Calendar Year 2014
MASSACHUSETTS DPU ADDENDUM TO FORM RSPA F 7100.1-1

1.0 Steel Mains & Services from Part B-1:

1.1	Total Miles of Unprotected Steel Main (Bare & Coated)	318.6
1.2	Total Miles of Cathodically Protected Steel Main (Bare & Coated)	2,131.5
1.3	Total Number of Unprotected Steel Services	45,303
1.4	Total Number of Cathodically Protected Steel Services	47,334

2.0 Total Miles of Main in System at End of Year from Part B-2:

2.1	Steel	2,450.1
2.2	Ductile Iron	0
2.3	Copper	0
2.4	Cast Iron	534.7
2.5	Wrought Iron	19.0
2.6	Plastic (all types)	1,940.8
2.7	Other	0.8
2.8	Total Miles of Main	4,945.4

3.0 Total Number of Services in System at End of Year from Part B-3:

3.1	Steel	92,637
3.2	Ductile Iron	0
3.3	Copper	542
3.4	Cast Iron	0
3.5	Wrought Iron	0
3.6	Plastic (all types)	169,850
3.7	Other	0
3.8	Total Number of Services	263,029

4.0 Total Number of Leaks Eliminated/Repaired During the Year from Part C:

4.1	Total for Mains	1,640
4.2	Total for Services	2,771
4.3	Total for Mains & Services	4,411

5.0 Total Number of Unrepaired Leaks in System at End of Year

		Grade 1	Grade 2A	Grade 2	Grade 3
5.1	Total for Mains	0	8	430	2213
5.2	Total for Services	0	7	142	738
5.3	Total for Mains & Services	0	15	572	2951

6.0 Total Miles of Main Abandoned During the Year:

6.1	Cast iron eight inches in diameter or less (to the nearest tenth mile)	22.9
6.2	Cast iron greater than eight inches in diameter (to the nearest tenth mile)	1.8
6.3	Unprotected Steel (to the nearest tenth mile)	18.0

7.0 Inactive Service Lines Status:

7.1	Number of Inactive Service Lines Abandoned During the Year	682
7.2	Number of Inactive Service Lines at Year End	9,570

8.0 Unaccounted for Gas (from Part E)
When reporting Unaccounted for Gas, list the items your organization has identified for the loss of gas (theft, damages, venting, etc…add rows if needed) include the items associated values in both the tenths and MMBTU columns.

8.1 Percent Unaccounted for Gas (to nearest tenth)

Unaccounted for ("UAF") gas is caused by a variety of reasons, including the causes listed in the tables below. Columbia Gas of Massachusetts ("CMA") tracks and records UAF at the highest level -- Total Throughput less Total metered volumes at all customer locations. As explained by way of footnotes below, some components of UAF are measured based on information documented from Company records, while Leakage is estimated using EPA factors. Therefore, CMA has relied on information that approximately relates to UAF and Leakage estimates to provide some representation of gas loss by these sub-categories. The total UAF gas, by % and in MMBTU, is provided below, along with the estimated volumes by sub-category.

	Description	Percent (tenths)
1	Theft ***1/***	n/a
2	Leakage ***2/***	0.458%
3	Metering Error ***1/***	n/a
4	Accounting Error ***3/***	1.129%
5	Venting / Company Use ***4/***	0.001%
6	Third Party Damage ***5/***	0.012%
	Total	1.60%

8.2 Quantity of Unaccounted for Gas (MMBTU)

	Description	MMBTU
1	Theft ***1/***	n/a
2	Leakage ***2/***	285,774
3	Metering Error ***1/***	n/a
4	Accounting Error ***3/***	704,161
5	Venting / Company Use ***4/***	367
6	Third Party Damage ***5/***	7,183
	Total	997,485

Notes:

1/ Theft and Metering Error should represent an immaterial volume of UAF gas and is difficult to quantify on a monthly or annual basis since most of any unrecorded gas use due to either event is eventually billed to customers once the case of Theft is settled or the estimated correction of Meter Error is resolved. Therefore, in any given year it is likely that Theft and/or Metering Error is occurring at the same time the Company is (re)billing for past Theft or Metering Error occurrences, creating an unquantifiable netting impact.

2/ Leakage volumes are based on applying EPA's standard fugitive release parameters by material of pipe to CMA's inventory of miles of pipe. This EPA parameter based estimate is intended to include:

- Gas lost through leaks in mains and services
- Gas lost from below ground M&R stations

3/ Accounting Error, or peculiarities as they relate to UAF, can only be estimated as the remaining residual amount of UAF gas as follows: **Total UAF – Leakage – Venting of LNG plants – Third Party Damage = Accounting Error**.

4/ Venting volumes represent gas vented from LNG tanks. Any measurement of gas loss due to venting or purging of pipe is not available, and is presumed to be insignificant. Company Use is separately metered and is included in end use volumes, and thus is accounted for and does not contribute to UAF.

5/ Represents gas loss in connection with the 164 3rd Party Damages that the Company recorded.

The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

Massachusetts D.P.U. Addendum to Form PHMSA F 7100.1-1 *(Revised 1/2013)*

Company Name: Berkshire Gas Company Date: March 13,2015

1.0 Steel Mains & Services from Part B 1:

	Description	Miles
1.1	Total Miles of Unprotected Steel Main (Bare & Coated)	42.55
1.2	Total Miles of Cathodically Protected Steel Main (Bare & Coated)	368.17
1.3	Total Number of Unprotected Steel Services	5820
1.4	Total Number of Cathodically Protected Steel Services	6523

2.0 Total Miles of Mains in System at End of year from Part B 2:

	Description	Miles
2.1	Steel	410.72
2.2	Ductile Iron	0
2.3	Copper	0
2.4	Cast Iron	80.91
2.5	Wrought Iron	0
2.6	Plastic (all types)	271.36
2.7	Other	0
2.8	Total Miles of Mains	762.99

3.0 Total Number of Services in System at End of Year from Part B 3:

	Description	Count
3.1	Steel	12343
3.2	Ductile Iron	0
3.3	Copper	288
3.4	Cast Iron	1
3.5	Wrought Iron	0
3.6	Plastic (all types)	19143
3.7	Other	0
3.8	Total Number of Services	31775

4.0 Total Number of Leaks Eliminated/Repaired During the Year from Part C:

	Description	Count
4.1	Total for Mains	170
4.2	Total for Services	102
4.3	Total for Mains & Services	272

5.0 Total Number of unrepaired Leaks in system at end of year

		Grade 1	Grade 2A	Grade 2	Grade 3	Total
5.1	Total for Mains	0	0	55	247	302
5.2	Total for Services	0	0	6	38	44
5.3	Total for Mains & Services	0	0	61	285	346

6.0 Total Miles of Main Abandoned During the Year

	Description	Miles
6.1	Cast Iron eight inches in diameter or less (to nearest tenth)	4.7
6.2	Cast Iron greater than eight inches in diameter (to nearest tenth)	0
6.3	Unprotected Steel (to nearest tenth)	1.5

7.0 Inactive Service Lines Status

	Description	Count
7.1	Number of Inactive Service Lines Abandoned During the Year	74
7.2	Total number of Inactive Service Lines at Year End	81

8.0 Unaccounted For Gas (from part E)

When reporting Unaccounted for Gas, list the items your organization has identified for the loss of gas (theft, damages, venting, etc…add rows if needed) include the items associated values in both the Tenths and MMBTU columns.

8.1 Percent Unaccounted for Gas (to nearest tenth)

	Description	Percent (tenths)
	Third Party Damage (Calendar Year 2014)[1]	0.002
	Leakage (Calendar Year 2014)[2]	0.37
	Total	0.372

[1] Volumes of gas lost due to sustained damages utilizing system pressure, estimated size of hole/damage, and approximate duration of release.

[2] Fugitive emissions are estimated utilizing EPA protocols including calculations and formulas for estimating LDC's distribution system losses (as defined in 40CFR, part 98, subpart W). These estimated emissions are also utilized in reporting to the Massachusetts Department of Environmental Protection for Massachusetts Greenhouse Gas Emissions Reporting Program.

8.2 Quantity of Unaccounted for Gas (MMBTU)

	Description	MMBTU
	Third Party Damage (Calendar Year 2014)[3]	200
	Leakage (Calendar Year 2014)[4]	36923
	Total	37123

[3] Volumes of gas lost due to sustained damages utilizing system pressure, estimated size of hole/damage, and approximate duration of release.

[4] Fugitive emissions are estimated utilizing EPA protocols including calculations and formulas for estimating LDC's distribution system losses (as defined in 40CFR, part 98, subpart W). These estimated emissions are also utilized in reporting to the Massachusetts Department of Environmental Protection for Massachusetts Greenhouse Gas Emissions Reporting Program.

The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

Massachusetts D.P.U. Addendum to Form PHMSA F 7100.1-1 *(Revised 1/2013)*

Company Name: Blackstone Gas Co Date: 2-27-2015

1.0 Steel Mains & Services from Part B 1:

	Description	Miles
1.1	Total Miles of Unprotected Steel Main (Bare & Coated)	0
1.2	Total Miles of Cathodically Protected Steel Main (Bare & Coated)	.5
1.3	Total Number of Unprotected Steel Services	0
1.4	Total Number of Cathodically Protected Steel Services	0

2.0 Total Miles of Mains in System at End of year from Part B 2:

	Description	Miles
2.1	Steel	.5
2.2	Ductile Iron	0
2.3	Copper	0
2.4	Cast Iron	0
2.5	Wrought Iron	0
2.6	Plastic (all types)	51.5
2.7	Other	0
2.8	Total Miles of Mains	52.0

3.0 Total Number of Services in System at End of Year from Part B 3:

	Description	Count
3.1	Steel	0
3.2	Ductile Iron	0
3.3	Copper	0
3.4	Cast Iron	0
3.5	Wrought Iron	0
3.6	Plastic (all types)	1334
3.7	Other	0
3.8	Total Number of Services	1334

4.0 Total Number of Leaks Eliminated/Repaired During the Year from Part C:

	Description	Count
4.1	Total for Mains	0
4.2	Total for Services	19
4.3	Total for Mains & Services	19

5.0 Total Number of unrepaired Leaks in system at end of year

		Grade 1	Grade 2A	Grade 2	Grade 3	Total
5.1	Total for Mains	0	0	0	0	0
5.2	Total for Services	0	0	0	0	0
5.3	Total for Mains & Services	0	0	0	0	0

6.0 Total Miles of Main Abandoned/Replaced During the Year

	Description	Miles
6.1	Cast Iron eight inches in diameter or less (to nearest tenth)	0
6.2	Cast Iron greater than eight inches in diameter (to nearest tenth)	0
6.3	Unprotected Steel (to nearest tenth)	0
6.4	Other Cathodically Protected Steel	.1

7.0 Inactive Service Lines Status

	Description	Count
7.1	Number of Inactive Service Lines Abandoned During the Year	1
7.2	Total number of Inactive Service Lines at Year End	25

8.0 Unaccounted For Gas (from part E)

When reporting Unaccounted for Gas, list the items your organization has identified for the loss of gas (theft, damages, venting, etc...add rows if needed) include the items associated values in both the Tenths and MMBTU columns.

8.1 Percent Unaccounted for Gas (to nearest tenth) 0.330 % or 617 mcf

	Description	Percent (tenths)
	Purge Mains & Services	20 %
	Meter inaccuracies	40 %
	Accounting Errors	5 %
	Theft of gas	25 %
	Leaks on system	10 %
	Total	100 %

8.2 Quantity of Unaccounted for Gas (MMBTU)

	Description	MMBTU
	Purge Mains & Services	123.40
	Meter inaccuracies	246.80
	accounting errors	30.85
	Theft of gas	154.25
	Leaks on System	61.70
	Total	617

Prepared by: Stephen Soliveau
508-883-9516

Massachusetts D.P.U. Addendum to Form PHMSA F 7100.1-1 *(Revised 1/2013)*

Company Name: Liberty Utilities (New England Natural Gas Company) Corp. Date: March 2015

Reporting Period: CY 2014

1.0 Steel Mains & Services from Part B 1:

	Description	Miles/Count
1.1	Total Miles of Unprotected Steel Main (Bare & Coated)	97.170
1.2	Total Miles of Cathodically Protected Steel Main (Bare & Coated)	164.575
1.3	Total Number of Unprotected Steel Services	13,087
1.4	Total Number of Cathodically Protected Steel Services	1,060

2.0 Total Miles of Mains in System at End of year from Part B 2:

	Description	Miles
2.1	Steel	261.745
2.2	Ductile Iron	0
2.3	Copper	0
2.4	Cast Iron	122.619
2.5	Wrought Iron	3.263
2.6	Plastic (all types)	225.58
2.7	Other	0
2.8	Total Miles of Mains	613.208

3.0 Total Number of Services in System at End of Year from Part B 3:

	Description	Count
3.1	Steel	14,147
3.2	Ductile Iron	0
3.3	Copper	0
3.4	Cast Iron	0
3.5	Wrought Iron	0
3.6	Plastic (all types)	21,769
3.7	Other	7
3.8	Total Number of Services	35,923

4.0 Total Number of Leaks Eliminated/Repaired During the Year from Part C:

	Description	Count
4.1	Total for Mains	245
4.2	Total for Services	199
4.3	Total for Mains & Services	444

5.0 Total Number of unrepaired Leaks in system at end of year

		Grade 1	Grade 2A	Grade 2	Grade 3	Total
5.1	Total for Mains (est.)	0	0	10	271	281
5.2	Total for Services (est.)	0	0	3	140	143
5.3	Total for Mains & Services (est.)	0	0	13	411	424

6.0 Total Miles of Main Abandoned During the Year

	Description	Miles
6.1	Cast Iron eight inches in diameter or less (to nearest tenth)	2.620
6.2	Cast Iron greater than eight inches in diameter (to nearest tenth)	0
6.3	Unprotected Steel (to nearest tenth)	2.620

7.0 Inactive Service Lines Status

	Description	Count
7.1	Number of Inactive Service Lines Abandoned During the Year	238
7.2	Total number of Inactive Service Lines at Year End	19

8.0 Unaccounted For Gas (from part E)

When reporting Unaccounted for Gas, list the items your organization has identified for the loss of gas (theft, damages, venting, etc…add rows if needed) include the items associated values in both the Tenths and MMBTU columns.

8.1 Percent Unaccounted for Gas (to nearest tenth)

	Description	Percent (tenths)
	Unaccounted for Gas	1.86
	Total	1.86

Note: At the present time, Liberty Utilities does not itemize unaccounted for gas per the categories noted above, and cannot quantify with any degree of confidence these number per itemized categories.

8.2 Quantity of Unaccounted for Gas (MMBTU)

	Description	MMBTU
	Unaccounted for Gas	129,388
	Total	129,388

Note: At the present time, Liberty Utilities does not itemize unaccounted for gas per the categories noted above, and cannot quantify with any degree of confidence these number per itemized categories.

CY 2014 Company Name: **National Grid – Boston Gas Division**

Massachusetts DPU Addendum to Form PHMSA F 7100.1-1

1.0	Steel Mains & Services from Part B-1:		
	1.1	Total Miles of Unprotected Steel Main (Bare & Coated)	1,189.048
	1.2	Total Miles of Cathodically Protected Steel Main (Bare & Coated)	1,028.295
	1.3	Total Number of Unprotected Steel Services	110,226
	1.4	Total Number of Cathodically Protected Steel Services	31,464 (Note 1)
2.0	Total Miles of Mains in System at End of Year from Part B-2:		
	2.1	Steel	2,217.343
	2.2	Ductile Iron	0
	2.3	Copper	0.060
	2.4	Cast Iron	1,946.127
	2.5	Wrought Iron	(Note 2)
	2.6	Plastic (All Types)	2,178.917
	2.7	Other	0
	2.8	Total Miles of Mains	6,342.447
3.0	Total Number of Services in System at End of Year from Part B-3:		
	3.1	Steel	141,690
	3.2	Ductile Iron	0
	3.3	Copper	9,137
	3.4	Cast Iron	1,507
	3.5	Wrought Iron	(Note 2)
	3.6	Plastic (All Types)	259,524
	3.7	Other	83,309 (Note 3)
	3.8	Total Number of Services	495,167

4.0 Total Number of Leaks Eliminated / Repaired During the Year from Part C:

4.1	Total for Mains	5,059
4.2	Total for Services	2,508
4.3	Total for Mains & Services	7,563

5.0 Total Number of Unrepaired Leaks in system at end of year:(Note 4)

		Grade 1	Grade 2A	Grade 2	Grade 3	Total
5.1	Total for Mains	13	24	104	9,169	9,310
5.2	Total for Services	7	12	52	4,546	4,617
5.3	Total for Mains & Services	20	36	156	13,715	13,927

6.0 Total Miles of Main Abandoned During the Year:

6.1	Cast Iron eight inches in diameter or less (to nearest tenth)	57.0
6.2	Cast Iron greater than eight inches in diameter (to nearest tenth)	1.5
6.3	Unprotected Steel (to nearest tenth)	36.3

7.0 Inactive Service Lines Status:

7.1	Number of Inactive Service Lines Abandoned During the Year	633
7.2	Total number of Inactive Service Lines at Year End	6941

8.0 Unaccounted For Gas from Part E:

	Description	Percent (tenths)	Quantity (MMBTU)
8.1	Leaks	0.00%	0
8.2	Venting/Purging	0.02%	18,514
8.3	3rd Party Damages	0.01%	17,481
8.4	Meter Error, Accounting, Theft	0.24%	293,213
8.5			
8.6	Total Unaccounted For Gas	0.27 %	329,208

Note 1: The Cathodically protected coated steel services figure does not include plastic services with protected steel risers that are also reported under plastic services.

Note 2: National Grid's DOT reports combine Wrought Iron with Cast Iron Pipe.

Note 3: This number signifies the services in the system whose material is unknown at this time.

Note 4: National Grid attempts to capture the facility information during leak initiation, but more than 50% leaks are marked as unknown because the facility can not be determined. Additionally, the open leaks that do have facility information are essentially a "best guess" based on field data and company records. Because of the low reliability for the accuracy of this data, we prefer to rely on repaired leaks for our integrity analyses. To provide the complete breakdown requested, National Grid utilized the breakdown of known open leaks by facility for each of the four reporting regions and applied that breakdown to the unknown population.

CY 2014 Company Name: **National Grid – Essex Gas Division**

Massachusetts DPU Addendum to Form PHMSA F 7100.1-1

1.0	Steel Mains & Services from Part B-1:			
	1.1	Total Miles of Unprotected Steel Main (Bare & Coated)	19.340	
	1.2	Total Miles of Cathodically Protected Steel Main (Bare & Coated)	335.433	
	1.3	Total Number of Unprotected Steel Services	4,830	
	1.4	Total Number of Cathodically Protected Steel Services	4,795	(Note 1)
2.0	Total Miles of Mains in System at End of Year from Part B-2:			
	2.1	Steel	354.773	
	2.2	Ductile Iron	0	
	2.3	Copper	0	
	2.4	Cast Iron	81.264	
	2.5	Wrought Iron	(Note 2)	
	2.6	Plastic (All Types)	427.099	
	2.7	Other	0	
	2.8	Total Miles of Mains	863.136	
3.0	Total Number of Services in System at End of Year from Part B-3:			
	3.1	Steel	9,625	
	3.2	Ductile Iron	0	
	3.3	Copper	0	
	3.4	Cast Iron	6	
	3.5	Wrought Iron	(Note 2)	
	3.6	Plastic (All Types)	31,440	
	3.7	Other	2,144	(Note 3)
	3.8	Total Number of Services	43,215	

4.0 Total Number of Leaks Eliminated / Repaired During the Year from Part C:

4.1	Total for Mains	148
4.2	Total for Services	134
4.3	Total for Mains & Services	282

5.0 Total Number of Unrepaired Leaks in system at end of year:(Note 4)

		Grade 1	Grade 2A	Grade 2	Grade 3	Total
5.1	Total for Mains	0	0	0	125	125
5.2	Total for Services	0	0	0	114	114
5.3	Total for Mains & Services	0	0	0	239	239

6.0 Total Miles of Main Abandoned During the Year:

6.1	Cast Iron eight inches in diameter or less (to nearest tenth)	2.7	
6.2	Cast Iron greater than eight inches in diameter (to nearest tenth)	0.2	
6.3	Unprotected Steel (to nearest tenth)	-0.3	(Note 5)

7.0 Inactive Service Lines Status:

7.1	Number of Inactive Service Lines Abandoned During the Year	71
7.2	Total number of Inactive Service Lines at Year End	720

8.0 Unaccounted For Gas from Part E:

	Description	Percent (tenths)	Quantity (MMBTU)
8.1	Leaks	0.00%	0
8.2	Venting/Purging	0.03%	2,607
8.3	3rd Party Damages	0.03%	2,463
8.4	Meter Error, Accounting, Theft	2.04%	153,159
8.5			
8.6	Total Unaccounted For Gas	2.11%	158,230

Note 1: The Cathodically protected coated steel services figure does not include plastic services with protected steel risers that are also reported under plastic services.

Note 2: National Grid's DOT reports combine Wrought Iron with Cast Iron Pipe.

Note 3: This number signifies the services in the system whose material is unknown at this time.

Note 4: National Grid attempts to capture the facility information during leak initiation, but more than 50% leaks are marked as unknown because the facility can not be determined. Additionally, the open leaks that do have facility information are essentially a "best guess" based on field data and company records. Because of the low reliability for the accuracy of this data, we prefer to rely on repaired leaks for our integrity analyses. To provide the (revised) complete breakdown requested, National Grid utilized the breakdown of known open leaks by facility for each of the four reporting regions and applied that breakdown to the unknown population.

Note 5: There was a data correction of unprotected coated steel main of vintage in the 1960s and 1970s causing the inventory to increase from 2013.

CY 2014 Company Name: **National Grid – Colonial Lowell Division**

Massachusetts DPU Addendum to Form PHMSA F 7100.1-1

1.0	Steel Mains & Services from Part B-1:			
	1.1	Total Miles of Unprotected Steel Main (Bare & Coated)	66.330	
	1.2	Total Miles of Cathodically Protected Steel Main (Bare & Coated)	565.840	
	1.3	Total Number of Unprotected Steel Services	5,424	
	1.4	Total Number of Cathodically Protected Steel Services	20,999	(Note 1)
2.0	Total Miles of Mains in System at End of Year from Part B-2:			
	2.1	Steel	632.170	
	2.2	Ductile Iron	0	
	2.3	Copper	0	
	2.4	Cast Iron	99.263	
	2.5	Wrought Iron	(Note 2)	
	2.6	Plastic (All Types)	664.957	
	2.7	Other	0	
	2.8	Total Miles of Mains	1,396.390	
3.0	Total Number of Services in System at End of Year from Part B-3:			
	3.1	Steel	26,423	
	3.2	Ductile Iron	0	
	3.3	Copper	1	
	3.4	Cast Iron	0	
	3.5	Wrought Iron	(Note 2)	
	3.6	Plastic (All Types)	47,785	
	3.7	Other	1,111	(Note 3)
	3.8	Total Number of Services	75,320	

4.0 Total Number of Leaks Eliminated / Repaired During the Year from Part C:

4.1	Total for Mains	116
4.2	Total for Services	163
4.3	Total for Mains & Services	279

5.0 Total Number of Unrepaired Leaks in system at end of year:(Note 4)

		Grade 1	Grade 2A	Grade 2	Grade 3	Total
5.1	Total for Mains	0	0	0	234	234
5.2	Total for Services	0	0	0	329	329
5.3	Total for Mains & Services	0	0	0	563	563

6.0 Total Miles of Main Abandoned During the Year:

6.1	Cast Iron eight inches in diameter or less (to nearest tenth)	5.9
6.2	Cast Iron greater than eight inches in diameter (to nearest tenth)	0.0
6.3	Unprotected Steel (to nearest tenth)	9.2

7.0 Inactive Service Lines Status:

7.1	Number of Inactive Service Lines Abandoned During the Year	70
7.2	Total number of Inactive Service Lines at Year End	846

8.0 Unaccounted For Gas from Part E:

	Description	Percent (tenths)	Quantity (MMBTU)
8.1	Leaks	0.00%	0
8.2	Venting/Purging	0.03%	4,206
8.3	3rd Party Damages	0.03%	3,974
8.4	Meter Error, Accounting, Theft	5.87%	923,587
8.5			
8.6	Total Unaccounted For Gas	5.92%	931,768

Note 1: The Cathodically protected coated steel services figure does not include plastic services with protected steel risers that are also reported under plastic services.

Note 2: National Grid's DOT reports combine Wrought Iron with Cast Iron Pipe.

Note 3: This number signifies the services in the system whose material is unknown at this time.

Note 4: National Grid attempts to capture the facility information during leak initiation, but more than 50% leaks are marked as unknown because the facility can not be determined. Additionally, the open leaks that do have facility information are essentially a "best guess" based on field data and company records. Because of the low reliability for the accuracy of this data, we prefer to rely on repaired leaks for our integrity analyses. To provide the (revised) complete breakdown requested, National Grid utilized the breakdown of known open leaks by facility for each of the four reporting regions and applied that breakdown to the unknown population.

CY 2014 Company Name: **National Grid – Colonial CapeDivision**

Massachusetts DPU Addendum to Form PHMSA F 7100.1-1

1.0	Steel Mains & Services from Part B-1:			
	1.1	Total Miles of Unprotected Steel Main (Bare & Coated)	97.095	
	1.2	Total Miles of Cathodically Protected Steel Main (Bare & Coated)	719.419	
	1.3	Total Number of Unprotected Steel Services	4,076	
	1.4	Total Number of Cathodically Protected Steel Services	19,806	(Note 1)
2.0	Total Miles of Mains in System at End of Year from Part B-2:			
	2.1	Steel	816.514	
	2.2	Ductile Iron	0	
	2.3	Copper	0	
	2.4	Cast Iron	0	
	2.5	Wrought Iron	(Note 2)	
	2.6	Plastic (All Types)	1,645.313	
	2.7	Other	0	
	2.8	Total Miles of Mains	2,461.827	
3.0	Total Number of Services in System at End of Year from Part B-3:			
	3.1	Steel	23,882	
	3.2	Ductile Iron	0	
	3.3	Copper	0	
	3.4	Cast Iron	16	
	3.5	Wrought Iron	(Note 2)	
	3.6	Plastic (All Types)	80,517	
	3.7	Other	9,119	(Note 3)
	3.8	Total Number of Services	113,534	

4.0 Total Number of Leaks Eliminated / Repaired During the Year from Part C:

4.1	Total for Mains	148
4.2	Total for Services	366
4.3	Total for Mains & Services	514

5.0 Total Number of Unrepaired Leaks in system at end of year:(Note 4)

		Grade 1	Grade 2A	Grade 2	Grade 3	Total
5.1	Total for Mains	0	0	0	119	119
5.2	Total for Services	0	0	0	295	295
5.3	Total for Mains & Services	0	0	0	414	414

6.0 Total Miles of Main Abandoned During the Year:

6.1	Cast Iron eight inches in diameter or less (to nearest tenth)	0.0
6.2	Cast Iron greater than eight inches in diameter (to nearest tenth)	0.0
6.3	Unprotected Steel (to nearest tenth)	23.5

7.0 Inactive Service Lines Status:

7.1	Number of Inactive Service Lines Abandoned During the Year	112
7.2	Total number of Inactive Service Lines at Year End	1685

8.0 Unaccounted For Gas from Part E:

	Description	Percent (tenths)	Quantity (MMBTU)
8.1	Leaks	0.00%	0
8.2	Venting/Purging	0.06%	7,074
8.3	3rd Party Damages	0.05%	6,689
8.4	Meter Error, Accounting, Theft	4.66%	576,807
8.5			
8.6	Total Unaccounted For Gas	4.77%	590,571

Note 1: The Cathodically protected coated steel services figure does not include plastic services with protected steel risers that are also reported under plastic services.

Note 2: National Grid's DOT reports combine Wrought Iron with Cast Iron Pipe.

Note 3: This number signifies the services in the system whose material is unknown at this time.

Note 4: National Grid attempts to capture the facility information during leak initiation, but more than 50% leaks are marked as unknown because the facility can not be determined. Additionally, the open leaks that do have facility information are essentially a "best guess" based on field data and company records. Because of the low reliability for the accuracy of this data, we prefer to rely on repaired leaks for our integrity analyses. To provide the (revised) complete breakdown requested, National Grid utilized the breakdown of known open leaks by facility for each of the four reporting regions and applied that breakdown to the unknown population.

Eversource 2014 - Massachusetts DPU Addendum to Form RSPA F 7100.1-1

1.0	Steel Mains & Services from Part B 1:		
1.1	Total Miles of unprotected steel main (bare & coated)		734
1.2	Total Miles of Cathodically protected steel main (bare & coated)		377
1.3	Total Number of unprotected steel services		37801
1.4	Total Number of Cathodically protected steel services		19087
2.0	Total Miles of Mains in System at end of year from Part B 2:		
2.1	Steel		1111
2.2	Ductile Iron		0
2.3	Copper		0
2.4	Cast Iron		380
2.5	Wrought Iron		0
2.6	Plastic (all types)		1740
2.7	Other		0
2.8	Total Miles of Mains		3231
3.0	Total Number of Services in System at End of Year from Part B 3:		
3.1	Steel		56888
3.2	Ductile Iron		0
3.3	Copper		755
3.4	Cast Iron		8
3.5	Wrought Iron		0
3.6	Plastic (all types)		141124
3.7	Other		0
3.8	Total Number of Services		198775
4.0	Total Number of Leaks Eliminated/Repaired During the Year from Part C:		
4.1	Total for Mains		1058
4.2	Total for Services		1001
4.3	Total for Mains & Services		2059

5.0 Total Number of unrepaired Leaks in system at end of year:

		Grade 1	Grade 2A	Grade 2	Grade 3	Total
5.1	Total for Mains	0	NA	80	3501	3581
5.2	Total for Services	0	NA	9	388	397
5.3	Total for Mains & Services	0	NA	89	3889	3978

6.0	Total Miles of Main Abandoned During the Year	
6.1	Cast Iron eight inches in diameter or less (to nearest tenth)	8.1
6.2	Cast Iron greater than eight inches in diameter or less (to nearest tenth)	0.5
6.3	Unprotected Steel (to nearest tenth)	11.2
7.0	Inactive Service Lines Status	
7.1	Number of Inactive Service Lines Abandoned During the Year	149
7.2	Total number of Inactive Service Lines at Year End	1023

8.0 Unaccounted for Gas (FROM Part E)

When reporting Unaccounted for Gas, list the items your organization has identified for the loss of gas (theft, damages, venting, etc... add rows if needed) include the items associated values in both the Tenths and MMBTU columns.

8.1 Percent of Unaccounted For Gas (to nearest tenth)

Accounting, Metering, Theft	1.5%
Leakage	0.3%
Third Party Damage	0.1%
Company Use - Purging/Venting	0.0%
Percent of Unaccounted For Gas (to nearest tenth)	1.9%

8.2 Quantity of Unaccounted for Gas (MMBTU)

Accounting, Metering, Theft	994,528
Leakage	229,330
Third Party Damage	45,690
Company Use - Purging/Venting	21,795
Quantity of Unaccounted for Gas (MMBTU)	1,291,343

Massachusetts DPU Addendum to Form PHMSA F 7100.1-1 *(Revised 3/2015)*

Company Name: Fitchburg Gas and Electric Light Company (d.b.a Unitil) Date: 03/11/2015

1.0 Steel Mains and Services from Part B1:

	Description	Miles/Count
1.1	Total Miles of Unprotected Steel Main (Bare & Coated)	7.2
1.2	Total Miles of Cathodically Protected Steel Main (Bare & Coated)	123.6
1.3	Total Number of Unprotected Steel Services	3,068
1.4	Total Number of Cathodically Protected Steel Services	1,945

2.0 Total Miles of Main in System at End of Year from Part B2:

	Description	Miles
2.1	Steel	130.8
2.2	Ductile Iron	1.5
2.3	Copper	0.0
2.4	Cast Iron	60.4
2.5	Wrought Iron	0.5
2.6	Plastic (all types)	81.9
2.7	Other	0.0
2.8	Total Miles of Main	275.1

3.0 Total Number of Services in System at End of Year from Part B3:

	Description	Count
3.1	Steel	5,013
3.2	Ductile Iron	0
3.3	Copper	0
3.4	Cast Iron	0
3.5	Wrought Iron	0
3.6	Plastic (all types)	5,911
3.7	Other	0
3.8	Total Number of Services	10,924

4.0 Total Number of Leaks Eliminated/Repaired During the Year from Part C:

	Description	Count
4.1	Total for Mains	754
4.2	Total for Services	203
4.3	Total for Mains and Services	957

5.0 Total Number of Unrepaired Leaks in System at End of Year

		Grade 1	Grade 2A	Grade 2	Grade 3	Total
5.1	Total for Mains	0	2	0	109	111
5.2	Total for Services	0	0	0	0	0
5.3	Total for Mains and Services	0	2	0	109	111

6.0 Total Miles of Main Abandoned During the Year

	Description	Miles
6.1	Cast Iron 8" in Diameter or Less (to nearest tenth)	4.7
6.2	Cast Iron Greater than 8" in Diameter (to nearest tenth)	0.3
6.3	Unprotected Steel (to nearest tenth)	0.7
6.4	Other	0.5

7.0 Inactive Service Lines Status

	Description	Count
7.1	Number of Inactive Service Lines Abandoned During the Year	149
7.2	Total Number of Inactive Service Lines at Year End	112

8.0 Unaccounted For Gas (from Part E)

8.1 Percent Unaccounted for Gas (to nearest tenth)

	Description	Percent
	Meter Accuracy	0.17%
	Gas Leaks	0.01%
	Timing, Theft, liquid inventory, other	0.01%
	Total	0.19%

8.2 Quantity of Unaccounted for Gas (MMBTU)

	Description	MMBTU
	Meter Accuracy	5,697
	Gas Leaks	215
	Timing, Theft, liquid inventory, other	215
	Total	6,127

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Massachusetts D.P.U. Addendum to Form PHMSA F 7100.1-1 *(Revised 1/2013)*

Company Name: Holyoke Gas & Electric Date: 3/23/2015

1.0 Steel Mains & Services from Part B 1:

	Description	Miles
1.1	Total Miles of Unprotected Steel Main (Bare & Coated)	0
1.2	Total Miles of Cathodically Protected Steel Main (Bare & Coated)	98
1.3	Total Number of Unprotected Steel Services	2,061
1.4	Total Number of Cathodically Protected Steel Services	1,759

2.0 Total Miles of Mains in System at End of year from Part B 2:

	Description	Miles
2.1	Steel	98
2.2	Ductile Iron	0
2.3	Copper	0
2.4	Cast Iron	56
2.5	Wrought Iron	0
2.6	Plastic (all types)	31
2.7	Other	0
2.8	Total Miles of Mains	185

3.0 Total Number of Services in System at End of Year from Part B 3:

	Description	Count
3.1	Steel	3,820
3.2	Ductile Iron	0
3.3	Copper	12
3.4	Cast Iron	0
3.5	Wrought Iron	0
3.6	Plastic (all types)	4,065
3.7	Other	0
3.8	Total Number of Services	7,897

4.0 Total Number of Leaks Eliminated/Repaired During the Year from Part C:

	Description	Count
4.1	Total for Mains	49
4.2	Total for Services	26
4.3	Total for Mains & Services	75

5.0 Total Number of unrepaired Leaks in system at end of year

		Grade 1	Grade 2A	Grade 2	Grade 3	Total
5.1	Total for Mains	0	0	10	145	155
5.2	Total for Services	0	0	1	5	6
5.3	Total for Mains & Services	0	0	11	150	161

6.0 Total Miles of Main Abandoned/Replaced During the Year

	Description	Miles
6.1	Cast Iron eight inches in diameter or less (to nearest tenth)	0.7
6.2	Cast Iron greater than eight inches in diameter (to nearest tenth)	0.0
6.3	Unprotected Steel (to nearest tenth)	0.0
6.4	Other	0.3

7.0 Inactive Service Lines Status

	Description	Count
7.1	Number of Inactive Service Lines Abandoned During the Year	22
7.2	Total number of Inactive Service Lines at Year End	10

8.0 Unaccounted For Gas (from part E)

When reporting Unaccounted for Gas, list the items your organization has identified for the loss of gas (theft, damages, venting, etc...add rows if needed) include the items associated values in both the Tenths and MMBTU columns.

8.1 Percent Unaccounted for Gas (to nearest tenth)

	Description	Percent (tenths)
	ACCOUNTING, METERING, AND THEFT	1.9 %
	LEAKAGE*	0.9
	VENTING*	0.1
	*FROM PART 98 SUBPART W	
	METHODOLOGY TO ESTIMATE GREENHOUSE	
	GAS EMISSIONS.	
	Total	2.9 %

8.2 Quantity of Unaccounted for Gas (MMBTU)

	Description	MMBTU
	ACCOUNTING, METERING, AND THEFT	44,355
	LEAKAGE*	21,658
	VENTING*	3,315
	*FROM PART 98 SUBPART W	
	METHODOLOGY TO ESTIMATE GREENHOUSE	
	GAS EMISSIONS.	
	Total	69,328

3/23/15

Daniel J. Smith
Senior Gas Engineer

The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

Massachusetts D.P.U. Addendum to Form PHMSA F 7100.1-1 *(Revised 1/2013)*

Company Name: Middleborough Gas & Electric Department Date: March 13, 2015

1.0 Steel Mains & Services from Part B 1:

	Description	Miles
1.1	Total Miles of Unprotected Steel Main (Bare & Coated)	1.824
1.2	Total Miles of Cathodically Protected Steel Main (Bare & Coated)	20.591
1.3	Total Number of Unprotected Steel Services	256
1.4	Total Number of Cathodically Protected Steel Services	262

2.0 Total Miles of Mains in System at End of year from Part B 2:

	Description	Miles
2.1	Steel	22.414
2.2	Ductile Iron	0
2.3	Copper	0
2.4	Cast Iron	9.122
2.5	Wrought Iron	0
2.6	Plastic (all types)	71.696
2.7	Other	0
2.8	Total Miles of Mains	103.232

3.0 Total Number of Services in System at End of Year from Part B 3:

	Description	Count
3.1	Steel	518
3.2	Ductile Iron	0
3.3	Copper	0
3.4	Cast Iron	0
3.5	Wrought Iron	0
3.6	Plastic (all types)	4,067
3.7	Other	0
3.8	Total Number of Services	4,585

4.0 Total Number of Leaks Eliminated/Repaired During the Year from Part C:

	Description	Count
4.1	Total for Mains	8
4.2	Total for Services	69
4.3	Total for Mains & Services	77

5.0 Total Number of unrepaired Leaks in system at end of year

		Grade 1	Grade 2A	Grade 2	Grade 3	Total
5.1	Total for Mains	0	0	0	0	0
5.2	Total for Services	0	0	0	0	0
5.3	Total for Mains & Services	0	0	0	0	0

6.0 Total Miles of Main Abandoned/Replaced During the Year

	Description	Miles
6.1	Cast Iron eight inches in diameter or less (to nearest tenth)	0.6
6.2	Cast Iron greater than eight inches in diameter (to nearest tenth)	0
6.3	Unprotected Steel (to nearest tenth)	0.1
6.4	Other	0

7.0 Inactive Service Lines Status

	Description	Count
7.1	Number of Inactive Service Lines Abandoned During the Year	5
7.2	Total number of Inactive Service Lines at Year End	95

8.0 Unaccounted For Gas (from part E)

When reporting Unaccounted for Gas, list the items your organization has identified for the loss of gas (theft, damages, venting, etc...add rows if needed) include the items associated values in both the Tenths and MMBTU columns.

8.1 Percent Unaccounted for Gas (to nearest tenth)

	Description	Percent (tenths)
	Third Party Damage	.000
	Venting (Abandoned Pipe & LNG)	.003
	Purging of NEW Mains	.000
	Leakage	.031
	Company Use	.136
	Accounting/Metering	.856
	Theft	.000
	Total	1.027

8.2 Quantity of Unaccounted for Gas (MMBTU)

	Description	MMBTU
	Third Party Damage	0
	Venting (Abandoned Pipe & LNG)	(28)
	Purging of NEW Mains	(1)
	Leakage	(300)
	Company Use	(1,324)
	Accounting/Metering	(8,316)
	Theft	0
	Total	(9,969)

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Massachusetts D.P.U. Addendum to Form PHMSA F 7100.1-1 *(Revised 1/2013)*

Company Name: Wakefield Municipal Gas & Light Department Date: March 6, 2015

1.0 Steel Mains & Services from Part B 1:

	Description	Miles
1.1	Total Miles of Unprotected Steel Main (Bare & Coated)	30.8
1.2	Total Miles of Cathodically Protected Steel Main (Bare & Coated)	4.4
1.3	Total Number of Unprotected Steel Services	1395
1.4	Total Number of Cathodically Protected Steel Services	446

2.0 Total Miles of Mains in System at End of year from Part B 2:

	Description	Miles
2.1	Steel	35.2
2.2	Ductile Iron	0
2.3	Copper	0
2.4	Cast Iron	1.8
2.5	Wrought Iron	0
2.6	Plastic (all types)	47.7
2.7	Other	0
2.8	Total Miles of Mains	84.7

3.0 Total Number of Services in System at End of Year from Part B 3:

	Description	Count
3.1	Steel	1841
3.2	Ductile Iron	0
3.3	Copper	0
3.4	Cast Iron	0
3.5	Wrought Iron	0
3.6	Plastic (all types)	3284
3.7	Other	0
3.8	Total Number of Services	5125

4.0 Total Number of Leaks Eliminated/Repaired During the Year from Part C:

	Description	Count
4.1	Total for Mains	43
4.2	Total for Services	19
4.3	Total for Mains & Services	62

5.0 Total Number of unrepaired Leaks in system at end of year

		Grade 1	Grade 2A	Grade 2	Grade 3	Total
5.1	Total for Mains	0	0	88	72	160
5.2	Total for Services	0	0	2	0	2
5.3	Total for Mains & Services	0	0	90	55	162

6.0 Total Miles of Main Abandoned During the Year

	Description	Miles
6.1	Cast Iron eight inches in diameter or less (to nearest tenth)	0
6.2	Cast Iron greater than eight inches in diameter (to nearest tenth)	0
6.3	Unprotected Steel (to nearest tenth)	

7.0 Inactive Service Lines Status

	Description	Count
7.1	Number of Inactive Service Lines Abandoned During the Year	0
7.2	Total number of Inactive Service Lines at Year End	0

8.0 Unaccounted For Gas (from part E)

When reporting Unaccounted for Gas, list the items your organization has identified for the loss of gas (theft, damages, venting, etc…add rows if needed) include the items associated values in both the Tenths and MMBTU columns.

8.1 Percent Unaccounted for Gas (to nearest tenth)

	Description	Percent (tenths)
	Third Party Damage	0.00
	Venting/Purging (New and Old Pipe)	0.02
	Leakage	0.81
	Accounting/Metering	3.32
	Total	4.15

8.2 Quantity of Unaccounted for Gas (MMBTU)

	Description	MMBTU
	Third Party Damage	592
	Venting/Purging (New and Old Pipe)	20
	Leakage	4,966
	Accounting/Metering	20,616
	Total	26,194
	Total	

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Massachusetts D.P.U. Addendum to Form PHMSA F 7100.1-1 *(Revised 1/2013)*

Company Name: Westfield Gas & Electric Light Department Date: 3/1/2015

1.0 Steel Mains & Services from Part B 1:

	Description	Miles
1.1	Total Miles of Unprotected Steel Main (Bare & Coated)	
1.2	Total Miles of Cathodically Protected Steel Main (Bare & Coated)	56.817
1.3	Total Number of Unprotected Steel Services	1378
1.4	Total Number of Cathodically Protected Steel Services	284

2.0 Total Miles of Mains in System at End of year from Part B 2:

	Description	Miles
2.1	Steel	56.817
2.2	Ductile Iron	
2.3	Copper	
2.4	Cast Iron	38.317
2.5	Wrought Iron	
2.6	Plastic (all types)	112.512
2.7	Other	
2.8	Total Miles of Mains	207.646

3.0 Total Number of Services in System at End of Year from Part B 3:

	Description	Count
3.1	Steel	1662
3.2	Ductile Iron	
3.3	Copper	
3.4	Cast Iron	1
3.5	Wrought Iron	
3.6	Plastic (all types)	6830
3.7	Other	
3.8	Total Number of Services	8,493

4.0 Total Number of Leaks Eliminated/Repaired During the Year from Part C:

	Description	Count
4.1	Total for Mains	50
4.2	Total for Services	17
4.3	Total for Mains & Services	

5.0 Total Number of unrepaired Leaks in system at end of year

		Grade 1	Grade 2A	Grade 2	Grade 3	Total
5.1	Total for Mains			2	161	
5.2	Total for Services				6	
5.3	Total for Mains & Services			2	167	169

6.0 Total Miles of Main Abandoned During the Year

	Description	Miles
6.1	Cast Iron eight inches in diameter or less (to nearest tenth)	1.5
6.2	Cast Iron greater than eight inches in diameter (to nearest tenth)	.4
6.3	Unprotected Steel (to nearest tenth)	

7.0 Inactive Service Lines Status

	Description	Count
7.1	Number of Inactive Service Lines Abandoned During the Year	3
7.2	Total number of Inactive Service Lines at Year End	19

8.0 Unaccounted For Gas (from part E)

When reporting Unaccounted for Gas, list the items your organization has identified for the loss of gas (theft, damages, venting, etc…add rows if needed) include the items associated values in both the Tenths and MMBTU columns.

8.1 Percent Unaccounted for Gas (to nearest tenth)

	Description	Percent (tenths)
	Difference between sendout and sales	1.2
	Venting (pipe abandonments and installations)	<.1
	Total	1.2%

8.2 Quantity of Unaccounted for Gas (MMBTU)

	Description	MMBTU
	Difference between sendout and sales	20,981
	Venting (pipe abandonments and installations)	23.1
	Total	21,004