S	3/31/2020	3/31/2020	91.00	1	0.0612	5.1692
2010312	92116	MB	PC	1 1/2"	787 Less than or equal to 60	Code 1	B	M	2/1/2020	2/1/2020	1.00	1	0.0612	0.0612
2008767	91910	MB	PC	1 1/2"	779 Less than or equal to 60	Code 1	B	M	5/6/2020	5/6/2020	1.00	1	0.0612	0.0612
2006597	92106	MB	PC	1 1/2"	791 Less than or equal to 60	Code 1	B	S	4/6/2020	4/7/2020	96.00	2	0.0612	5.9976
2014401	92111	MB	PC	1 1/2"	909 Less than or equal to 60	Code 1	B	M	7/28/2020	7/28/2020	211.00	1	0.0612	12.9132
2020027	92054	MB	PC	1 1/2"	909 Less than or equal to 60	Code 1	B	M	1/30/2020	1/30/2020	1.00	1	0.0612	0.0612
2006796	92105	MB	PC	1 1/2"	851 Less than or equal to 60	Code 1	B	S	4/2/2020	4/4/2020	95.00	3	0.0612	5.814
2011537	92037	MB	PC	2"	1120 Less than or equal to 60	Code 1	B	M	6/16/2020	6/16/2020	1.00	1	0.0612	0.0612
2001501	92024	MB	PC	2"	887 Less than or equal to 60	Code 1	B	M	1/23/2020	1/23/2020	1.00	1	0.0612	0.0612
2002961	91932	MB	PC	1 1/2"	755 Less than or equal to 60	Code 1	B	M	1/13/2020	1/13/2020	1.00	1	0.0612	0.0612
2008381	92054	MB	PC	1 1/2"	731 Less than or equal to 60	Code 1	B	M	5/6/2020	5/6/2020	1.00	1	0.0612	

2014112 92037	MB	PC	2"	1115	Less than or equal to 60	Code 2	B	S	7/21/2020	8/6/2020	219.00	17	0.0612	13.4028
2006067 92107	MB	PC	1"	851	Less than or equal to 60	Code 2	B	S	3/9/2020	3/20/2020	12.00	12	0.0612	0.7344
2009663 91510	MB	PC	1"	1131	Less than or equal to 60	Code 2	B	M	5/19/2020	6/4/2020	217.00	78	0.0612	13.3864
201286 92106	MB	PC	1 1/2"	563	Less than or equal to 60	Code 2	B	S	6/13/2020	9/1/2020	245.00	81	0.0612	14.994
2012840 92115	MB	PC	1 1/2"	1128	Less than or equal to 60	Code 2	B	S	6/20/2020	10/16/2020	198.00	17	0.0612	12.1176
2006077 92154	MB	PC	1 1/2"	767	Less than or equal to 60	Code 2	B	S	1/13/2020	2/7/2020	38.00	26	0.0612	2.3256
200134 92008	MB	PC	1 1/2"	827	Less than or equal to 60	Code 2	B	M	2/18/2020	2/28/2020	11.00	11	0.0612	0.6732
2004986 91932	MB	PC	1 1/2"	839	Less than or equal to 60	Code 2	B	M	3/9/2020	3/9/2020	26.00	26	0.0612	1.5912
2017794 92008	MB	PC	1 1/2"	827	Less than or equal to 60	Code 2	B	S	9/11/2020	9/23/2020	267.00	13	0.0612	16.3404
2009465 92116	MB	PC	1 1/2"	875	Less than or equal to 60	Code 2	B	S	5/16/2020	5/26/2020	13.00	13	0.0612	0.7956
2010885 92105	MB	PC	1 1/2"	863	Less than or equal to 60	Code 2	B	S	6/8/2020	6/22/2020	174.00	15	0.0612	10.6488
2011784 92107	MB	PC	1 1/2"	971	Less than or equal to 60	Code 2	B	S	6/18/2020	8/12/2020	225.00	56	0.0612	13.777
2009721 91950	MB	PC	1 1/2"	8079	Less than or equal to 60	Code 2	B	S	3/11/2020	3/25/2020	85.00	15	0.0612	5.320
2007921 91941	MB	PC	1 1/2"	839	Less than or equal to 60	Code 2	B	S	4/25/2020	1/8/2020	129.00	14	0.0612	7.8948
2008044 92054	DB	PC	3/4"	863	Less than or equal to 60	Code 2	B	S	5/8/2020	5/13/2020	8.00	6	0.0276	0.4656
2007971 92023	DB	PC	3/4"	527	Less than or equal to 60	Code 2	B	S	12/4/2020	5/13/2020	134.00	20	0.0612	3.4884
2016004 92025	DB	PC	3/4"	875	Less than or equal to 60	Code 2	B	M	8/17/2020	8/17/2020	1.00	1	0.0276	0.0276
2007409 92025	DB	PC	3/4"	647	Less than or equal to 60	Code 2	B	S	4/20/2020	4/27/2020	118.00	8	0.0276	3.2568
2010512 92071	DB	PC	3/4"	731	Less than or equal to 60	Code 2	B	M	6/23/2020	6/23/2020	22.00	22	0.0276	0.6072
2003324 92064	DB	PC	3/4"	647	Less than or equal to 60	Code 2	B	S	2/19/2020	3/27/2020	87.00	38	0.0276	2.4012
201481 92108	DB	P	1 1/4"	Less than or equal to 60	Code 1	B	M	1/17/2020	1/17/2020	1.00	1	0.0889	0.0889	
2006702 92069	MB	P	1 1/4"	527	Less than or equal to 60	Code 1	B	M	4/8/2020	4/8/2020	1.00	1	0.2988	0.2988
2016277 92081	MB	P	1"	544	Less than or equal to 60	Code 1	B	M	9/19/2020	9/19/2020	1.00	1	0.2988	0.2988
2003178 92028	MB	P	2"	503	Less than or equal to 60	Code 1	B	M	2/18/2020	2/18/2020	1.00	1	0.2988	0.2988
2011581 92024	MB	P	2"	455	Less than or equal to 60	Code 1	B	M	10/29/2020	10/29/2020	1.00	1	0.2988	0.2988
2012809 92121	MB	P	2"	455	Less than or equal to 60	Code 1	B	S	11/19/2020	11/19/2020	234.00	1	0.2988	96.9112
2005046 91950	MB	P	2"	503	Less than or equal to 60	Code 1	B	M	10/17/2020	10/17/2020	1.00	1	0.2988	0.2988
2006005 92102	MB	P	1 1/4"	575	Less than or equal to 60	Code 1	B	M	3/30/2020	3/30/2020	1.00	1	0.2988	0.2988
2001011 92115	DB	P	1/2" CTS	420	Less than or equal to 60	Code 1	B	M	1/15/2020	1/15/2020	1.00	1	0.0889	0.0889
2003972 91911	MB	P	1 1/4"	515	Less than or equal to 60	Code 1	B	M	1/30/2020	1/30/2020	30.00	1	0.2988	8.964
2007523 92029	MB	P	1 1/4"	491	Less than or equal to 60	Code 1	B	M	4/19/2020	4/19/2020	1.00	1	0.2988	0.2988
2014673 92139	MB	P	1 1/4"	431	Less than or equal to 60	Code 1	B	M	7/28/2020	7/28/2020	1.00	1	0.2988	0.2988
2012525 92081	MB	P	3"	431	Less than or equal to 60	Code 1	B	M	11/15/2020	11/15/2020	1.00	1	0.2988	0.2988
2012912 92075	MB	P	1 1/4"	539	Less than or equal to 60	Code 1	B	M	11/20/2020	11/20/2020	1.00	1	0.2988	0.2988
2006805 92124	MB	P	1 1/4"	563	Less than or equal to 60	Code 1	B	M	4/12/2020	4/12/2020	1.00	1	0.2988	0.2988
2003316 92114	MB	P	2"	575	Less than or equal to 60	Code 1	B	M	2/4/2020	2/4/2020	1.00	1	0.2988	0.2988
2014311 92026	MB	P	2"	443	Less than or equal to 60	Code 1	B	M	7/13/2020	7/13/2020	1.00	1	0.2988	0.2988
2007945 92026	MB	P	3"	179	Less than or equal to 60	Code 1	B	M	4/26/2020	4/26/2020	1.00	1	0.2988	0.2988
2010956 92028	MB	P	2"	431	Less than or equal to 60	Code 1	B	M	10/23/2020	10/23/2020	297.00	2	0.2988	86.7436
2017326 92008	MB	P	2"	587	Less than or equal to 60	Code 1	B	S	9/3/2020	9/4/2020	246.00	2	0.2988	74.1024
2006155 92114	MB	P	1 1/4"	563	Less than or equal to 60	Code 1	B	S	3/3/2020	3/3/2020	63.00	1	0.2988	18.2444
2008571 92104	MB	P	2"	563	Less than or equal to 60	Code 1	B	M	3/4/2020	3/4/2020	1.00	1	0.2988	0.2988
2001836 92069	DB	P	1/2" IPS	Less than or equal to 60	Code 1	B	M	1/28/2020	1/28/2020	1.00	1	0.0889	0.0889	
2010796 92024	MB	P	1/2" CTS	Less than or equal to 60	Code 1	B	M	6/9/2020	6/9/2020	1.00	1	0.0889	0.0889	
2003032 92028	MB	P	1/2" CTS	Less than or equal to 60	Code 1	B	M	10/14/2020	10/14/2020	1.00	1	0.0889	0.0889	
201245 92014	DB	P	1/2" CTS	28	Less than or equal to 60	Code 1	B	M	11/9/2020	11/9/2020	1.00	1	0.0889	0.0889
2011171 92064	MB	P	2"	407	Less than or equal to 60	Code 2	B	M	6/10/2020	6/10/2020	29.00	29	0.0612	8.4652
2007114 92007	MB	P	2"	563	Less than or equal to 60	Code 2	B	S	4/16/2020	4/21/2020	112.00	6	0.2988	33.4656
2015562 92083	MB	P	2"	587	Less than or equal to 60	Code 2	B	S	8/11/2020	8/4/2020	237.00	14	0.2988	70.5156
2013424 92026	MB	P	2"	443	Less than or equal to 60	Code 2	B	S	7/13/2020	7/14/2020	196.00	2	0.2988	58.5448
2014367 92111	MB	P	1 1/4"	453	Less than or equal to 60	Code 2	B	S	7/24/2020	8/11/2020	234.00	19	0.2988	66.9312
2012317 92131	MB	P	2"	455	Less than or equal to 60	Code 2	B	S	11/23/2020	12/1/2020	296.00	1	0.2988	100.9968
2010644 92124	MB	P	2"	515	Less than or equal to 60	Code 2	B	S	10/13/2020	10/13/2020	307.00	21	0.2988	91.7116
2002098 92124	MB	P	2"	515	Less than or equal to 60	Code 2	B	S	10/15/2020	10/15/2020	289.00	1	0.2988	86.3532
2014174 92105	MB	P	1 1/4"	575	Less than or equal to 60	Code 2	B	S	6/25/2020	6/25/2020	177.00	10	0.2988	52.8876
201248 92028	DB	P	1 1/4"	Less than or equal to 60	Code 2	B	S	10/24/2020	10/27/2020	301.00	2	0.0889	2.6789	
200991 92028	DB	P	1/2" CTS	503	Less than or equal to 60	Code 2	B	M	10/23/2020	10/23/2020	201.00	0	0.0889	0
2014186 92021	MB	PC	4"	839	Less than or equal to 60	Code 1	B	M	7/21/2020	7/21/2020	209.00	1	0.0612	12.4736
2015604 92106	MB	PC	2"	1095	Less than or equal to 60	Code 1	B	M	12/17/2020	12/17/2020	1.00	1	0.0612	0.0612
2014546 92116	MB	PC	2"	995	Less than or equal to 60	Code 1	B	M	12/9/2020	12/9/2020	1.00	1	0.0612	0.0612
2012654 92113	MB	PC	1 1/2"	863	Less than or equal to 60	Code 1	B	M	6/29/2020	6/29/2020	1.00	1	0.0612	0.0612
2014894 92075	MB	PC	2"	767	Less than or equal to 60	Code 1	B	M	7/31/2020	7/31/2020	1.00	1	0.0612	0.0612
2013487 92109	MB	PC	1 1/2"	1086	Less than or equal to 60	Code 1	B	S	7/14/2020	7/14/2020	196.00	2	0.0612	11.9952
2014992 92024	MB	PC	1"	1077	Less than or equal to 60	Code 1	B	M	12/19/2020	12/19/2020	1.00	1	0.0612	0.0612
2006961 92054	MB	PC	2"	743	Less than or equal to 60	Code 1	B	M	4/13/2020	4/13/2020	1.00	1	0.0612	0.0612
2001095 92014	MB	PC	1"	1079	Less than or equal to 60	Code 1	B	S	7/16/2020	7/16/2020	115.00	100	0.0612	7.038
2013492 91950	MB	PC	1 1/2"	863	Less than or equal to 60	Code 1	B	M	7/13/2020	7/13/2020	1.00	1	0.0612	0.0612
2002406 91982	MB	PC	2"	599	Less than or equal to 60	Code 1	B	S	10/6/2020	10/6/2020	37.00	1	0.0612	2.3544
2019455 92007	MB	PC	1 1/2"	647	Less than or equal to 60	Code 1	B	M	10/2/2020	10/2/2020	1.00	1	0.0612	0.0612
2012909 92116	MB	PC	2"	863	Less than or equal to 60	Code 1	B	M	11/19/2020	11/19/2020	1.00	1	0.0612	0.0612
2011714 92116	MB	PC	1 1/2"	911	Less than or equal to 60	Code 1	B	M	11/2/2020	11/2/2020	1.00	1	0.0612	0.0612
2015320 92106	MB	PC	1 1/2"	803	Less than or equal to 60	Code 1	B	M	12/14/2020	12/14/2020	1.00	1	0.0612	0.0612
2007747 92084	MB	PC	1 1/2"	659	Less than or equal to 60	Code 1	B	M	4/23/2020	4/23/2020	1.00	1	0.0612	0.0612
2012372 92116	MB	PC	1 1/2"	779	Less than or equal to 60	Code 1	B	M	11/28/2020	11/28/2020	1.00	1	0.0612	0.0612
2017121 91977	MB	PC	1 1/2"	1165	Less than or equal to 60	Code 1	B	M	9/1/2020	9/1/2020	1.00	1	0.0612	0.0612
2002099 92115	MB	PC	2"	875	Less than or equal to 60	Code 1	B	M	5/13/2020	5/13/2020	1.00	1	0.0612	0.0612
2013206 91932	MB	PC	1 1/2"	839	Less than or equal to 60	Code 1	B	M	8/6/2020	8/6/2020	1.00	1	0.0612	0.0612
2012659 92115	MB	PC	1 1/2"	815	Less than or equal to 60	Code 1	B	M	11/17/2020	11/17/2020	1.00	1	0.0612	0.0612
2008211 92113	MB	PC	2"	827	Less than or equal to 60	Code 1	B	M	4/29/2020	4/29/2020	1.00	1	0.0612	0.0612
2001521 92020	MB	PC	2"	575	Less than or equal to 60	Code 1	B	M	1/23/2020	1/23/2020	1.00	1	0.0612	0.0612
2002315 92107	MB	PC	1 1/2"	1139	Less than or equal to 60	Code 1	B	M	2/4/2020	2/4/2020	1.00	1	0.0612	0.0612
2007022 92114	MB	PC	1 1/2"	827	Less than or equal to 60	Code 1	B	M	4/15/2020	4/15/2020	1.00	1	0.0612	0.0612
2006267 92084	MB	PC	2"	755	Less than or equal to 60	Code 1	B	M	4/29/2020	4/29/2020	1.00	1	0.0612	0.0612
2001512 92020	MB	PC	1"	827	Less than or equal to 60	Code 1	B	M						

202310 92103	MB	PC	3"	671	Less than or equal to 60	Code 2	B	M	11/23/2020	12/23/2020	31.00	31	0.0612	1.8972
202304 92084	MB	PC	2"	851	Less than or equal to 60	Code 2	B	M	2/12/2020	2/12/2020	16.00	16	0.0612	0.9792
202503 92114	MB	PC	2"	588	Less than or equal to 60	Code 2	B	M	12/17/2020	12/17/2020	5.00	5	0.0612	0.386
200904 92027	MB	PC	1 1/2"	399	Less than or equal to 60	Code 2	B	M	3/28/2020	4/15/2020	19.00	19	0.0612	1.5628
200837 91977	MB	PC	1 1/2"	719	Less than or equal to 60	Code 2	B	S	4/28/2020	5/14/2020	135.00	17	0.0612	8.362
201075 91950	MB	PC	1 1/2"	887	Less than or equal to 60	Code 2	B	S	6/5/2020	6/25/2020	177.00	21	0.0612	10.8324
201787 92037	MB	PC	2"	1123	Less than or equal to 60	Code 2	B	S	8/13/2020	8/13/2020	226.00	1	0.0612	13.812
201691 92105	MB	PC	1 1/2"	803	Less than or equal to 60	Code 2	B	M	9/28/2020	9/28/2020	21.00	23	0.0612	1.4076
201326 92116	MB	PC	2"	791	Less than or equal to 60	Code 2	B	M	10/27/2020	11/18/2020	23.00	23	0.0612	1.4076
200264 92024	MB	PC	2"	1079	Less than or equal to 60	Code 2	B	M	2/9/2020	2/26/2020	18.00	18	0.0612	1.1016
2022806 92116	MB	PC	1 1/2"	839	Less than or equal to 60	Code 2	B	M	10/19/2020	12/15/2020	27.00	27	0.0612	1.6524
200426 92034	MB	PC	1"	863	Less than or equal to 60	Code 2	B	S	3/4/2020	3/20/2020	80.00	17	0.0612	4.896
2012045 91941	MB	PC	1 1/2"	731	Less than or equal to 60	Code 2	B	M	10/20/2020	10/20/2020	121.00	17	0.0612	7.4052
202782 92116	MB	PC	1 1/2"	971	Less than or equal to 60	Code 2	B	M	11/18/2020	11/18/2020	1.00	1	0.0612	0.0612
200496 91910	MB	PC	2"	791	Less than or equal to 60	Code 2	B	M	8/21/2020	4/9/2020	4.00	3	0.0612	0.9144
2000975 92014	MB	PC	2"	1079	Less than or equal to 60	Code 2	B	M	4/17/2020	6/17/2020	169.00	155	0.0612	10.1428
2023958 92134	MB	PC	1 1/2"	611	Less than or equal to 60	Code 2	B	M	12/16/2020	12/16/2020	1.00	3	0.0612	0.1836
2015014 92109	MB	PC	1 1/2"	647	Less than or equal to 60	Code 2	B	S	6/8/2020	9/15/2020	399.00	44	0.0612	15.8508
2011996 92106	MB	PC	1"	967	Less than or equal to 60	Code 2	B	S	6/22/2020	7/8/2020	190.00	17	0.0612	11.628
2007572 91977	MB	PC	2"	839	Less than or equal to 60	Code 2	B	S	4/21/2020	7/15/2020	197.00	86	0.0612	12.0564
202786 92113	MB	PC	1 1/2"	863	Less than or equal to 60	Code 2	B	M	11/18/2020	11/18/2020	1.00	1	0.0612	0.0612
2005732 92107	MB	PC	1 1/2"	1130	Less than or equal to 60	Code 2	B	S	3/26/2020	4/24/2020	115.00	30	0.0612	7.038
2016921 92107	MB	PC	3/4"	959	Less than or equal to 60	Code 2	B	M	8/28/2020	8/31/2020	4.00	4	0.0612	0.2488
201346 92139	MB	PC	2"	851	Less than or equal to 60	Code 2	B	M	11/5/2020	11/5/2020	1.00	1	0.0612	0.0612
2016672 92081	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	8/26/2020	9/3/2020	247.00	9	0.0276	6.8172	
2014790 92026	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	7/30/2020	8/12/2020	225.00	14	0.0276	6.21	
2013514 92026	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	7/14/2020	7/29/2020	211.00	16	0.0276	5.8236	
2014384 92025	DB	PC	3/4"	Less than or equal to 60	Code 2	B	S	7/22/2020	8/4/2020	217.00	14	0.0276	5.8892	
2017405 92075	DB	PC	3/4"	Less than or equal to 60	Code 2	B	M	9/4/2020	10/13/2020	40.00	40	0.0276	1.104	
2014768 92069	MB	P	3"	515	Less than or equal to 60	Code 1	B	M	12/11/2020	12/11/2020	1.00	1	0.2988	0.2988
2021535 92084	DB	P	1/2" IPS	407	Less than or equal to 60	Code 1	B	M	10/29/2020	10/29/2020	1.00	1	0.0899	0.0899
2021339 92040	MB	P	2"	407	Less than or equal to 60	Code 1	B	M	11/9/2020	11/9/2020	1.00	1	0.2988	0.2988
2024381 92029	MB	P	2"	515	Less than or equal to 60	Code 1	B	M	12/7/2020	12/7/2020	1.00	1	0.2988	0.2988
2014802 92108	MB	P	3"	587	Less than or equal to 60	Code 1	B	S	7/24/2020	7/24/2020	204.00	2	0.2988	65.1528
2022869 91911	MB	P	3"	587	Less than or equal to 60	Code 1	B	M	11/20/2020	11/20/2020	1.00	1	0.2988	0.2988
2021979 92071	MB	P	2"	491	Less than or equal to 60	Code 1	B	S	11/6/2020	11/6/2020	311.00	2	0.2988	92.5268
2013796 92020	MB	P	2"	575	Less than or equal to 60	Code 1	B	M	11/2/2020	11/2/2020	1.00	1	0.2988	0.2988
2019681 92103	MB	P	1 1/4"	563	Less than or equal to 60	Code 1	B	M	10/6/2020	10/6/2020	1.00	1	0.2988	0.2988
2021651 92104	MB	P	1 1/4"	563	Less than or equal to 60	Code 1	B	M	11/17/2020	11/17/2020	1.00	1	0.2988	0.2988
2022697 92019	MB	P	2"	407	Less than or equal to 60	Code 1	B	M	11/17/2020	11/17/2020	1.00	1	0.2988	0.2988
2020331 92020	MB	P	3"	575	Less than or equal to 60	Code 1	B	M	10/14/2020	10/14/2020	1.00	1	0.2988	0.2988
2015149 92103	MB	P	3"	463	Less than or equal to 60	Code 1	B	M	12/14/2020	12/14/2020	1.00	1	0.2988	0.2988
2016350 92081	DB	PC	3/4"	Less than or equal to 60	Code 1	B	S	8/21/2020	8/21/2020	234.00	1	0.0276	6.4584	
2017061 92116	MB	PC	1 1/2"	955	Less than or equal to 60	Code 2	B	M	8/11/2020	8/11/2020	1.00	1	0.0612	0.0612
2023274 92020	MB	PC	1 1/2"	1007	Less than or equal to 60	Code 1	B	M	11/25/2020	11/25/2020	1.00	1	0.0612	0.0612
2004919 92075	MB	PC	1"	1007	Less than or equal to 60	Code 1	B	S	3/16/2020	3/17/2020	77.00	2	0.0612	4.7124
2020493 92021	MB	PC	1 1/2"	355	Less than or equal to 60	Code 1	B	M	10/1/2020	10/1/2020	1.00	1	0.0612	0.0612
2020872 91932	MB	PC	1 1/2"	803	Less than or equal to 60	Code 1	B	M	10/21/2020	10/21/2020	1.00	1	0.0612	0.0612
2015116 92115	MB	PC	1 1/2"	743	Less than or equal to 60	Code 1	B	M	8/4/2020	8/4/2020	1.00	1	0.0612	0.0612
2013837 92110	MB	PC	1 1/2"	719	Less than or equal to 60	Code 1	B	M	7/1/2020	7/1/2020	1.00	1	0.0612	0.0612
2003641 92116	MB	PC	1 1/2"	923	Less than or equal to 60	Code 1	B	M	12/30/2020	12/30/2020	1.00	1	0.0612	0.0612
2012538 92114	MB	PC	1 1/2"	755	Less than or equal to 60	Code 1	B	M	6/26/2020	6/26/2020	1.00	1	0.0612	0.0612
2010541 91902	MB	PC	2"	599	Less than or equal to 60	Code 1	B	M	4/2/2020	4/2/2020	151.00	2	0.486	9.486
2013988 92027	MB	PC	2"	767	Less than or equal to 60	Code 1	B	M	7/20/2020	7/20/2020	1.00	1	0.0612	0.0612
2017941 92037	MB	PC	2"	803	Less than or equal to 60	Code 1	B	M	9/14/2020	9/14/2020	1.00	1	0.0612	0.0612
2017118 92104	MB	PC	1 1/2"	839	Less than or equal to 60	Code 1	B	M	6/30/2020	6/30/2020	1.00	1	0.0612	0.0612
2021482 92116	MB	PC	2"	815	Less than or equal to 60	Code 1	B	M	11/2/2020	11/2/2020	1.00	1	0.0612	0.0612
2010641 91910	MB	PC	1"	551	Less than or equal to 60	Code 1	B	M	6/4/2020	6/4/2020	154.00	2	0.9472	9.472
2006688 92139	MB	PC	2"	755	Less than or equal to 60	Code 1	B	M	4/8/2020	4/8/2020	1.00	1	0.0612	0.0612
2012436 92104	MB	PC	8"	911	Less than or equal to 60	Code 1	B	S	6/26/2020	6/26/2020	178.00	1	0.0612	10.8936
2020329 92109	MB	PC	1 1/2"	863	Less than or equal to 60	Code 1	B	M	10/14/2020	10/14/2020	1.00	1	0.0612	0.0612
2006961 92136	MB	PC	2"	959	Less than or equal to 60	Code 1	B	M	4/14/2020	4/14/2020	1.00	1	0.0612	0.0612
2010620 91950	MB	PC	1"	791	Less than or equal to 60	Code 1	B	S	6/8/2020	6/8/2020	160.00	6	0.0612	9.792
2020406 92069	MB	PC	1 1/2"	743	Less than or equal to 60	Code 1	B	M	2/5/2020	2/7/2020	3.00	3	0.0612	0.1836
2020953 92054	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	3/29/2020	3/29/2020	1.00	1	0.0276	0.0276	
2021341 92054	DB	PC	3/4"	Less than or equal to 60	Code 1	B	M	10/27/2020	10/27/2020	1.00	1	0.0276	0.0276	
2016778 92054	DB	PC	3/4"	Less than or equal to 60	Code 1	B	S	8/27/2020	8/27/2020	240.00	1	0.0276	6.624	
2020370 92054	MB	PC	4"	721	Less than or equal to 60	Code 2	B	S	2/18/2020	2/18/2020	20.00	11	0.0612	3.1058
2012626 92121	MB	PC	3"	464	Greater than 60	Code 2	B	M	7/1/2020	7/1/2020	1.00	1	0.0612	0.0612
2007620 92025	MB	PC	1 1/2"	767	Less than or equal to 60	Code 2	B	M	4/22/2020	4/22/2020	1.00	1	0.0612	0.0612
2016788 92110	MB	PC	2"	1113	Less than or equal to 60	Code 2	B	M	9/26/2020	9/26/2020	36.00	6	0.0612	0.9792
2007451 92108	MB	PC	2"	467	Less than or equal to 60	Code 2	B	M	4/20/2020	4/20/2020	1.00	1	0.0612	0.0612
2001396 92115	MB	PC	1 1/2"	851	Less than or equal to 60	Code 2	B	M	1/24/2020	1/24/2020	1.00	1	0.0612	0.0612
2020861 92114	MB	PC	1 1/2"	359	Less than or equal to 60	Code 2	B	M	3/1/2020	3/1/2020	30.00	30	0.0612	1.836
2009596 92107	MB	PC	1 1/2"	1140	Less than or equal to 60	Code 2	B	M	3/29/2020	3/29/2020	1.00	1	0.0612	0.0612
2008670 92083	MB	PC	8"	399	Less than or equal to 60	Code 2	B	M	4/29/2020	4/29/2020	17.00	17	0.0612	1.0404
2003898 92115	MB	PC	2"	839	Less than or equal to 60	Code 2	B	M	2/27/2020	2/27/2020	1.00	1	0.0612	0.0612
2008064 92154	MB	PC	1 1/2"	803	Less than or equal to 60	Code 2	B	S	3/11/2020	3/11/2020	42.00	29	0.0612	2.5704
2005487 92014	MB	P	6"	473	Greater than 60	Code 2	B	M	1/30/2020	1/30/2020	1.00	1	0.0612	0.0612
2022228 92024	MB	PC	4"	587	Less than or equal to 60	Code 2	B	M	11/19/2020	11/19/2020	10.00	10	0.0612	0.612
2022485 92113	MB	PC	1 1/2"	659	Less than or equal to 60	Code 2	B	M	11/17/2020	11/17/2020	15.00	15	0.0612	0.918
2005588 91910	MB	PC	1 1/2"	719	Less than or equal to 60	Code 2	B	S	3/25/2020	4/21/2020	112.00	28	0.0612	6.8544
2009820 91910	MB	PC	4"	477	Less than or equal to 60	Code 2	B	S	5/21/2020	12/28/2020	383.00	222	0.0612	22.2156
2012260 92103	MB	PC	2"	827	Less than or equal to 60	Code 2	B	S	6/24/2020	10/15/2020	289.00	114	0.0612	

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Rulemaking (R.) 15-01-008 to Adopt Rules and Procedures Governing Commission Regulated Natural Gas Pipelines and Facilities to Reduce Natural Gas Leaks Consistent with Senate Bill 1371, Leno.
In Response to Data Request, R15-01-008 2021 June Report
Appendix 4; Rev. 03/31/21

Notes:

Definitions in Data Request R15-01-008 2018 June Report

If highlighted cells are filled in, the other cells will auto-populate

Summary of Data by Pipeline Facility/Material and Results for Annual System Leak Rate and Resulting Number of Unknown Leaks for Each Pipeline Facility/Material

Facility/Material	Total System Miles per material type	Miles on Annual Survey [M_{XA}]	Miles on Multi-Year Survey Cycles [M_{XTot}]	Survey Interval (yrs) [I]	Miles Surveyed Annually from Multi-Year Survey Cycles [M_{XL}]	Total # of Leaks Detected from Survey [N_{XL}]	If using a 3-year trailing leak rate average then include - 2018 Annual Leak Rate [R_{X2}]	If using a 3-year trailing leak rate average then include - 2019 Annual Leak Rate [R_{X3}]	2019 Annual Leak Rate [R_{X3}] $R_{X,3} = \frac{N_{X,L}}{M_{X,A} + (I \times M_{X,L})}$	If applicable, then calculate the 3-year Average Leak Rate [Leaks / Mile / Yr] $\bar{R}_X = \frac{1}{3} \sum_{i=1}^3 R_{X,i}$	# of Unknown Leaks $N_{X,unk} = \bar{R}_X \times (M_{X,Tot}^I - \frac{I}{2})$	Total # of Leaks Detected from O&M* [$N_{X,O}$]
Main/Vintage* Plastic	1,549	1,549	-	1	0	26	0.018	0.025	0.0168	-	-	35
Main/Plastic	N/A	N/A	N/A	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Main/Plastic	N/A	N/A	N/A	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Main/Plastic	3,116	957	2,159	3	719.67	1	0.0003	0.0010	0.0003	0.0005	1	6
Main/Unprotected Steel	N/A	N/A	N/A	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Main/Unprotected Steel	N/A	N/A	N/A	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Main/Unprotected Steel	N/A	N/A	N/A	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Main/Vintage* Protected Steel	454	454	-	1	-	37	NA	N/A	0.0815	N/A	-	46
Main/Protected Steel	N/A	N/A	N/A	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Main/Protected Steel	N/A	N/A	N/A	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Main/Protected Steel	3,117	1,071	2,046	3	682.00	46	0.006	0.015	0.0148	0.0116	24	88
Main/Unknown	N/A	N/A	N/A	-	-	-	-	-	-	-	-	N/A
Service/Vintage* Plastic	1,340	1,340	-	1	0	31	0.0126	0.0303	0.0231	0.0220	-	30
Service/Plastic	N/A	N/A	N/A	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Service/Plastic	N/A	N/A	N/A	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Service/Plastic	2,877	724	2,153	3	717.62	0	0.0000	0.0009	-	0.0003	1	6
Service/Unprotected Steel	N/A	N/A	N/A	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Service/Unprotected Steel	N/A	N/A	N/A	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Service/Unprotected Steel	N/A	N/A	N/A	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Service/Vintage* Protected Steel	304	304	-	1	-	72	N/A	N/A	0.2368	N/A	-	106
Service/Protected Steel	N/A	N/A	N/A	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Service/Protected Steel	N/A	N/A	N/A	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Service/Protected Steel	2,553	1,094	1,459	3	486.33	51	0.0091	0.0378	0.0200	0.0223	33	45
Service/Copper	N/A	N/A	N/A	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Service/Copper	N/A	N/A	N/A	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Service/Copper	N/A	N/A	N/A	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Service/Unknown	N/A	N/A	N/A	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	15,310	7,493	7,817	N/A	2,606	264			N/A		58	362

***Definitions for "vintage" materials:**

Vintage Plastic

Pipe installed before 1986 + "unknown" manufacture PE pipe

Vintage Protected Steel

Pipe Installed before 1950

Estimated Emissions by Pipeline Facility/Material for Each Leakage Category

Leakage Category	Emission Factor (Mscf/day/leak)	2020 Emissions from Leaks detected Prior to 2020 (Mscf)	2020 Emissions from Leaks Detected from 2019 Survey (Mscf)	2020 Emissions from O&M* Leaks Detected in 2019 (Mscf)	2020 Estimated Emissions from Unknown Leaks (Mscf)	Total Estimated 2020 Emissions from Distribution Pipelines (Mscf)
Facility/Material						
Main/Vintage* Plastic	0.2988	0	1,639	25	0	1,664
Main/Plastic	0.2988	N/A	N/A	N/A	N/A	N/A
Main/Plastic	0.2988	N/A	N/A	N/A	N/A	N/A
Main/Plastic	0.2988	0	102	20	128	250
Main/Unprotected Steel	0.1548	N/A	N/A	N/A	N/A	N/A
Main/Unprotected Steel	0.1548	N/A	N/A	N/A	N/A	N/A
Main/Unprotected Steel	0.1548	N/A	N/A	N/A	N/A	N/A
Main/Vintage* Protected Steel	0.0612	0	373	10	N/A	N/A
Main/Protected Steel	0.0612	0	495	50	532	1,078
Main/Protected Steel	0.0612	N/A	N/A	N/A	N/A	N/A
Main/Protected Steel	0.0612	N/A	N/A	N/A	N/A	N/A

Service/Vintage* Plastic	0.0089	0	54	1	0	55
Service/Plastic	0.0089	N/A	N/A	N/A	N/A	N/A
Main/Unknown	0.2988	0	0	0	0	0
Service/Plastic	0.0089	N/A	N/A	N/A	N/A	N/A
Service/Plastic	0.0089	0	0	1	2	3
Service/Unprotected Steel	0.0600	N/A	N/A	N/A	N/A	N/A
Service/Unprotected Steel	0.0600	N/A	N/A	N/A	N/A	N/A
Service/Unprotected Steel	0.0600	N/A	N/A	N/A	N/A	N/A
Service/Vintage* Protected Steel	0.0276	0	402	23	0	N/A
Service/Protected Steel	0.0276	N/A	N/A	N/A	N/A	N/A
Service/Protected Steel	0.0276	N/A	N/A	N/A		
Service/Protected Steel	0.0276	0	198	7	327	533
Service/Copper	0.0226	N/A	N/A	N/A	N/A	N/A
Service/Copper	0.0226	N/A	N/A	N/A	N/A	N/A
Service/Copper	0.0226	N/A	N/A	N/A	N/A	N/A
Service/ Unknown		0	0	-	N/A	0
Total	N/A	0	3,263	137	990	3,582

O&M leaks include any other pipeline leaks that are discovered during the year from operations and maintenance activity, third party and gas odor reports, etc. that are not accounted for in other categories of this worksheet.

The cells below should be used for calculating emissions when a risk based leak detection and repair practice is used by the Utility. This table is intended to help categorize emissions associated with large leaks (Super Emitters (SEs)), and non-large leaks (non-SEs).

	2019 Emissions from Leaks detected Prior to 2018 (Mscf)	2019 Emissions from Leaks Detected from 2019 Survey (Mscf)	2019 Emissions from O&M* Leaks Detected in 2019 (Mscf)	2019 Estimated Emissions from Unknown Leaks (Mscf)	Total Estimated 2019 Emissions from Distribution Pipelines

Large Leak Emitter Program					
Compliance Leak Survey - Non-LL					-
Compliance Leak Survey - LL					-
Large Leak Emitter Program Outside Compliance Area - Non-LL					-
Large Leak Emitter Program Outside Compliance Area - LL					-
O&M - Non-LL					-
O&M - LL					-
TOTAL	-	-	-	-	-

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Rulemaking (R.) 15-01-008 to Adopt Rules and Procedures Governing Commission Regulated Natural Gas Pipelines and Facilities to Reduce Natural Gas Leaks Consistent with Senate Bill 1371, Leno.

In Response to Data Request, R15-01-008 2021 June Report

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This summary purposefully should exclude damages, blowdowns, component emissions and component leaks.

	Count of Leaks Carried over from Prior Year	Count of Leaks Discovered in the Year of Interest	Count of Leaks Repaired in the Year of Interest	Average Days to Repair Leaks	Count of Estimated Unsurveyed Leaks in the Year of Interest	Count of Remaining Leaks at final day of the Year of Interest (12/31/xx)	Emissions from Leaks Carried over from Prior Year.	Emissions from Leaks Discovered in the Year of Interest.	Emissions from Estimated Unsurveyed Leaks in the Year of Interest	Total Emissions in the Year of Interest [Mscf of Natural Gas]
Grade 1	0	337	335	4	N/A*	2	0	1173	NA	N/A
Grade 2	0	284	279	23	N/A*	5	0	2191	NA	N/A
Grade 3	0	4	4	43	N/A*	0	0	36	NA	N/A
Graded Leak Total	-	625	618	N/A**	-	7	-	3,401	-	-
Above Ground Hazardous	0	0	0	N/A**		0	0	0	N/A*	N/A
Above Ground Non-Hazardous	0	0	0	N/A**		0	0	0	N/A*	N/A
Above Ground Non-Hazardous Minor	0	0	0	N/A**		0	0	0	N/A*	N/A
AG Total	0	0	0	N/A**	-	0	0	0	N/A*	N/A
Total of All Leaks	-	625	618	N/A**	-	7	-	3,401	N/A*	N/A
Main/Plastic	0	11	11	36	1	0	0	122	128	250
Main Vintage Plastic	0	57	57	7	0	0	0	1664	0	1664
Main/Unprotected Steel					N/A	0	0	0	0	0
Main/Protected Steel	0	142	139	14	24	3	0	546	532	1078
Main Vintage Protected Steel	0	75	75					383		
Main Unknownwon	0				0	0	0		0	
Service/Plastic	0	54	53	10	1	1	0	1	2	3
Service Vinatge	0	13	13	34	0	0	0	55	0	55
Service/Unprotected Steel	0	0	0	0	N/A	0	0		0	0
Service Vintage Steel	0	37	37					425		
Service/Protected Steel	0	237	234	14	33	3	0	206	327	533
Service Unknownwon	0			N/A	0	0	0	0	0	0
Service/Copper				0	0	0	0	0	0	0
Total	-	626	619	N/A	58	7	-	3,401	990	3,582

Large Leak or Super Emitter Program Categorization

Compliance Leak Survey - Non-LL						0				0
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Compliance Leak Survey - LL						0				0
Large Leak/Super Emitter Program Outside Compliance Area - Non-LL						0				0
Large Leak/Super Emitter Program Outside Compliance Area - LL						0				0
O&M - Non-LL						0				0
O&M - LL						0				0
TOTAL	-	-	-	-	-	-	-	-	-	-
Change Due to LL/SE Program on 2019:	-	(626)	(619)	#VALUE!	(58)	(7)	-	(3,401)	(990)	(3,582)
% Change Due to LL/SE Program on 2019:	#DIV/0!	(100.0%)	(100.0%)		(100.0%)	(100.0%)	#DIV/0!	(100.0%)	(100.0%)	(100.0%)

This section added
to the template for
2020 Reporting.
Send any
suggestions to
improve this
worksheet to Staff
for consideration.

Notes:
Use a formula-derived value with the formula used in the Annual Emissions column. Do not use a copy and paste-as-value.
At the end of Annual Emissions Column, add a summation total in a cell for a column total, and then highlight orange.

Sum Total Emissions from leaks carried over from before 2019
Sum Total Emissions from **Survey** leaks discovered in 2019
Sum Total Emissions from O&M Leaks discovered in 2019

[illegible]

[illegible]

[illegible]

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Notes:

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At the end of Annual Emissions Column, add a summation total in a cell for a column total, and then highlight orange.

Sum Total Emissions from leaks carried over from before 2019

Sum Total Emissions from **Survey** leaks discovered in 2019

Sum Total Emissions from O&M Leaks discovered in 2019

Distribution Main & Service Pipeline Blowdowns:

ID	Geographic Location	Number of Blowdown Events	Pipe Size (nominal) (in)	Length of Pipe (ft)	Pressure (psi)	Annual Emissions (Mscf)	Explanatory Notes / Comments
N/A	SDG&E Territory	269	N/A	N/A	N/A	0.73	Distribution Odor Intensity Tests
N/A	SDG&E Territory	N/A		2	40	320	0.021155835 Abandoned HP Pipe
N/A	SDG&E Territory	N/A		3	4	320	0.004760063 Abandoned HP Pipe
N/A	SDG&E Territory	N/A		4	3	320	0.00634675 Abandoned HP Pipe
N/A	SDG&E Territory	N/A		6	2	320	0.009520126 Abandoned HP Pipe
N/A	SDG&E Territory	N/A		10	8	320	0.105779174 Abandoned HP Pipe
N/A	SDG&E Territory	N/A		12	101	320	1.923065386 Abandoned HP Pipe
N/A	SDG&E Territory	N/A		6	431	320	2.051587083 Abandoned HP Service Pipe
N/A	SDG&E Territory	N/A		0.5	7	55	4.51838E-05 Abandoned MP Pipe
N/A	SDG&E Territory	N/A		1	1428	55	0.036869947 Abandoned MP Pipe
N/A	SDG&E Territory	N/A		1.25	12144	55	0.489921041 Abandoned MP Pipe
N/A	SDG&E Territory	N/A		1.5	4702	55	0.273155186 Abandoned MP Pipe
N/A	SDG&E Territory	N/A		2	70269	55	7.257182959 Abandoned MP Pipe
N/A	SDG&E Territory	N/A		3	44513	55	10.34364679 Abandoned MP Pipe
N/A	SDG&E Territory	N/A		4	313	55	0.129303008 Abandoned MP Pipe
N/A	SDG&E Territory	N/A		0.5	99818	55	0.64430749 Abandoned MP Service Pipe
N/A	SDG&E Territory	N/A		0.75	26666	55	0.387279679 Abandoned MP Service Pipe
N/A	SDG&E Territory	N/A		1	2785	55	0.071906725 Abandoned MP Service Pipe
N/A	SDG&E Territory	N/A		1.25	4281	55	0.172706849 Abandoned MP Service Pipe
N/A	SDG&E Territory	N/A		1.5	714	55	0.041478691 Abandoned MP Service Pipe
N/A	SDG&E Territory	N/A		2	1450	55	0.149751885 Abandoned MP Service Pipe
N/A	SDG&E Territory	N/A		3	13	55	0.003020857 Abandoned MP Service Pipe

24.85

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Notes:
Use a formula-derived value with the formula used in the Annual Emissions column. Do not use a copy and paste-as-value.
At the end of Annual Emissions Column, add a summation total in a cell for a column total, and then highlight orange.
The emissions captured on this tab represent the emissions associated with the operational design and function of the component. Any intentional release of natural gas for safety or maintenance purposes should be included on the Blowdowns worksheet.

Sum Total Emissions from leaks carried over from before 2019
Sum Total Emissions from **Survey** leaks discovered in 2019
Sum Total Emissions from O&M Leaks discovered in 2019

Distribution Main & Service Pipeline Component Vented Emissions (see note above):

Total Number of Devices	Device Type	Bleed Rate	Manufacturer	Engineering or Manufacturer's based Estimate of Emissions	Annual Emissions (Mscf)	Explanatory Notes / Comments
Note: No devices						

0

Sum Total Provided as an example.

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Notes:

Use a formula-derived value with the formula used in the Annual Emissions column. Do not use a copy and paste-as-value.

At the end of Annual Emissions Column, add a summation total in a cell for a column total, and then highlight orange.

The emissions captured on this tab represent the emissions associated unintentional leaks that if repaired would not leaking. If the component is releasing gas or "bleeding" as a result of its design or function then it is not to be

Distribution Main & Service Pipeline Component Fugitive Leaks (see note above):

Total Number of Devices	Device Type	Bleed Rate	Manufacturer	Discovery Date (MM/DD/YY)	Repair Date (MM/DD/YY)	Number of Days Leaking	Emission Factor (Mscf/day)	Annual Emission (Mscf)	Explanatory Notes / Comments
-------------------------	-------------	------------	--------------	---------------------------	------------------------	------------------------	----------------------------	------------------------	------------------------------

Sum total

0

Provided as an example.

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Header column "Comment" boxes displayed below for reference.	
Column Heading	Description and Definition of Required Contents (If not self-explanatory)
Pipeline Leaks	
ID	
Geographic Location	GIS, zip code, or equivalent
Pipe Classification	MA = distribution main, above ground MB = distribution main, below ground DA = distribution service, above ground DB = distribution service, below ground
Pipe Material	C = copper CI = cast iron P = plastics (Acetyl, ABS, PE, PVC, etc.) PB = cathodically protected steel, bare PC = cathodically protected steel, coated UB = unprotected steel, bare UC = unprotected steel, coated
Pipe Size (nominal)	
Pipe Age (months)	
Pressure (psi)	MOP = maximum operating pressure over the past year
Leak Grade	If the utility uses grades for above ground leaks, it is unnecessary to use the AH, AN, or AM designations. 1 = grade 1 2 = grade 2 2+ = grade 2+ 3 = grade 3 AH = Above Ground Hazardous synonymous with Grade 1. AN = Above Ground Non-Hazardous, synonymous with Grade 2 and 2+. AM = Above Ground Non-Hazardous Minor (akin to grade 3 below ground leak). N = non-graded or ungraded
Upgraded Leak Grade or Downgraded Leak Grade	U: Upgraded Leak such as a grade 2 or 3 leak that was surveyed again and changed designation to grade 1 or 2. D: downgraded leak, such as a grade 1 or 2 leak that was surveyed again and changed designation to grade 2 or 3.
Above Ground or Below Ground	A = Above Ground B = below ground
Leak Discovery Method	S = Routine Leak Survey (This discovery method should be parsed and the emissions summarized into leaks carried over from before 2016, and those detected in 2016. The totals for these subcategories should be carried over to column C43 through D63 on the Unsurveyed Pipeline Leaks tab.) M = O&M (E.G. O&M Activities, Third party reports, customer odor reports etc.) O = Other (This will be grouped with M in the summary categorization of leaks.)
Discovery Date (MM/DD/YY)	
Re-Grade Date (MM/DD/YY)	
Repair Date (MM/DD/YY)	Date that the pipeline repair stopped the leak. Any associated blowdowns resulting from the repair should be included in the blowdowns tab.
Scheduled Repair Date (MM/DD/YY)	If leak is open, specify the scheduled date of repair; Otherwise type "M," signifying that the leak is being monitored with no scheduled date of repair; Then, provide the reason for not scheduling a repair in Column P.
Reason for Not Scheduling a Repair	If Repair Date is blank, and Scheduled Repair Date (Column O) = "M", then provide the reason for not scheduling a repair.
Number of Days Leaking	If the leak was discovered by survey in the year of interest, then assume leaking from January 1st of subject year <u>thru</u> repair date or December 31st of subject year, which ever is earlier. (E.G. Days Leaking = Repair - Jan 1st + 1 day.) (For days leaking for leaks carried over use January 1st as start date for emissions calculations.) For O&M discovered leaks, assume that the leak begins with the discovery date <u>thru</u> repair date or December 31st of subject year, whichever is earlier.

Sum Total Emissions from leaks carried over from before 2019
Sum Total Emissions from **Survey** leaks discovered in 2019

Sum Total Emissions from O&M Leaks discovered in 2019

Number of Days to Repair	Use only Repair-Discovery +1. Do not use January 1st for time to repair. For regraded leaks, use Repair Date - Regrade Date +1.
Emission Factor (Mscf/Day)	
Annual Emissions (Mscf)	
Explanatory Notes / Comments	

Unsurveyed Pipeline Leaks	
2017 Emissions from O&M* Leaks Detected in 2016 (Mscf)	O&M Sources Include: O&M Activities Customer Odor Reports Third Party Reports and other
2017 Estimated Emissions from Unknown Leaks (Mscf)	Calculation based on the input from column J above.

Pipeline Leaks Summary	
Count of Leaks Carried over from Prior Year	Based on a leak start date prior to the first day of the year of interest.
Count of Leaks Discovered in the Year of Interest	The total number of leaks by grade or category discovered in the year of interest. If a leak is downgraded to not leaking, do not count it.
Count of Leaks Repaired in the Year of Interest	
Average Days to Repair Leaks	The average days to repair leaks should be based on the formula: (Repair Date/Time minus Discovery Date/Time) plus (one day, unless using a discrete time stamp for leak repairs), then take the sum and divide by number of leaks repaired by grade to get the average days to repair.
Count of Estimated Unsurveyed Leaks in the Year of Interest	For leaks identified in Unserved areas extrapolate the proportion of leak counts by grade that were found in the respective areas based on the year or periods used to estimate the unserved leak count. If the unserved leak count was based on the current year leak count by grade detected then use the current proportion of graded leak count applied to the unserved leaks.
Count of Remaining Leaks at final day of the Year of Interest (12/31/xx)	This count is only of the actual leaks detected in the operator's system that have not been repaired as of 12/31 of the year of interest.
Emissions from Leaks Carried over from Prior Year.	Based on a leak start date prior to the first day of the year of interest. This includes leaks discovered through O&M and survey activities.
Emissions from Leaks Discovered in the Year of Interest.	The total number of leaks by grade or category discovered in the year of interest. This includes leaks discovered through O&M and survey activities.
Emissions from Estimated Unsurveyed Leaks in the Year of Interest	The emissions by grade would be on the same basis that used to extrapolate the count of leaks in the unserved areas. For example: For leaks identified in Unserved areas extrapolate the proportion of leak emissions by grade that were found in the respective areas based on the year or periods used to estimate the unserved leak count. If the unserved leak count was based on the current year leaks detected then use the current proportion of graded leaks applied to the unserved leak emissions.
Total Emissions in the Year of Interest [Mscf of Natural Gas]	

All Damages	
ID	
Geographic Location	GIS, zip code, or equivalent
Damage Type	E = excavation damage N = natural force damage O = other outside force damage
Pipe Classification	MA = distribution main, above ground MB = distribution main, below ground DA = distribution service, above ground DB = distribution service, below ground
Pipe Material	C = copper CI = cast iron P = plastics (Acetal, ABS, PE, PVC, etc.) PB = cathodically protected steel, bare PC = cathodically protected steel, coated UB = unprotected steel, bare UC = unprotected steel, coated
Pipe Size (nominal)	
Pipe Age (months)	

Pressure (psi)	MOP = maximum operating pressure over the past year
Leak Grade	1 = grade 1 2 = grade 2 2+ = grade 2+ 3 = grade 3 N = Non-Graded
Above Ground or Below Ground	AH = above ground, hazardous AN = above ground, non-hazardous B = below ground
Discovery Date (MM/DD/YY)	
Repair Date (MM/DD/YY)	
Number of Days Leaking	<p>If date and time stamp are reliable and used consistently by respondent, then emissions may be calculated based on actual time leaking. E.G. Repair time - damage event time = duration of event.</p> <p>If respondent has average or historical leak duration based on the nature and circumstances of damages, then these may be applied to like damage events. The emissions factors should be adequately supported and explained in the filing.</p> <p>If actual time stamps and historical averages are not available, then whole days should be used in the engineering calculation. The leak begins with the damage event date thru repair date or December 31st of subject year, whichever is later. E.G. Days Leaking = Repair date - date of damage + 1 day.</p>
Emission Factor or Engineering Estimate (Mscf/Day)	
Annual Emissions (Mscf)	
Explanatory Notes / Comments	

Blowdowns	
ID	
Geographic Location	GIS, zip code, or equivalent
Number of Blowdown Events	If counting a series of small blowdowns associated with services such as MSA replacement, or Service pipe of small diameter or section length then enter total and the formula in the explanation column.
Pipe Size (nominal)	
Length of Pipe	
Pressure (psi)	MOP = maximum operating pressure over the past year
Annual Emissions (Mscf)	
Explanatory Notes / Comments	

Component Vented Emissions	
Total Number of Devices	
Device Type	P = pneumatic device H = hydraulic valve operator T = turbine valve operator PR = pressure relief valve O = other devices
Bleed Rate	L = low bleed I = intermittent bleed H = high bleed NA = not applicable
Manufacturer	
Engineering or Manufacturer's based Estimate of Emissions	
Annual Emissions (Mscf)	
Explanatory Notes / Comments	

Component Leaks	
Total Number of Devices	
Device Type	P = pneumatic device H = hydraulic valve operator T = turbine valve operator PR = pressure relief valve O = other devices
Bleed Rate	L = low bleed I = intermittent bleed H = high bleed NA = not applicable
Manufacturer	
Discovery Date (MM/DD/YY)	<p>List the actual discovery date.</p> <p>If the leak was discovered in the year of interest, then we will assume the component was leaking from the beginning of the year for emissions reporting purposes.</p>

Repair Date (MM/DD/YY)	Date that the component repair stopped the leak. Any associated blowdowns as a result of the repair should be included in the blowdowns tab.
Number of Days Leaking	Assume Leaking from January 1 of subject year or prior survey date, whichever is later, thru the repair date (if repaired in year of interest) or December 31 of subject year, whichever is earlier. For O&M discovered leaks, assume that the leak begins with the discovery date thru repair date or December 31st of subject year, whichever is earlier.
Emission Factor (Mscf/day)	
Annual Emission (Mscf)	
Explanatory Notes / Comments	