MONTANA-DAKOTA
UTILITIES CO.
A Division of MDU Resources Group, Inc.

400 North Fourth Street
Bismarck, ND 58501
(701) 222-7900

December 28, 2012

Mr. Robert Nelson
Montana Consumer Counsel
111 North Last Chance Gulch, Suite 1B
PO Box 201703
Helena, MT 59620-1703

Re: General Gas Rate Application
Docket No. D2012.9.100

Dear Mr. Nelson:

Montana-Dakota Utilities Co. electronically submits its responses to the Montana Consumer Counsel's data requests dated November 30, 2012. Responses to the following requests are attached:

MCC-006	MCC-112
MCC-007	MCC-113
MCC-073	MCC-114
MCC-098	MCC-115
MCC-102	MCC-116
MCC-105	MCC-117
MCC-106	MCC-118
MCC-110	MCC-120

Sincerely,

Tamie A. Aberle
Director of Regulatory Affairs

Attachments
cc: Service List

Montana-Dakota Utilities Co.
Docket No. D2012.9.100
Service List

Ms. Kate Whitney, Administrator
Utility Division
Montana Public Service Commission
1701 Prospect Avenue
PO Box 202601
Helena, MT 59620-2601
kwhitney@mt.gov

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Montana Consumer Counsel
111 North Last Chance Gulch, Suite 1B
PO Box 201703
Helena, MT 59620-1703
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John Alke
40 West Lawrence, Suite A
PO Box 1166
Helena, MT 59624-1166
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Albert E. Clark
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1601 N Kent Ste. 1104
Arlington, VA 22209
john@jwwa.com

MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED NOVEMBER 30, 2012
DOCKET NO. D2012.9.100

MCC-006 RE: Adjustment No. 3 - Annualization Revenues
Witness – Mulkern

The testimony (page 5, lines 5 - 6) indicates this adjustment reflects the annualization of firm customers to the December 2011 level.

a. Does this mean that the adjustment uses the number of customers at the end of the test year and attempts to measure what the consumption would have been if that year-end level of customers had been in place throughout the year? If not, provide additional explanation as to the purpose of this adjustment.

b. Given the referenced testimony why are small interruptible sales and small and large interruptible transportation customers also adjusted?

Response:

a. Yes.

b. Transportation volumes and revenue were not annualized as the level of customers remained stable through 2011.

MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED NOVEMBER 30, 2012
DOCKET NO. D2012.9.100

MCC-007 **RE: Adjustment No. 3 - Annualization Revenues**
Witness - Mulkern

a. Provide a schedule that shows the actual number of customers and consumption, by month, for each month from January 2011 through the most recent month available for each of the four classes of sales customers shown on Rule 38.5.164, Statement H, page 5 of 7.

b. Provide a schedule that shows the actual number of customers and consumption, by month, for each month from January 2011 through the most recent month available for each of the classes of transportation customers shown on Rule 38.5.164, Statement H, page 5 of 7.

c. Provide all work papers, analyses, memos and other documentation that support the dekatherms and revenues columns under "Annualized Dk" as shown on Rule 38.5.164, Statement H, page 5 of 7.

Response:

a. Please see Attachment A, page 1. The monthly customer numbers represent the average effective customers billed each month.

b. Please see Attachment A, page 2.

c. Please see the Statement and Exhibit Workpapers, Statement H, pages 4 through 18.

MONTANA-DAKOTA UTILITIES CO.
GAS UTILITY - MONTANA
MCC - 007 Attachment A
Sales Customers and Consumption
January 2011 through November 2012

	Residential (Rate 60)		Firm General (Rates 70 & 72)		Small Interruptible (Rate 71)	
	Customers	Consumption	Customers	Consumption	Customers	Consumption
January 2011	72,160	1,107,037.4	9,033	686,399.4	7	3,901.1
February	70,353	966,195.7	8,726	594,775.5	8	10,422.2
March	72,896	1,077,823.6	9,061	650,507.6	8	8,121.8
April	68,831	604,424.5	8,532	362,774.1	8	4,698.8
May	66,324	424,329.2	8,194	242,678.1	8	13,339.2
June	74,868	281,412.4	9,262	150,101.4	7	10,567.4
July	65,806	128,358.0	8,170	85,081.7	7	7,162.7
August	73,173	116,562.4	8,983	76,103.2	7	139,945.6
September	71,004	118,715.4	8,860	87,264.0	8	57,146.5
October	66,998	168,587.4	8,277	101,515.6	8	9,286.1
November	65,443	432,902.7	8,124	264,125.1	13	5,354.9
December	72,328	841,778.2	8,947	513,639.3	13	8,498.4
January 2012	72,479	865,483.6	9,065	532,566.2	13	9,470.9
February	69,314	860,741.1	8,685	521,841.3	13	11,578.4
March	73,388	810,342.8	9,185	479,524.5	13	9,324.6
April	69,162	390,688.7	8,600	234,293.2	13	6,486.4
May	70,062	305,093.0	8,716	169,947.3	13	9,186.9
June	72,691	207,925.5	9,161	119,512.6	14	38,959.9
July	68,976	117,637.4	8,648	76,512.3	14	23,323.5
August	73,878	108,166.5	9,295	72,849.4	14	125,147.5
September	66,905	102,224.6	8,282	69,178.7	14	30,295.3
October	71,970	221,115.6	8,980	146,082.2	15	3,867.6
November	66,563	477,074.4	8,335	297,434.0	15	9,830.7

Customers taking service under Large Interruptible Sales are also Large Interruptible Transportation customers. Sales are included in Large Interruptible Transportation.

MONTANA-DAKOTA UTILITIES CO.
GAS UTILITY - MONTANA
MCC - 007 Attachment A
Transportation Customers and Consumption
January 2011 through November 2012

	Small Interruptible (Rate 81)		Large Interruptible (Rate 82)		
	Customers	Consumption	Customers	Consumption	
January 2011	36	81,697.6	5	517,196.7	1/
February	36	83,712.4	5	513,318.2	1/
March	36	85,328.2	5	388,287.5	1/
April	36	73,234.1	5	338,893.6	1/
May	36	57,675.5	5	330,525.2	1/
June	36	56,349.3	5	347,438.5	
July	36	44,569.1	5	308,522.8	
August	36	39,579.6	5	266,470.1	
September	36	39,826.9	5	337,272.0	
October	36	40,736.7	5	404,589.8	
November	31	56,542.2	5	452,704.1	
December	31	68,957.8	5	432,630.2	
January 2012	31	70,357.3	5	451,085.9	
February	31	69,592.4	5	440,797.7	
March	31	65,503.3	5	350,140.1	
April	31	51,305.7	5	319,438.3	
May	31	52,081.4	5	379,123.1	
June	31	52,548.8	5	327,286.6	
July	31	39,108.1	5	388,170.6	
August	31	36,931.6	5	352,613.4	
September	31	41,276.0	5	360,559.8	
October	31	44,619.6	5	379,709.9	1/
November	31	59,953.7	5	397,212.1	

1/ Includes Large Interruptible Sales under Rate 85.

MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED NOVEMBER 30, 2012
DOCKET NO. D2012.9.100

MCC-073 RE: Conservation by Customers
Witness: David L. Goodin

In reference to your testimony at page 7, lines 3-6: Is the 94 dk amount weather normalized? If not, please provide the equivalent weather normalized amount for that year.

Response:

The referenced 94 Dk represents normalized average use for a residential customer based on the analysis provided in Docket No. 2005.9.148. The testimony should have referenced normalized average use of 95.5 Dk for a residential customer as authorized in Docket D2004.4.50.

MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED NOVEMBER 30, 2012
DOCKET NO. D2012.9.100

MCC-098 RE: Small and Large Interruptible Customers
Witness: Tamie A. Aberle

Please specify the dates and hours during which small interruptible customers and large interruptible customers have been interrupted during the past three years.

Response:

Please see Attachment A for a list of customers interrupted in the past three years.

MONTANA-DAKOTA UTILITIES CO.
GAS UTILITY - MONTANA
SMALL & LARGE INTERRRUPTIBLE CUSTOMER CURTAILMENTS
2009 - 2011 HEATING SEASONS

Date of Curtailment	Rate	Customer Number	Dk Curtailed
4/11/09	81	267	13
4/11/09	81	270	27
4/11/09 Total		2	40
5/31/09	81	141	41
5/31/09 Total		1	41
2/24/11	81	253	150
2/24/11	81	254	150
2/24/11	81	245	100
2/24/11 Total		3	400
1/1/09	81	44	125
1/1/09 Total		1	125
2/2/09	81	219	30
2/2/09 Total		1	30
12/11/09	82	2	76

MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED NOVEMBER 30, 2012
DOCKET NO. D2012.9.100

MCC-102 RE: Global Insight
Witness: Tamie A. Aberle

Please provide a copy of Global Insight documents used as sources for the Adjustment Indexes as referenced in footnotes of pages 13, 22 and 23 of Exhibit No.__(TAA-3).

Response:

The source document is information that may not be reproduced. The source document can be made available at the on-site audit scheduled to begin January 9, 2013.

MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED NOVEMBER 30, 2012
DOCKET NO. D2012.9.100

MCC-105 RE: Statement L
Witness: Tamie A. Aberle

Please state MDU's Total Montana peak day gas sendout, in Mcf and Dkt, and the month and date of such sendout, in each calendar year during 2002 through 2011.

Response:

The total Montana peak day gas sendout for the years 2006 through 2011 is provided below. Daily volume records are no longer available prior to calendar year 2006.

Year	Date	Mcf	DK
2006	2/17/2006	94,120	98,365
2007	1/11/2007	88,393	92,400
2008	12/15/2008	100,726	102,195
2009	12/14/2009	103,499	104,194
2010	1/7/2010	100,542	102,332
2011	1/31/2011	101,822	105,324

MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED NOVEMBER 30, 2012
DOCKET NO. D2012.9.100

MCC-106 RE: Statement L
Witness: Tamie A. Aberle

For Total Montana and for each class shown at Statement L, Schedule L-3, please provide the actual peak day sendout quantities in each year for calendar years 2009, 2010, and 2011, for the following class allocators:

a. 1-Day Peak

b. Peak Day @ Distribution

Response:
Please see the table below for the calendar year peak day deliveries-DK for calendar years 2009-2011. In preparing the information for this data response it was discovered that the original calendar year peak day deliveries was incorrect and understated as originally filed. Please see Attachment A for the revised Allocation Factor No. 2, 1-Day Peak and Allocation Factor No. 5, Peak Day @ Distribution.

	Montana 2009	Montana 2010	Montana 2011
Sales	91,032	86,111	89,659
Transport	12,929	16,348	15,665
Total	103,961	102,459	105,324

Factor No.	Description	Total Montana	Residential Demand	Small Firm General Demand	Large Firm General Demand	Small Interruptible Demand	Large Interruptible Demand
		93,245	48,732	10,098	20,435	2,479	11,501
2	1-Day Peak	100.000000%	52.262320%	10.829535%	21.915384%	2.658588%	12.334173%
	Revised	103,428	54,992	11,396	23,060	2,479	11,501
2	1-Day Peak	100.000000%	53.169355%	11.018293%	22.295703%	2.396836%	11.119813%
		85,504	48,225	10,068	20,290	2,007	4,914
5	Peak Day @ Distribution	100.000000%	56.400870%	11.774888%	23.729884%	2.347259%	5.747100%
	Revised	95,687	54,485	11,366	22,915	2,007	4,914
5	Peak Day @ Distribution	100.000000%	56.940859%	11.878312%	23.947872%	2.097464%	5.135494%

MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED NOVEMBER 30, 2012
DOCKET NO. D2012.9.100

MCC-110 RE: Allocation of Distribution Mains
Witness: Tamie A. Aberle

In your testimony at page 6, lines 15-22, you state that in this case, investment in distribution mains has been assigned solely as a demand component. Have you considered allocating distribution mains costs on the basis of a combination of demand and energy? Please fully explain your response.

Response:

Distribution main investment is not a variable cost that increases or decreases as more or less gas is used and therefore it is not appropriate to assign mains to the energy component.

MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED NOVEMBER 30, 2012
DOCKET NO. D2012.9.100

MCC-112 RE: Production-Related Marginal Costs
Witness: Tamie A. Aberle

Please provide copies of the source documents for the investment adjustment to 1/1/2014 (Handy Whitman S.N.G Equip) and for the O&M Adj to 1/1/2014, as shown on page 5 of 28 of Exhibit No.__(TAA-3).

Response:

The source documents are copyrighted and information that may not reproduced. The source documents can be made available at the on-site audit scheduled to begin January 9, 2013.

MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED NOVEMBER 30, 2012
DOCKET NO. D2012.9.100

MCC-113 **RE: Distribution Plant Additions**
Witness: Tamie A. Aberle

Please provide all documents, work papers and analysis supporting the nine projects listed on page 7 of 28 of Exhibit No.___(TAA-3). Please also include the calculation and supporting documents of the adjustment used to restate Investment in Gas Distribution System as indicated in the footnote.

Response:

Please see Attachment A.

TWIN COULEE SUBDIVISION - W.O. #159243 (EXTEND 740' OF 4" MAIN)

Account Number	Account Description	General Ledger	Balance
B32630G.0110.71	Straight Time		8,631.96
	Total Object Account		8,631.96
B32630G.0120.71	Premium Time		1,625.59
	Total Object Account		1,625.59
B32630G.0131.71	Bonuses		320.97
	Total Object Account		320.97
B32630G.0150.71	Taxable Meals		72
	Total Object Account		72
B32630G.0191.71	Payroll Taxes		807.71
	Total Object Account		807.71
B32630G.0192.71	Benefits		2,071.75
	Total Object Account		2,071.75
B32630G.0211.72	Subcontract Labor/Mat'l		491.8
	Total Object Account		491.8
B32630G.0310.73	Direct Purchases		6.98
	Total Object Account		6.98
B32630G.0321.73761001	Plastic Pipe 1.25"		1,307.32
B32630G.0321.73761002	Plastic Pipe 2"		3,564.91
B32630G.0321.73761004	Plastic Pipe 4"		1,670.13
	Total Object Account		6,542.36
B32630G.0410.74	Company Vehicle Use(MI)		3,509.95
	Total Object Account		3,509.95
B32630G.0421.74	Co. Work Equip. Use(HR)		2,721.80
	Total Object Account		2,721.80
B32630G.0521.75	Meals & Entertainment		327.89
	Total Object Account		327.89
B32630G.0522.75	Other Reimburseable Exp		894.96
	Total Object Account		894.96
B32630G.0941.79	Billable Proj-Other		-14,180.63
	Total Object Account		-14,180.63
B32630G.0991.78	Engineering & Supervision		1,103.46
	Total Object Account		1,103.46
B32630G.0992.78	General & Administrative OH		292.14
	Total Object Account		292.14
B32630G.0999.79	CWIP Clearing		-15,240.69
	Total Object Account		-15,240.69
B32630G.2520.000	Customer Advances-Balance		-15,861.00
	Total Object Account		-15,861.00
	Total Business Unit		-15,861.00
	Total Subledger00159243 W		-15,861.00

Pipe Flow Calculation: Twin Coulee Subdivision

Calculation Data...

Pipe Size/Type: 2P-S11
Length: 740 Feet
Efficiency: 0.95 Decimal
Flow: 89 Mcfd

Inside Diameter: 1.917 Inches

FLOW OF 4" MAIN – FLOW OF 2" MAIN
504 MCFD – 89 MCFD = 415 MCFD

Flow Equation: IGT-Improved

	Inlet (Upstream) Values...	Outlet (Downstream) Values...
Pressure:	55.00 Psi	54.75 Psi
Elevation:	3000 Feet	3000 Feet
Temperature:	60.0 Fahrenheit	60.0 Fahrenheit

No Fittings Are Attached

Heat Loss Or Gain Calculation Method: None

Linear Pressure Drop: 0.25 Psi
Average Pressure: 54.88 Psi
Average Compressibility: 1.000000
Line Volume At Average Pressure: 0.1 Mcf
Average Flow Velocity: 10 Feet/sec

Calculation Method: None

Gas Properties...

Base Pressure: 13.10 Psi

Base Temperature: 60.0 Fahrenheit

Viscosity: 0.0000070 Lbm/ft-sec
Specific Gravity: 0.600
Ratio Of Specific Heats: 1.30

Assigned Gas Properties File: None

Calculation Notes...

These calculations are only valid within the applicability of the selected flow equation.

The Flow value was calculated.

References:
Flow Equation - Gas Age Magazine, May 1967, Gas Behavior In Distribution Systems
Compressibility - No Reference Available.

Notes:
W.O. #159243 - 2" main would adequately supply immediate area but we installed 4" main to prov ide a future loop in the west end system.

GASCalc 4.0 Revision: 030 - December 19, 2001

Date: 9/10/2012

Pipe Flow Calculation: Twin Coulee Subdivision

Calculation Data...

Pipe Size/Type: 4P-S11.5
Length: 740 Feet
Efficiency: 0.95 Decimal
Flow: 504 Mcfd

Inside Diameter: 3.670 Inches

Flow Equation: IGT-Improved

	Inlet (Upstream) Values...	Outlet (Downstream) Values...
Pressure:	55.00 Psi	54.75 Psi
Elevation:	3000 Feet	3000 Feet
Temperature:	60.0 Fahrenheit	60.0 Fahrenheit

No Fittings Are Attached

Heat Loss Or Gain Calculation Method: None

Linear Pressure Drop: 0.25 Psi
Average Pressure: 54.88 Psi
Average Compressibility: 1.000000
Line Volume At Average Pressure: 0.3 Mcf
Average Flow Velocity: 15 Feet/sec

Calculation Method: None

Gas Properties...

Base Pressure: 13.10 Psi

Base Temperature: 60.0 Fahrenheit

Viscosity: 0.0000070 Lbm/ft-sec
Specific Gravity: 0.600
Ratio Of Specific Heats: 1.30

Assigned Gas Properties File: None

Calculation Notes...

These calculations are only valid within the applicability of the selected flow equation.

The Flow value was calculated.

References:
Flow Equation - Gas Age Magazine, May 1967, Gas Behavior In Distribution Systems
Compressibility - No Reference Available.

Notes:
W.O. #159243 - 2" main would adequately supply immediate area but we installed 4" main to prov ide a future loop in the west end system.

GASCalc 4.0 Revision: 030 - December 19, 2001

Date: 9/10/2012

HILLBROOK SUBDIVISION - W.O. 156962 (EXTEND 2700' OF 4" MAIN)

Account Number	Account Description	General Ledger	Balance
B54130G.0110.71	Straight Time		3,180.46
	Total Object Account		3,180.46
B54130G.0120.71	Premium Time		267.37
	Total Object Account		267.37
B54130G.0131.71	Bonuses		783.09
	Total Object Account		783.09
B54130G.0150.71	Taxable Meals		49.5
	Total Object Account		49.5
B54130G.0191.71	Payroll Taxes		309.89
	Total Object Account		309.89
B54130G.0192.71	Benefits		770.2
	Total Object Account		770.2
B54130G.0211.72	Subcontract Labor/Mat'l		750
	Total Object Account		750
B54130G.0310.73	Direct Purchases		250.71
	Total Object Account		250.71
B54130G.0321.73761001	Plastic Pipe 1.25"		162.8
B54130G.0321.73761002	Plastic Pipe 2"		60.85
B54130G.0321.73761004	Plastic Pipe 4"		5,508.41
	Total Object Account		5,732.06
B54130G.0410.74	Company Vehicle Use(MI)		1,809.28
	Total Object Account		1,809.28
B54130G.0421.74	Co. Work Equip. Use(HR)		431
	Total Object Account		431
B54130G.0521.75	Meals & Entertainment		19.99
	Total Object Account		19.99
B54130G.0522.75	Other Reimburseable Exp		353.1
	Total Object Account		353.1
B54130G.0913.75	Permits/Filing Fee,Dues&Licen		89
	Total Object Account		89
B54130G.0946.79	Contrib Aiding Const(CIAC)		-3,342.49
	Total Object Account		-3,342.49
B54130G.0991.78	Engineering & Supervision		1,413.32
	Total Object Account		1,413.32
B54130G.0992.78	General & Administrative OH		291.57
	Total Object Account		291.57
B54130G.0999.79	CWIP Clearing		-13,158.05
	Total Object Account		-13,158.05
B54130G.2520.000	Customer Advances-Balance		
B54130G.2520.300	Customer Advances-Forfeitre		
	Total Object Account		
	Total Business Unit		
	Total Subledger00156962 W		

Pipe Flow Calculation: Hillbrook Subdivision

Calculation Data...

Pipe Size/Type: 2P-S11
Length: 2700 Feet
Efficiency: 0.95 Decimal
Flow: 137 Mcfd

Inside Diameter: 1.917 Inches

775 MCFD (4") − 137 MCFD (2") = 638 MCFD

Flow Equation: IGT-Improved

	Inlet (Upstream) Values...	Outlet (Downstream) Values...
Pressure:	55.00 Psi	53 Psi
Elevation:	3000 Feet	3000 Feet
Temperature:	60.0 Fahrenheit	60.0 Fahrenheit

No Fittings Are Attached

Heat Loss Or Gain Calculation Method: None

Linear Pressure Drop: 2.00 Psi
Average Pressure: 54.00 Psi
Average Compressibility: 1.000000
Line Volume At Average Pressure: 0.3 Mcf
Average Flow Velocity: 15 Feet/sec

Calculation Method: None

Gas Properties...

Base Pressure: 13.10 Psi

Base Temperature: 60.0 Fahrenheit

Viscosity: 0.0000070 Lbm/ft-sec
Specific Gravity: 0.600
Ratio Of Specific Heats: 1.30

Assigned Gas Properties File: None

Calculation Notes...

These calculations are only valid within the applicability of the selected flow equation.

The Flow value was calculated.

References:
Flow Equation - Gas Age Magazine, May 1967, Gas Behavior In Distribution Systems
Compressibility - No Reference Available.

Notes:
W.O. #156962
This subdivision could immediately be served with a 2" main extension but for future capacity, we i nstalled 4" main since it is on the far extremities of our system.

GASCalc 4.0 Revision: 030 - December 19, 2001

Date: 9/10/2012

Pipe Flow Calculation: Hillbrook Subdivision

Calculation Data...

Pipe Size/Type: 4P-S11.5
Length: 2700 Feet
Efficiency: 0.95 Decimal
Flow: 775 Mcfd

Inside Diameter: 3.670 Inches

Flow Equation: IGT-Improved

	Inlet (Upstream) Values...	Outlet (Downstream) Values...
Pressure:	55.00 Psi	53 Psi
Elevation:	3000 Feet	3000 Feet
Temperature:	60.0 Fahrenheit	60.0 Fahrenheit

No Fittings Are Attached

Heat Loss Or Gain Calculation Method: None

Linear Pressure Drop: 2.00 Psi
Average Pressure: 54.00 Psi
Average Compressibility: 1.000000
Line Volume At Average Pressure: 1.0 Mcf
Average Flow Velocity: 24 Feet/sec

Calculation Method: None

Gas Properties...

Base Pressure: 13.10 Psi

Base Temperature: 60.0 Fahrenheit

Viscosity: 0.0000070 Lbm/ft-sec
Specific Gravity: 0.600
Ratio Of Specific Heats: 1.30

Assigned Gas Properties File: None

Calculation Notes...

These calculations are only valid within the applicability of the selected flow equation.

The Flow value was calculated.

References:
Flow Equation - Gas Age Magazine, May 1967, Gas Behavior In Distribution Systems
Compressibility - No Reference Available.

Notes:
W.O. #156962
This subdivision could immediately be served with a 2" main extension but for future capacity, we i nstalled 4" main since it is on the far extremities of our system.

GASCalc 4.0 Revision: 030 - December 19, 2001

Date: 9/10/2012

3

GRANITE PARK SUBDIVISION - W.O. #179452 (1333' OF 4" MAIN)

Account Number	Account Description	General Ledger	Balance
B32630G.0110.71	Straight Time		7,756.12
	Total Object Account		7,756.12
B32630G.0120.71	Premium Time		1,589.23
	Total Object Account		1,589.23
B32630G.0131.71	Bonuses		630.78
	Total Object Account		630.78
B32630G.0191.71	Payroll Taxes		733.97
	Total Object Account		733.97
B32630G.0192.71	Benefits		2,248.00
	Total Object Account		2,248.00
B32630G.0321.73	Issues/Returns		4,632.99
	Total Object Account		4,632.99
B32630G.0410.74	Company Vehicle Use(MI)		930.55
	Total Object Account		930.55
B32630G.0421.74	Co. Work Equip. Use(HR)		3,331.00
	Total Object Account		3,331.00
B32630G.0941.79	Billable Proj-Other		-4,551.83
	Total Object Account		-4,551.83
B32630G.0991.78	Engineering & Supervision		1,942.87
	Total Object Account		1,942.87
B32630G.0992.78	General & Administrative OH		375.43
	Total Object Account		375.43
B32630G.0999.79	CWIP Clearing		-19,619.11
	Total Object Account		-19,619.11
B32630G.2520.000	Customer Advances-Balance		-12,193.38
B32630G.2520.100	Customer Advances-Additions		
	Total Object Account		-12,193.38
	Total Business Unit		-12,193.38
	Total Subledger00179452 W		-12,193.38

Pipe Flow Calculation: Granite Park Subdivision

Calculation Data...

Pipe Size/Type: 2P-S11
Length: 1350 Feet
Efficiency: 0.95 Decimal
Flow: 172 Mcfd

Inside Diameter: 1.917 Inches

972 MCFD - 172 MCFD = 800 MCFD
(4") (2")

Flow Equation: IGT-Improved

	Inlet (Upstream) Values...	Outlet (Downstream) Values...
Pressure:	55.00 Psi	53.5 Psi
Elevation:	3000 Feet	3000 Feet
Temperature:	60.0 Fahrenheit	60.0 Fahrenheit

No Fittings Are Attached

Heat Loss Or Gain Calculation Method: None

Linear Pressure Drop: 1.50 Psi
Average Pressure: 54.25 Psi
Average Compressibility: 1.000000
Line Volume At Average Pressure: 0.1 Mcf
Average Flow Velocity: 19 Feet/sec

Calculation Method: None

Gas Properties...

Base Pressure: 13.10 Psi

Base Temperature: 60.0 Fahrenheit

Viscosity: 0.0000070 Lbm/ft-sec
Specific Gravity: 0.600
Ratio Of Specific Heats: 1.30

Assigned Gas Properties File: None

Calculation Notes...

These calculations are only valid within the applicability of the selected flow equation.

The Flow value was calculated.

References:
Flow Equation - Gas Age Magazine, May 1967, Gas Behavior In Distribution Systems
Compressibility - No Reference Available.

Notes:
W.O. #179452
This subdivision could immediately be served with a 2" main extension but for future capacity, we i nstalled 4" main since it is on the far extremities of our system.

GASCalc 4.0 Revision: 030 - December 19, 2001

Date: 9/10/2012

Pipe Flow Calculation: Granite Park Subdivision

Calculation Data...

Pipe Size/Type: 4P-S11.5
Length: 1350 Feet
Efficiency: 0.95 Decimal
Flow: 972 Mcfd

Inside Diameter: 3.670 Inches

Flow Equation: IGT-Improved

	Inlet (Upstream) Values...	Outlet (Downstream) Values...
Pressure:	55.00 Psi	53.5 Psi
Elevation:	3000 Feet	3000 Feet
Temperature:	60.0 Fahrenheit	60.0 Fahrenheit

No Fittings Are Attached

Heat Loss Or Gain Calculation Method: None

Linear Pressure Drop: 1.50 Psi
Average Pressure: 54.25 Psi
Average Compressibility: 1.000000
Line Volume At Average Pressure: 0.5 Mcf
Average Flow Velocity: 30 Feet/sec

Calculation Method: None

Gas Properties...

Base Pressure: 13.10 Psi

Base Temperature: 60.0 Fahrenheit

Viscosity: 0.0000070 Lbm/ft-sec
Specific Gravity: 0.600
Ratio Of Specific Heats: 1.30

Assigned Gas Properties File: None

Calculation Notes...

These calculations are only valid within the applicability of the selected flow equation.

The Flow value was calculated.

References:
Flow Equation - Gas Age Magazine, May 1967, Gas Behavior In Distribution Systems
Compressibility - No Reference Available.

Notes:
W.O. #179452
This subdivision could immediately be served with a 2" main extension but for future capacity, we i nstalled 4" main since it is on the far extremities of our system.

GASCalc 4.0 Revision: 030 - December 19, 2001

Date: 9/10/2012

PIONEER ESTATES SUBDIVISION - W.O. #157204 (2795' OF 4" MAIN AND 2000' OF 6" MAIN)

Account Number	Account Description	General Ledger	Balance
J157204.0110.71	Straight Time		15,193.13
	Total Object Account		15,193.13
J157204.0120.71	Premium Time		2,847.87
	Total Object Account		2,847.87
J157204.0131.71	Bonuses		442.99
	Total Object Account		442.99
J157204.0150.71	Taxable Meals		256.25
	Total Object Account		256.25
J157204.0191.71	Payroll Taxes		1,390.09
	Total Object Account		1,390.09
J157204.0192.71	Benefits		4,368.56
	Total Object Account		4,368.56
J157204.0211.72	Subcontract Labor/Mat'l		19,084.63
	Total Object Account		19,084.63
J157204.0321.73	Issues/Returns		20,360.98
	Total Object Account		20,360.98
J157204.0410.74	Company Vehicle Use(MI)		4,018.07
	Total Object Account		4,018.07
J157204.0421.74	Co. Work Equip. Use(HR)		3,428.20
	Total Object Account		3,428.20
J157204.0941.79	Billable Proj-Other		-8,943.76
	Total Object Account		-8,943.76
J157204.0991.78	Engineerng & Supervision		6,414.74
	Total Object Account		6,414.74
J157204.0992.78	General & Administrative		1,226.17
	Total Object Account		1,226.17
J157204.0999.79	CWIP-Clearing		-70,087.92
	Total Object Account		-70,087.92
J157204.2520.000	Customer Advances-Balance		-21,747.22
	Total Object Account		-21,747.22
	Total Business Unit		-21,747.22
	Total Subledger00157204 W		-21,747.22

Pipe Flow Calculation: Pioneer Estates Subdivision

Calculation Data...

Pipe Size/Type: 2P-S11
Length: 4796 Feet
Efficiency: 0.95 Decimal
Flow: 100 Mcfd

Inside Diameter: 1.917 Inches

1071 MCFD − 100 MCFD = 971 MCFD
(AVG OF 4", 6") (2")

Flow Equation: IGT-Improved

	Inlet (Upstream) Values...	Outlet (Downstream) Values...
Pressure:	55.00 Psi	53 Psi
Elevation:	3000 Feet	3000 Feet
Temperature:	60.0 Fahrenheit	60.0 Fahrenheit

No Fittings Are Attached

Heat Loss Or Gain Calculation Method: None

Linear Pressure Drop: 2.00 Psi
Average Pressure: 54.00 Psi
Average Compressibility: 1.000000
Line Volume At Average Pressure: 0.5 Mcf
Average Flow Velocity: 11 Feet/sec

Calculation Method: None

Gas Properties...

Base Pressure: 13.10 Psi

Base Temperature: 60.0 Fahrenheit

Viscosity: 0.0000070 Lbm/ft-sec
Specific Gravity: 0.600
Ratio Of Specific Heats: 1.30

Assigned Gas Properties File: None

Calculation Notes...

These calculations are only valid within the applicability of the selected flow equation.

The Flow value was calculated.

References:
Flow Equation - Gas Age Magazine, May 1967, Gas Behavior In Distribution Systems
Compressibility - No Reference Available.

Notes:
W.O. #156204
For this subdivision, 2" main would adequately supply it for the immediate need. We installed 4" a nd 6" in order to continue with our plan to loop the west end for pressure issues.

GASCalc 4.0 Revision: 030 - December 19, 2001

Date: 9/10/2012

5

COPPER RIDGE SUBDIVISION - W.O. #153821 (4,100' OF 6" MAIN)

Account Number	Account Description	General Ledger	Balance
J153821.0110.71	Straight Time		7,668.68
	Total Object Account		7,668.68
J153821.0120.71	Premium Time		1,021.45
	Total Object Account		1,021.45
J153821.0131.71	Bonuses		425.63
	Total Object Account		425.63
J153821.0150.71	Taxable Meals		162
	Total Object Account		162
J153821.0191.71	Payroll Taxes		666.87
	Total Object Account		666.87
J153821.0192.71	Benefits		2,035.89
	Total Object Account		2,035.89
J153821.0211.72	Subcontract Labor/Mat'l		24,086.66
	Total Object Account		24,086.66
J153821.0321.73	Issues/Returns		18,795.36
	Total Object Account		18,795.36
J153821.0410.74	Company Vehicle Use(MI)		2,722.19
	Total Object Account		2,722.19
J153821.0421.74	Co. Work Equip. Use(HR)		2,940.30
	Total Object Account		2,940.30
J153821.0913.75	Permits/Filing Fee,Dues&Licen		500
	Total Object Account		500
J153821.0941.75	Billable Proj-Other		-23,025.92
	Total Object Account		-23,025.92
J153821.0946.79	Contrib Aiding Const(CIAC)		-18,715.10
	Total Object Account		-18,715.10
J153821.0991.78	Engineering & Supervision		5,570.67
	Total Object Account		5,570.67
J153821.0992.78	General & Administrative OH		1,489.56
	Total Object Account		1,489.56
J153821.0999.79	CWIP Clearing		-26,344.24
	Total Object Account		-26,344.24
J153821.2520.000	Customer Advances-Balance		
J153821.2520.300	Customer Advances-Forfeitre		
	Total Object Account		
	Total Business Unit		
	Total Subledger00153821 W		

Pipe Flow Calculation: Copper Ridge Subdivision

Calculation Data...

Pipe Size/Type: 2P-S11
Length: 4100 Feet
Efficiency: 0.95 Decimal
Flow: 109 Mcfd

Inside Diameter: 1.917 Inches

FLOW OF 6" MAIN – FLOW OF 2" MAIN = CAPACITY INCREASE
1722 MCFD – 109 MCFD = 1613 MCFD

Flow Equation: IGT-Improved

	Inlet (Upstream) Values...	Outlet (Downstream) Values...
Pressure:	55.00 Psi	53 Psi
Elevation:	3000 Feet	3000 Feet
Temperature:	60.0 Fahrenheit	60.0 Fahrenheit

No Fittings Are Attached

Heat Loss Or Gain Calculation Method: None

Linear Pressure Drop: 2.00 Psi
Average Pressure: 54.00 Psi
Average Compressibility: 1.000000
Line Volume At Average Pressure: 0.4 Mcf
Average Flow Velocity: 12 Feet/sec

Calculation Method: None

Gas Properties...

Base Pressure: 13.10 Psi

Base Temperature: 60.0 Fahrenheit

Viscosity: 0.0000070 Lbm/ft-sec
Specific Gravity: 0.600
Ratio Of Specific Heats: 1.30

Assigned Gas Properties File: None

Calculation Notes...

These calculations are only valid within the applicability of the selected flow equation.

The Flow value was calculated.

References:
Flow Equation - Gas Age Magazine, May 1967, Gas Behavior In Distribution Systems
Compressibility - No Reference Available.

Notes:
W.O. #1153821
For this subdivision, 2" main would adequately supply it for the immediate need. We installed 6" i n order to continue with our plan to loop the west end for pressure issues.

GASCalc 4.0 Revision: 030 - December 19, 2001

Date: 9/10/2012

Pipe Flow Calculation: Copper Ridge Subdivision

Calculation Data...

Pipe Size/Type: 6P-11.5
Length: 4100 Feet
Efficiency: 0.95 Decimal
Flow: 1722 Mcfd

Inside Diameter: 5.403 Inches

Flow Equation: IGT-Improved

	Inlet (Upstream) Values...	Outlet (Downstream) Values...
Pressure:	55.00 Psi	53 Psi
Elevation:	3000 Feet	3000 Feet
Temperature:	60.0 Fahrenheit	60.0 Fahrenheit

No Fittings Are Attached

Heat Loss Or Gain Calculation Method: None

Linear Pressure Drop: 2.00 Psi
Average Pressure: 54.00 Psi
Average Compressibility: 1.000000
Line Volume At Average Pressure: 3.4 Mcf
Average Flow Velocity: 24 Feet/sec

Calculation Method: None

Gas Properties...

Base Pressure: 13.10 Psi

Base Temperature: 60.0 Fahrenheit

Viscosity: 0.0000070 Lbm/ft-sec
Specific Gravity: 0.600
Ratio Of Specific Heats: 1.30

Assigned Gas Properties File: None

Calculation Notes...

These calculations are only valid within the applicability of the selected flow equation.

The Flow value was calculated.

References:
Flow Equation - Gas Age Magazine, May 1967, Gas Behavior In Distribution Systems
Compressibility - No Reference Available.

Notes:
W.O. #1153821
For this subdivision, 2" main would adequately supply it for the immediate need. We installed 6" i n order to continue with our plan to loop the west end for pressure issues.

GASCalc 4.0 Revision: 030 - December 19, 2001

Date: 9/10/2012

6

GREENSLEEVES SUBDIVISION - W.O.#156221 (EXTEND 3760' OF 6" MAIN)

Account Number	Account Description	General Ledger	Balance
J156221.0110.71	Straight Time		9,121.26
	Total Object Account		9,121.26
J156221.0120.71	Premium Time		416.78
	Total Object Account		416.78
J156221.0131.71	Bonuses		1,231.64
	Total Object Account		1,231.64
J156221.0150.71	Taxable Meals		94.5
	Total Object Account		94.5
J156221.0191.71	Payroll Taxes		895.83
	Total Object Account		895.83
J156221.0192.71	Benefits		2,559.61
	Total Object Account		2,559.61
J156221.0211.72	Subcontract Labor/Mat'l		2,118.40
	Total Object Account		2,118.40
J156221.0321.73	Issues/Returns		12,678.79
	Total Object Account		12,678.79
J156221.0410.74	Company Vehicle Use(MI)		2,730.73
	Total Object Account		2,730.73
J156221.0421.74	Co. Work Equip. Use(HR)		4,047.90
	Total Object Account		4,047.90
J156221.0913.75	Permits/Filing Fee,Dues&Licen		11
	Total Object Account		11
J156221.0941.79	Billable Proj-Other		-11,033.66
	Total Object Account		-11,033.66
J156221.0946.79	Contrib Aiding Const(CIAC)		-19,777.45
	Total Object Account		-19,777.45
J156221.0991.78	Engineering & Supervision		2,611.05
	Total Object Account		2,611.05
J156221.0992.78	General & Administrative OH		492.11
	Total Object Account		492.11
J156221.0999.79	CWIP Clearing		-27,975.94
	Total Object Account		-27,975.94
J156221.2520.000	Customer Advances-Balance		-19,777.45
J156221.2520.300	Customer Advances-Forfeitre		19,777.45
	Total Object Account		
	Total Business Unit		-19,777.45
	Total Subledger00156221 W		-19,777.45

Pipe Flow Calculation: Greensleeves Subdivision

Calculation Data...

Pipe Size/Type: 6P-11.5
Length: 3760 Feet
Efficiency: 0.95 Decimal
Flow: 1807 Mcfd

Inside Diameter: 5.403 Inches

FLOW OF 6" MAIN - FLOW OF 2" MAIN = INCREASE IN CAPACITY
1807 MCFD - 114 MCFD = 1693 MCFD

Flow Equation: IGT-Improved

	Inlet (Upstream) Values...	Outlet (Downstream) Values...
Pressure:	55.00 Psi	53 Psi
Elevation:	3000 Feet	3000 Feet
Temperature:	60.0 Fahrenheit	60.0 Fahrenheit

No Fittings Are Attached

Heat Loss Or Gain Calculation Method: None

Linear Pressure Drop: 2.00 Psi
Average Pressure: 54.00 Psi
Average Compressibility: 1.000000
Line Volume At Average Pressure: 3.1 Mcf
Average Flow Velocity: 26 Feet/sec

Calculation Method: None

Gas Properties...

Base Pressure: 13.10 Psi

Base Temperature: 60.0 Fahrenheit

Viscosity: 0.0000070 Lbm/ft-sec
Specific Gravity: 0.600
Ratio Of Specific Heats: 1.30

Assigned Gas Properties File: None

Calculation Notes...

These calculations are only valid within the applicability of the selected flow equation.

The Flow value was calculated.

References:
Flow Equation - Gas Age Magazine, May 1967, Gas Behavior In Distribution Systems
Compressibility - No Reference Available.

Notes:
W.O. #1156221
For this subdivision, 2" main would adequately supply it for the immediate need. We installed 6" i n order to continue with our plan to loop the west end for pressure issues.

GASCalc 4.0 Revision: 030 - December 19, 2001

Date: 9/10/2012

Pipe Flow Calculation: Greensleeves Subdivision

Calculation Data...

Pipe Size/Type: 2P-S11
Length: 3760 Feet
Efficiency: 0.95 Decimal
Flow: 114 Mcfd

Inside Diameter: 1.917 Inches

Flow Equation: IGT-Improved

	Inlet (Upstream) Values...	Outlet (Downstream) Values...
Pressure:	55.00 Psi	53 Psi
Elevation:	3000 Feet	3000 Feet
Temperature:	60.0 Fahrenheit	60.0 Fahrenheit

No Fittings Are Attached

Heat Loss Or Gain Calculation Method: None

Linear Pressure Drop: 2.00 Psi
Average Pressure: 54.00 Psi
Average Compressibility: 1.000000
Line Volume At Average Pressure: 0.4 Mcf
Average Flow Velocity: 13 Feet/sec

Calculation Method: None

Gas Properties...

Base Pressure: 13.10 Psi

Base Temperature: 60.0 Fahrenheit

Viscosity: 0.0000070 Lbm/ft-sec
Specific Gravity: 0.600
Ratio Of Specific Heats: 1.30

Assigned Gas Properties File: None

Calculation Notes...

These calculations are only valid within the applicability of the selected flow equation.

The Flow value was calculated.

References:
Flow Equation - Gas Age Magazine, May 1967, Gas Behavior In Distribution Systems
Compressibility - No Reference Available.

Notes:
W.O. #1156221
For this subdivision, 2" main would adequately supply it for the immediate need. We installed 6" i n order to continue with our plan to loop the west end for pressure issues.

GASCalc 4.0 Revision: 030 - December 19, 2001

Date: 9/10/2012

WEST END REINFORCEMENT - W.O. #176901 (EXTEND 15,000' OF 4" MAIN)

Account Number	Account Description	General Ledger	Balance
J176901.0110.71	Straight Time		20,469.19
	Total Object Account		20,469.19
J176901.0120.71	Premium Time		2,438.44
	Total Object Account		2,438.44
J176901.0131.71	Bonuses		1,522.20
	Total Object Account		1,522.20
J176901.0191.71	Payroll Taxes		1,896.68
	Total Object Account		1,896.68
J176901.0192.71	Benefits		7,304.51
	Total Object Account		7,304.51
J176901.0211.72	Subcontract Labor/Mat'l		60,939.86
	Total Object Account		60,939.86
J176901.0310.73	Non-Stores Material		685.05
	Total Object Account		685.05
J176901.0321.73	Issues/Returns		36,903.65
	Total Object Account		36,903.65
J176901.0410.74	Company Vehicle Use(MI)		2,103.55
	Total Object Account		2,103.55
J176901.0421.74	Co. Work Equip. Use(HR)		2,798.10
	Total Object Account		2,798.10
J176901.0521.75	Meals & Entertainment		65
	Total Object Account		65
J176901.0913.75	Permit, Filing Fee, Dues		322
	Total Object Account		322
J176901.0991.78	Engineerng & Supervision		6,872.42
	Total Object Account		6,872.42
J176901.0992.78	General & Administrative		748.5
	Total Object Account		748.5
J176901.0994.78	AFUDC-Other		29.73
	Total Object Account		29.73
J176901.0995.78	AFUDC-Borrowed		16.83
	Total Object Account		16.83
J176901.0999.79	CWIP-Clearing		-145,115.71
	Total Object Account		-145,115.71
J176901.4191	AFUDC-Revenue Other		
	Total Object Account		
J176901.4320	A.F.U.D.C- Credit		
	Total Object Account		
	Total Business Unit		
	Total Subledger00176901 W		

Pipe Flow Calculation: West End Reinforcement

Calculation Data...

Pipe Size/Type: 4P-S11.5
Length: 5000 Feet x 3 = 15,000'
Efficiency: 0.95 Decimal
Flow: 996 Mcfd x 3 = 2988 MCFD

Inside Diameter: 3.670 Inches

Flow Equation: IGT-Improved

	Inlet (Upstream) Values...	Outlet (Downstream) Values...
Pressure:	55.00 Psi	49 Psi
Elevation:	3000 Feet	3000 Feet
Temperature:	60.0 Fahrenheit	60.0 Fahrenheit

No Fittings Are Attached

Heat Loss Or Gain Calculation Method: None

Linear Pressure Drop: 6.00 Psi
Average Pressure: 52.05 Psi
Average Compressibility: 1.000000
Line Volume At Average Pressure: 1.8 Mcf
Average Flow Velocity: 31 Feet/sec

Calculation Method: None

Gas Properties...

Base Pressure: 13.10 Psi

Base Temperature: 60.0 Fahrenheit

Viscosity: 0.0000070 Lbm/ft-sec
Specific Gravity: 0.600
Ratio Of Specific Heats: 1.30

Assigned Gas Properties File: None

Calculation Notes...

These calculations are only valid within the applicability of the selected flow equation.

The Flow value was calculated.

References:
Flow Equation - Gas Age Magazine, May 1967, Gas Behavior In Distribution Systems
Compressibility - No Reference Available.

Notes:
W.O.#176901
The west end of Billings is experiencing pressure problems in winter months and these extensions will loop our sytem and help with capacity. We ran three separate extensions of approx. 5000' eac h.

GASCalc 4.0 Revision: 030 - December 19, 2001

Date: 9/11/2012

SHILOH ROAD EXTENSION - W.O. #174030 (4,200' OF 6" MAIN)

Account Number	Account Description	General Ledger	Balance
J174030.0110.71	Straight Time		13,056.89
	Total Object Account		13,056.89
J174030.0120.71	Premium Time		2,647.00
	Total Object Account		2,647.00
J174030.0131.71	Bonuses		1,735.05
	Total Object Account		1,735.05
J174030.0191.71	Payroll Taxes		1,292.75
	Total Object Account		1,292.75
J174030.0192.71	Benefits		3,077.09
	Total Object Account		3,077.09
J174030.0310.73	Direct Purchases		13,847.17
	Total Object Account		13,847.17
J174030.0321.73	Issues/Returns		17,455.63
	Total Object Account		17,455.63
J174030.0410.74	Company Vehicle Use(MI)		1,214.45
	Total Object Account		1,214.45
J174030.0421.74	Co. Work Equip. Use(HR)		3,354.45
	Total Object Account		3,354.45
J174030.0991.78	Engineerng & Supervision		5,670.96
	Total Object Account		5,670.96
J174030.0992.78	General & Administrative		1,499.01
	Total Object Account		1,499.01
J174030.0999.79	CWIP-Clearing		-64,850.45
	Total Object Account		-64,850.45
	Total Business Unit		
	Total Subledger00174030 W		

Pipe Flow Calculation: Shiloh Road Main Extension

Calculation Data...

Pipe Size/Type: 6P-11.5
Length: 4200 Feet
Efficiency: 0.95 Decimal
Flow: 4019 Mcfd

Inside Diameter: 5.403 Inches

Flow Equation: IGT-Improved

	Inlet (Upstream) Values...	Outlet (Downstream) Values...
Pressure:	55.00 Psi	45. Psi
Elevation:	3000 Feet	3000 Feet
Temperature:	60.0 Fahrenheit	60.0 Fahrenheit

No Fittings Are Attached

Heat Loss Or Gain Calculation Method: None

Linear Pressure Drop: 10.00 Psi
Average Pressure: 50.13 Psi
Average Compressibility: 1.000000
Line Volume At Average Pressure: 3.2 Mcf
Average Flow Velocity: 60 Feet/sec

Calculation Method: None

Gas Properties...

Base Pressure: 13.10 Psi

Base Temperature: 60.0 Fahrenheit

Viscosity: 0.0000070 Lbm/ft-sec
Specific Gravity: 0.600
Ratio Of Specific Heats: 1.30

Assigned Gas Properties File: None

Calculation Notes...

These calculations are only valid within the applicability of the selected flow equation.

The Flow value was calculated.

References:
Flow Equation - Gas Age Magazine, May 1967, Gas Behavior In Distribution Systems
Compressibility - No Reference Available.

Notes:
W.O.#174030
This area is experiencing considerable growth in commercial business. Extending 6" is necessary for future load.

GASCalc 4.0 Revision: 030 - December 19, 2001

Date: 9/10/2012

CHERRY CREEK STATION - W.O. #188028 (INSTALLED BORDER STATION OFF IP LOOP LINE)

Account Number	Account Description	General Ledger	Balance
B32634.0110.71	Straight Time		10,184.01
	Total Object Account		10,184.01
B32634.0120.71	Premium Time		1,860.90
	Total Object Account		1,860.90
B32634.0131.71	Bonuses		808.66
	Total Object Account		808.66
B32634.0191.71	Payroll Taxes		968.2
	Total Object Account		968.2
B32634.0192.71	Benefits		3,882.05
	Total Object Account		3,882.05
B32634.0211.72	Subcontract Labor/Mat'l		6,259.63
	Total Object Account		6,259.63
B32634.0310.73	Direct Purchases		17,475.60
	Total Object Account		17,475.60
B32634.0321.73	Issues/Returns		3,334.60
	Total Object Account		3,334.60
B32634.0410.74	Company Vehicle Use(MI)		971.55
	Total Object Account		971.55
B32634.0421.74	Co. Work Equip. Use(HR)		228.45
	Total Object Account		228.45
B32634.0422.74	Rental of Work Equipment		1,020.00
	Total Object Account		1,020.00
B32634.0521.75	Meals & Entertainment		59
	Total Object Account		59
B32634.0913.75	Permits/Filing Fee,Dues&Licen		11
	Total Object Account		11
B32634.0991.78	Engineering & Supervision		4,784.14
	Total Object Account		4,784.14
B32634.0992.78	General & Administrative OH		535.89
	Total Object Account		535.89
	Total Business Unit		52,383.68
	Total Subledger00188028 W		52,383.68

Actual thru september
Estimate completed cost = $64,000

CHERRY CREEK STATION

GAS SIZING

40 West Gregson Ave.
Salt Lake City, UT 84115

Phone (801) 487-2225
Fax (801) 487-2587

E-mail: mail@mooneycontrols.com

Gas Calculation

MOONEY FLOWGRID FG-4 w/ 75% TRIM

Inlet Pressure (P1):	470 psig
Outlet Pressure (P2):	60 psig
Q:	529 mscfh (12696 MCFD)
Fluid:	naturalgas
Sg:	.60
Valve Recovery (C1):	30
Temperature (T):	60° F
Monitor:	n
Calculated Cg:	846.04
Capacity Factor:	75%
Recommended Cg:	1128.05
Critical Flow (dP/P1):	0.84

Use 2.3" Valve Size or larger to limit regulator outlet velocity.

Use the Print option on your browser to print this page for your reference.

When done, you can click on the close button to close this page.

Close

MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED NOVEMBER 30, 2012
DOCKET NO. D2012.9.100

MCC-114 RE: Marginal Customer Related Distribution Investment
Witness: Tamie A. Aberle

Please provide a copy of the source documents for derivation of the Marginal Customer Costs of Main, Service Line, and Meter & Regulator for each customer class as shown on page 13 of 28 of Exhibit No.__(TAA-3).

Response:

Please see Attachment A.

	Residential Rate 60	Firm General Rates 70/72	Small Interruptible Rates 71/81	Large Interruptible Rates 82/85
Marginal Customer Costs (2011 Dollars)				
Main Extension - when required	$1,036.69	$1,555.56	$1,555.56	$4,470.41
Company Owned Service Line	$549.10	$965.00	$965.00	$4,183.40
Meter & Regulator	$145.29	$1,031.51	$5,587.40	$14,420.17
Total Investment	**$1,731.08**	**$3,552.07**	**$8,107.96**	**$23,073.98**

Main

	Avg Length (Ft.)	Main Size	Cost/ft.(2011)	Cost/Extension	Inflation 1.044
Residential (Rate 60)	100	2"	$9.93	$993	$1,036.69
Firm Commercial (Rate 70)	150	2"	$9.93	$1,490	$1,555.56
Small Interruptible (Rate 71/81)	150	2"	$9.93	$1,490	$1,555.56
Large Interruptible (Rate 82/85)	300	4"	$14.27	$4,282	$4,470.41

Service Line Complete

Service Line Complete (Stub and Service line)

Montana

	Avg Length - Ft.	Cost/ft.	Cost/S.L.
Residential Service Line Cost	85	$6.46	$549.10
Firm Commercial Service Line Cost	125	$7.72	$965.00
Small Interruptible Service Line Cost	125	$7.72	$965.00
Large Interruptible Service Line Cost	260	$16.09	$4,183.40

Meter & Regulator

	Meter & Reg	Installation cost	Total
Residential (Group 1)	61	85	$145.29
Firm Commercial (Group 2)	728	303	$1,031.51
Small Interruptible (Group 3)	4,022	1,565	$5,587.40
Large Interruptible (Specific situation)	9,264	5,156	$14,420.17

Service Line Data
* Main Extensions increase per customer class. Lots are bigger in new

Residential Smallest, then Small Commercial and finally Industrial the largest subdivision based on the expected customer class of the lot.

From the GIS - The latest 12 months of new installation records:
A total of 1456 Service Lines installed:
Average Residential Length 86.45'
Average Rate 70 and 71 Lenth = 127.34'

From the GIS the 82/85 Rate Customers (9)
Average Length 261.5'
Each one is unique Sizes 2" steel to 6" Plastic, some at IP pressure with regulation.

Service and Main Costs (2012 Costs)

85' 3/4" Service Line

	Quantity	Material	Cost/ft	Total
Material	95	3/4" PE	$0.23	$21.85
	1	Tap Tee Mech 2"X3/4	$26.96	26.96
	1	EFV	$10.62	10.62
	1	Stop Valve	$18.99	18.99
	1	3/4 Riser X36"	$15.53	15.53
	3	3/4" Coupling	$5.83	17.49
	95	#12 Locate Wire	$0.14	13.30
	1	Splice	$0.65	0.65
Equipment	1	Trencher/plow	$68.00	68.00
Vehicles	25	Gas Const Truck	$1.75	43.75
	25	3/4 Ton Pickup	$0.75	18.75
Labor	2.5	Crew Lead	$52.54	131.35
	2.5	Gas Fitter/Operator	$45.33	113.33
Subtotal				$500.57
ES &GA	9.65%			48.31
				$548.88
	Cost/ft	$6.46		

125' 1.25" Service Line

	Quantity	Material	Cost/ft	Total
Material	135	1.25" PE	$0.49	$66.15
	1	Tap Tee Mech 2"X1.25"	$58.70	58.70
	1	Stop Valve	$43.00	43.00
	1	2"Riser X36"	$49.09	49.09
	1	1.25/2" Reducer	$5.13	5.13
	1	1.25 Coupling Mech	$9.25	9.25
	135	#12 Locate Wire	$0.14	18.90
	1	Splice	$0.65	0.65
Equipment	2	Trencher/plow	$68.00	136.00
Vehicles	25	Gas Const Truck	$1.75	43.75
	25	3/4 Ton Pickup	$0.75	18.75
Labor	3.5	Crew Lead	$52.54	183.89
	3.5	Gas Fitter/Operator	$45.33	158.66
	3.5	Gas Fitter	$45.33	158.66
Subtotal				$950.58
ES &GA	9.65%			91.73
				$1,042.31
	Cost/ft	$7.72		

260' 2" Service Line

	Quantity	Material	Cost/ft	Total
Material	260	2" PE	$0.91	$236.60
	1	2"Riser X36"	$49.09	49.09
	1	2" Coupling Mech	$9.25	9.25
	260	#12 Locate Wire	$0.14	36.40
	1	Splice	$0.65	0.65
Equipment	4	Trencher/plow	$68.00	272.00
Vehicles	25	Gas Const Truck	$1.75	43.75
	25	3/4 Ton Pickup	$0.75	18.75
Labor	7.0	Crew Lead	$52.54	367.78
	7.0	Gas Fitter/Operator	$45.33	317.31
	7.0	Gas Fitter	$45.33	317.31
Misc. Each Project is different Complications, pressure etc				2,000.00
Subtotal				$3,668.89
ES &GA	9.65%			354
				$4,022.94
	Cost/ft	$16.09		

150' 2" Main Installation

	Quantity	Material	Cost/ft	Total
Material	170	2" PE	$0.91	$154.70
	170	#12 Locate Wire	$0.14	23.80
	1	Splice	$0.65	0.65
	1	Misc Small Fittings	$8.50	8.50
Equipment	2	Trencher/plow	$68.00	136.00
	40	Bore Machine	$10.00	400.00
Vehicles	25	Gas Const Truck	$1.75	43.75
	25	3/4 Ton Pickup	$0.75	18.75
Labor	4.0	Crew Lead	$52.54	210.16
	4.0	Gas Fitter/Operator	$45.33	181.32
	4.0	Gas Fitter	$45.33	181.32
Subtotal				$1,358.95
ES &GA	9.65%			131.14
				$1,490.09
	Cost/ft	$9.93		

300' 4" Main

	Quantity	Material	Cost/ft	Total
Material	320	4" PE	$2.88	$921.60
	320	#12 Locate Wire	$0.14	44.80
	1	Splice	$0.65	0.65
	1	Misc Small Fittings	$22.50	22.50
Equipment	4	Trencher/plow	$68.00	272.00
	80	Bore Machine	$10.00	800.00
Vehicles	50	Gas Const Truck	$1.75	87.50
	50	3/4 Ton Pickup	$0.75	37.50
Labor	12.0	Crew Lead	$52.54	630.48
	12.0	Gas Fitter/Operator	$45.33	543.96
	12.0	Gas Fitter	$45.33	543.96
Subtotal				$3,904.95
ES &GA	9.65%			376.83
				$4,281.78
	Cost/ft	$14.27		

MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED NOVEMBER 30, 2012
DOCKET NO. D2012.9.100

MCC-115 RE: Carrying Charge Calculation
Witness: Tamie A. Aberle

Please provide all documents, work papers and calculations for the "Sum of P.W. Values" for Mains, Services and Meters/Regulators as shown on page 16 of 28 of Exhibit No.__(TAA-3). Please also provide copies of the "Levelized Fixed Charge worksheets" as indicated in footnote 2 of the same page.

Response:

Please see Attachment A.

****
* LEVELIZED FIXED CHARGE PROGRAM *
****

Computation of Levelized Fixed Charges

Montana- Pro Forma 2012

Fixed Charge Rate for Gas Distribution Mains

Basic assumptions used in this calculation are shown below

Capitalization Ratios (as percentages)		
Debt	44.441	
Preferred Stock	2.172	
Common Stock	53.387	
Interest Rates (as percentages)		
Bonds	6.264	
Preferred Stock	4.583	
Common Stock	10.500	
Tax Rates (as percentages)		
Income Taxes	38.35	
Investment Credit	0	
Deferred Federal Income Taxes	35	
Book Life (in years)	47	
Tax Life (in years - 5, 7, 10, 15, 20 , or 39)	20	
Depreciation Method used for tax purposes is:	MDU-MACRS Declining Balance/Strt-Line	
Deferred federal income tax reflects normalixation		
General tax rate (as percent)	0	
Book Depreciation Rate	2.97	
Operations and Maintenance Method used is:		
Weighted Cost of Capital =		
Debt	0.02784	
PFD	0.00100	
Common	0.05606	
Composite	0.08489	
WACC reflecting tax deduction of debt interest		0.07421

The results obtained based on the foregoing assumptions are as follows

Sum of P.W. Values	**Capital Recovery Factor**	**Levelized Fixed Charge**
120.194	0.08677	10.430

Levelized Income Tax	**Levelized Return on Capital**
5.309	5.309

****
* LEVELIZED FIXED CHARGE PROGRAM *
****

Computation of Levelized Fixed Charges

Montana - Pro Forma 2012

Fixed Charge Rate for Gas Distribution Services

Basic assumptions used in this calculation are shown below

Capitalization Ratios (as percentages)		
Debt	44.441	
Preferred Stock	2.1720	
Common Stock	53.3870	
Interest Rates (as percentages)		
Bonds	6.264	
Preferred Stock	4.583	
Common Stock	10.500	
Tax Rates (as percentages)		
Income Taxes	39.875	
Investment Credit	0	
Deferred Federal Income Taxes	35	
Book Life (in years)	40	
Tax Life (in years - 5, 7, 10, 15, 20 , or 39)	20	
Depreciation Method used for tax purposes is:	MDU-MACRS Declining Balance/Strt-Line	
Deferred federal income tax reflects normalixation		
General tax rate (as percent)	0	
Book Depreciation Rate	8.18	
Operations and Maintenance Method used is:		
Weighted Cost of Capital =		
Debt	0.02784	
PFD	0.00100	
Common	0.05606	
Composite	0.08489	
WACC reflecting tax deduction of debt interest		0.07379

The results obtained based on the foregoing assumptions are as follows

Sum of P.W. Values	Capital Recovery Factor	Levelized Fixed Charge
137.148	0.08828	12.108

Levelized Income Tax	Levelized Return on Capital
1.427	2.500

****
* LEVELIZED FIXED CHARGE PROGRAM *
****

Computation of Levelized Fixed Charges

Montana - Pro Forma 2012

Fixed Charge Rate for Gas Meters

Basic assumptions used in this calculation are shown below

Capitalization Ratios (as percentages)		
Debt	44.441	
Preferred Stock	2.1720	
Common Stock	53.3870	
Interest Rates (as percentages)		
Bonds	6.264	
Preferred Stock	4.583	
Common Stock	10.500	
Tax Rates (as percentages)		
Income Taxes	39.875	
Investment Credit	0	
Deferred Federal Income Taxes	35	
Book Life (in years)	35	
Tax Life (in years - 5, 7, 10, 15, 20 , or 39)	20	
Depreciation Method used for tax purposes is:	MDU-MACRS Declining Balance/Strt-Line	
Deferred federal income tax reflects normalixation		
General tax rate (as percent)	0	
Book Depreciation Rate	3.53	
Operations and Maintenance Method used is:		
Weighted Cost of Capital =		
Debt	0.02784	
PFD	0.00100	
Common	0.05606	
Composite	0.08489	
WACC reflecting tax deduction of debt interest		0.07379

The results obtained based on the foregoing assumptions are as follows

Sum of P.W. Values	Capital Recovery Factor	Levelized Fixed Charge
122.663	0.09009	11.051

Levelized Income Tax	Levelized Return on Capital
2.269	5.251

ACCOUNT – 376.20 Distribution Mains – Plastic

Historical Experience

Plant Statistics
Plant Balance = $63,935,959
Original Gross Additions = $113,372,232 (Total Account)
Oldest Surviving Vintage = 1969
Retirements = $6,061,120 (Total Account) or 5.3% of historical additions.

Experience Bands 1916 – 2008 (Simulated) 47-R4

Historic Net Salvage: (68-08)

Three Year Average Net Salvage Percent			Full Depth
2004-06	2005-07	2006-08	1968-2008
-27%	-35%	-25%	-32%

Gross Salvage Trend Analysis

20 Year	15 Year	10 Year	5 Year
2%	0%	0%	0%

Forecasted Net Salvage: -92%

Plant Considerations/Future Expectations

This property group investment is comprised of the Company's investment and related experience of Plastic Distribution Mains and are typically related to the more recently installed portions of Mains. Studies of this class of property, in numerous completed depreciation studies, have identified that Plastic Mains routinely experience shorter lives than their metal counterparts. Such shorter lives are the product of higher levels of physical issues (e.g. physical damage, etc) impacting the mains as well as the fact that the Plastic mains have often been installed in areas that experience higher growth and replacements.

Life Analysis Method: Simulated Plant Analysis Method

Current Depreciation Parameters

ASL/Curve: 45-R3
Net Salv: -60%

Proposed Depreciation Parameters

ASL/Curve: 47-R4
Future Net Salv: -50%

	New Rate @New Parameters	Old Rate @ Old Parameters
Rate	3.05%	1.92%
Average Remaining Life	33.4 years	N/A

(ASL – Average Service Life; NS – Net Salvage; FTA – Fit to Age; N/A—Not Available, Not Applicable

ACCOUNT – 380.20 Services – Plastic

Historical Experience

Plant Statistics
Plant Balance = $42,690,273
Original Gross Additions = $54,121,206 (Total Account)
Oldest Surviving Vintage = 1969
Retirements = $3,625,013 (Total Account) or 6.7% of historical additions.

Experience Bands 1920 – 2008 (Simulated) 40-R3

Historic Net Salvage: (68-08)

Three Year Average Net Salvage Percent			Full Depth
2004-06	2005-07	2006-08	1968-2008
-234%	-240%	-243%	-88%

Gross Salvage Trend Analysis

20 Year	15 Year	10 Year	5 Year
0%	0%	0%	0%

Forecasted Net Salvage: -210%

Plant Considerations/Future Expectations

This property group is comprised of the Company's investment and related experience of Plastic Services. The future service life of this asset class is anticipated to generally be reflective the recent experience.

Life Analysis Method: Simulated Plant Analysis Method

Current Depreciation Parameters

ASL/Curve: 40-R3
Net Salv: -175%

Proposed Depreciation Parameters

ASL/Curve: 40-R3
Future Net Salv: -200%

	New Rate @New Parameters	Old Rate @ Old Parameters
Rate	7.91%	5.66%
Average Remaining Life	29.0 years	N/A

(ASL – Average Service Life; NS – Net Salvage; FTA – Fit to Age; N/A—Not Available, Not Applicable

ACCOUNT – 381 Meters

Historical Experience

Plant Statistics
Plant Balance = $55,172,050
Original Gross Additions = $63,302,194
Oldest Surviving Vintage = 1956
Retirements = $7,690,772 or 12.1% of historical additions.

Experience Bands 1933 - 2008 (Simulated) 35-R4

Historic Net Salvage: (68-08)

Three Year Average Net Salvage Percent			Full Depth
2004-06	2005-07	2006-08	1968-2008
-25%	-18%	-9%	7%

Gross Salvage Trend Analysis

20 Year	15 Year	10 Year	5 Year
10%	15%	16%	0%

Forecasted Net Salvage: -19%

Plant Considerations/Future Expectations

While no specific consideration has been factored into the estimated average service life of meters, in future years the Company's Meter can be anticipated to be impact by Automated Meter Reading technology. It is anticipated that the Company will is investigate the benefits and cost of installing such a Meter system. Under a typical Meter upgrade model/program customer's Meters would routinely be replaced with new property to enhance the efficiency of the Meter reading task. Accordingly, the current service life being achieved by this property class can be anticipated to be materially impacted (shortened) in future years.

Life Analysis Method: Simulated Plant Analysis Method

Current Depreciation Parameters

ASL/Curve: 35-R2.5
Net Salv: 0%

Proposed Depreciation Parameters

ASL/Curve: 35-R4
Future Net Salv: -15%

	New Rate @New Parameters	Old Rate @ Old Parameters
Rate	3.53%	3.19%
Average Remaining Life	24.1 years	N/A

(ASL – Average Service Life; NS – Net Salvage; FTA – Fit to Age; N/A—Not Available, Not Applicable

MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED NOVEMBER 30, 2012
DOCKET NO. D2012.9.100

MCC-116 RE: Customer –Related Customer Account Expense
Witness: Tamie A. Aberle

Please provide the adjustment factors and supporting documents used in the calculation of the annual adjusted values to 1/1/14 for each of the customer accounts expense as shown on page 28 of 28 of Exhibit No.__(TAA-3).

Response:

Please see Attachment A.

MONTANA-DAKOTA UTILITIES CO.
GAS UTILITY - MONTANA
MARGINAL COST STUDY

DEVELOPMENT OF TRENDING INDEX
FOR OPERATION & MAINTENANCE EXPENSES

Employment Cost Index for Wages & Salaries 1/				
Mid-Year	% Change	Index	Factor to 1/01/14	Index
2007		100.0	1.0890	1.052000
2008	1.81%	101.8	1.0697	1.071000
2009	1.12%	102.9	1.0583	1.083000
2010	-2.49%	100.3	1.0857	1.056000
2011	1.04%	101.3	1.0750	1.067000
2012	2.53%	103.9	1.0481	1.094000
2013	2.29%	106.3	1.0245	1.119000
1/01/14	2.41%	108.9	1.0000	

1/ Wages and Productivity in the Nonfarm Business Sector.
IHS Global Insight August 2012.

MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED NOVEMBER 30, 2012
DOCKET NO. D2012.9.100

MCC-117 RE: Exhibit No.__(TAA-4)
Witness: Tamie A. Aberle

Please provide a copy of the March 2012 American Gas Association (AGA) survey and any other document used in developing Exhibit No.__(TAA-4), including the name(s) of all utilities included among the states with non-volumetric rate designs (33 approved and 2 pending).

Response:

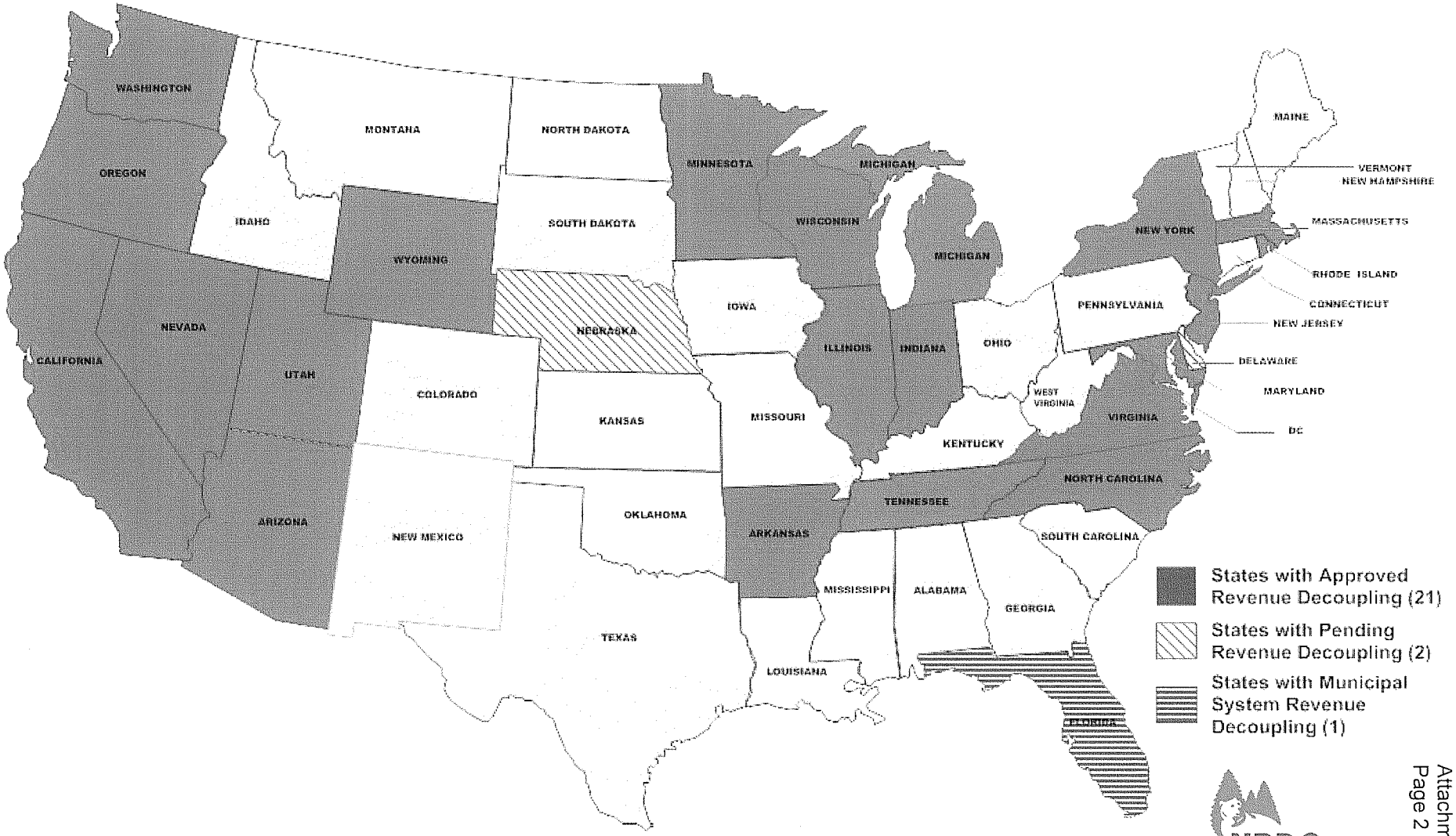
Please see Attachment A.

AGA
American Gas Association

Innovative Rates, Non-Volumetric Rates, and Tracking Mechanisms: Current List

As of March 2012

States with Natural Gas Revenue Decoupling As of March 2012



AGA American Gas Association

NRDC The Earth's Best Defense

Decoupling Tariffs as of March 2012

APPROVED – 48 Companies, 21 States, 30 Million Res. Customers*

1. AR – Arkansas Oklahoma
2. AR – Arkansas Western
3. AR – CenterPoint Energy
4. AZ – Southwest Gas
5. CA – Pacific Gas and Electric
6. CA - San Diego Gas and Electric
7. CA – Southern California Gas
8. CA – Southwest Gas
9. IL – Integrys Peoples Gas
10. IL – Integrys North Shore Gas
11. IN – Citizens Energy Group
12. IN – Vectren North Indiana Gas
13. IN – Vectren South SIGECO
14. MA – Columbia Massachusetts
15. MA – Fitchburg Gas and Electric
16. MA – National Grid Massachusetts
17. MA – New England Gas
18. MD – Baltimore Gas and Elec.
19. MD – Washington Gas
20. MI – Consumers Energy
21. MI - Michigan Consolidated Gas
22. MI – Integrys Michigan Gas Utilities
23. MN – CenterPoint Minnesota Gas
24. NC - Piedmont Natural Gas
25. NC – Public Service Co. of North Carolina
26. NJ – New Jersey Natural Gas
27. NJ – South Jersey Gas
28. NV – Southwest Gas
29. NY – Central Hudson Gas and Electric
30. NY – Consolidated Edison
31. NY – National Fuel Gas Distribution
32. NY – National Grid Long Island
33. NY - National Grid Niagara Mohawk
34. NY – National Grid NYC
35. NY – Orange and Rockland Utilities
36. NY – Rochester Gas and Electric
37. OR – Cascade Natural Gas
38. OR – NW Natural Gas
39. RI – National Grid Narragansett
40. TN – Chattanooga Gas
41. UT – Questar Gas
42. VA – Columbia Virginia
43. VA – Virginia Natural Gas
44. WA – Avista Corp.
45. WA – Cascade Natural Gas
46. WI – Integrys Wisconsin Public Service Co.
47. WY – Questar Gas
48. WY – Source Gas

*** Of 65 Million (2010) US Residential Customers**

AGA American Gas Association

Pending and Municipally Approved Decoupling Tariffs as of March 2012

PENDING – 4 Companies, 2 States, 1 Million Res. Customers*

1. AZ – UNS Gas
2. DE – Delmarva Power and Light
3. NJ – Elizabethtown Gas
4. NE – Source Gas

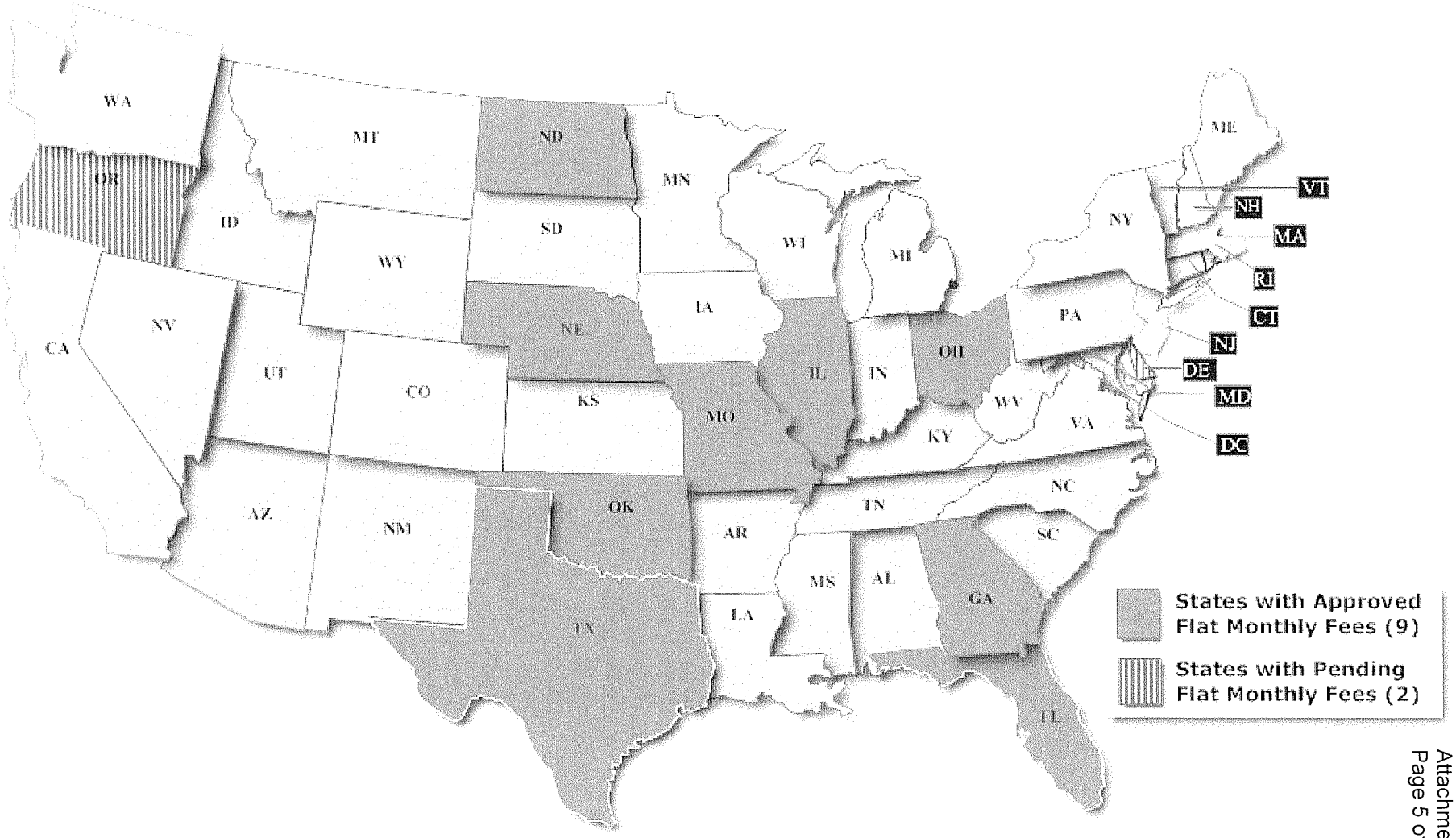
MUNICIPAL PROGRAM – 1 Co., 1 State, 15,000 Res. Customers*

1. FL – Clearwater Gas System

*** Of 65 Million (2010) US Residential Customers**

AGA American Gas Association

States with Flat Monthly Fee Rate Designs
As of March 2012



AGA
American Gas Association

Flat Monthly Fee Rate Design (SFV) as of March 2012

Approved – 15 Companies, 9 States, 9 Million Res. Customers*

1. FL – TECO Peoples Gas – Three-tier monthly charge plus small variable charge
2. GA – Atlanta Gas Light – Individually determined monthly demand charge (Straight Fixed Variable)
3. IL – Nicor Gas – Flat fee plus a small variable charge
4. MO – Atmos Energy – Flat fee plus a small variable charge; 75% of costs recovered in monthly fee
5. MO – Empire District Gas
6. MO – Laclede Gas – Modified rate blocks
7. MO – Missouri Gas Energy - Flat monthly fee - $28 residential/$39.26 small general service
8. NE – SourceGas – Modified rate blocks
9. ND – Xcel Energy – $18.48 flat monthly fee
10. OH – Columbia Ohio – Flat fee
11. OH – Dominion East Ohio – Flat fee plus small variable charge
12. OH – Duke Energy – Flat fee
13. OH – Vectren Ohio - $18.37 flat monthly fee
14. OK – Oklahoma Natural Gas – Two-tier plan – Offers customers a choice
15. TX – Texas Gas Service El Paso – $10.80 flat fee up to 200 ccf/month

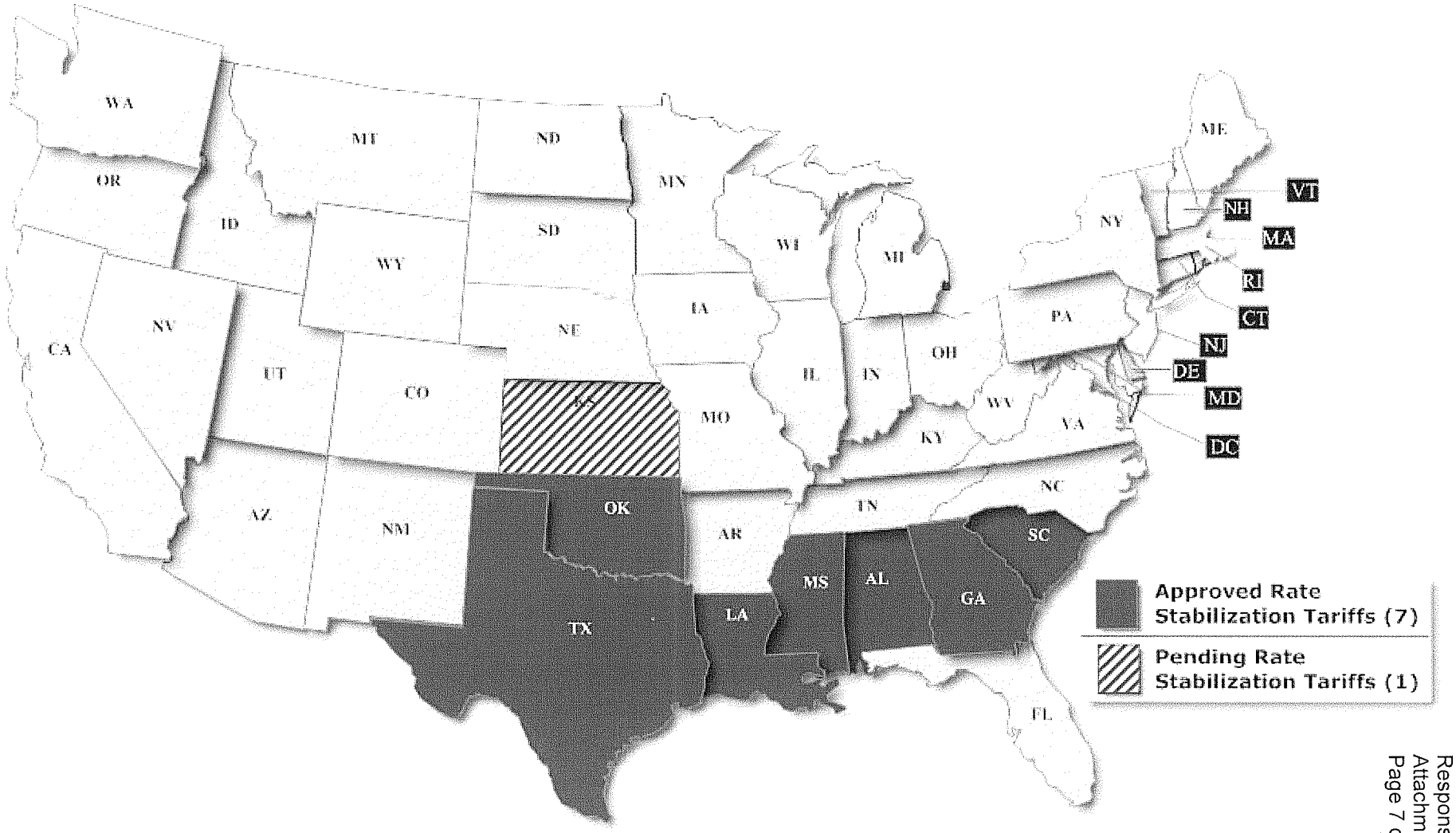
Pending – 3 Companies, 2 States, 1 Million Res. Customers*

1. DE – Delmarva Power and Light
2. NE - Black Hills – Two-tier, declining block rate
3. OR – NW Natural

AGA American Gas Association

*** Of 65 Million (2010) US Residential Customers**

States with Rate Stabilization Tariffs
As of March 2012



AGA American Gas Association

Rate Stabilization Tariffs as of March 2012

Approved – 14 Companies, 7 States, 6 Million Res. Customers*

1. AL – Alabama Gas
2. AL – Mobile Gas
3. GA – Atmos Energy
4. LA – Atmos Energy
5. LA – CenterPoint Energy
6. LA – Entergy
7. MS – Atmos Energy
8. MS – CenterPoint Energy
9. OK – CenterPoint Energy
10. OK – Oklahoma Natural Gas
11. SC – Piedmont Natural Gas
12. SC – South Carolina Electric and Gas
13. TX – CenterPoint Energy
14. TX – Atmos Energy

Pending – 1 Company, 1 State, 120,000 Customers*

1. KS – Atmos Energy

*** Of 65 Million (2010) US Residential Customers**

AGA American Gas Association

States with Non-Volumetric Rate Designs for Natural Gas as of March 2012

Approved - 77 Companies, 33 States, 45 Million Res. Customers
Pending - 8 Companies, 2 States, 2 Million Res. Customers

STATES WITH DECOUPLING

1. Arizona
2. Arkansas
3. California
4. Colorado
5. Indiana
6. Massachusetts
7. Maryland
8. Michigan
9. Minnesota
10. New Jersey
11. Nevada
12. New York
13. North Carolina
14. Oregon
15. Tennessee
16. Utah
17. Virginia
18. Washington
19. Wisconsin
20. Wyoming

STATES WITH FLAT MONTHLY FEES

1. Florida
2. Missouri
3. Nebraska
4. North Dakota
5. Ohio

STATES WITH RATE STABILIZATION

1. Alabama
2. Mississippi
3. Louisiana
4. South Carolina

STATES WITH BOTH DECOUPLING AND FLAT MONTHLY FEES

1. Illinois

STATES WITH BOTH FLAT MONTHLY FEES AND RATE STABILIZATION

1. Georgia
2. Oklahoma
3. Texas

PENDING STATES

1. Delaware
2. Nebraska

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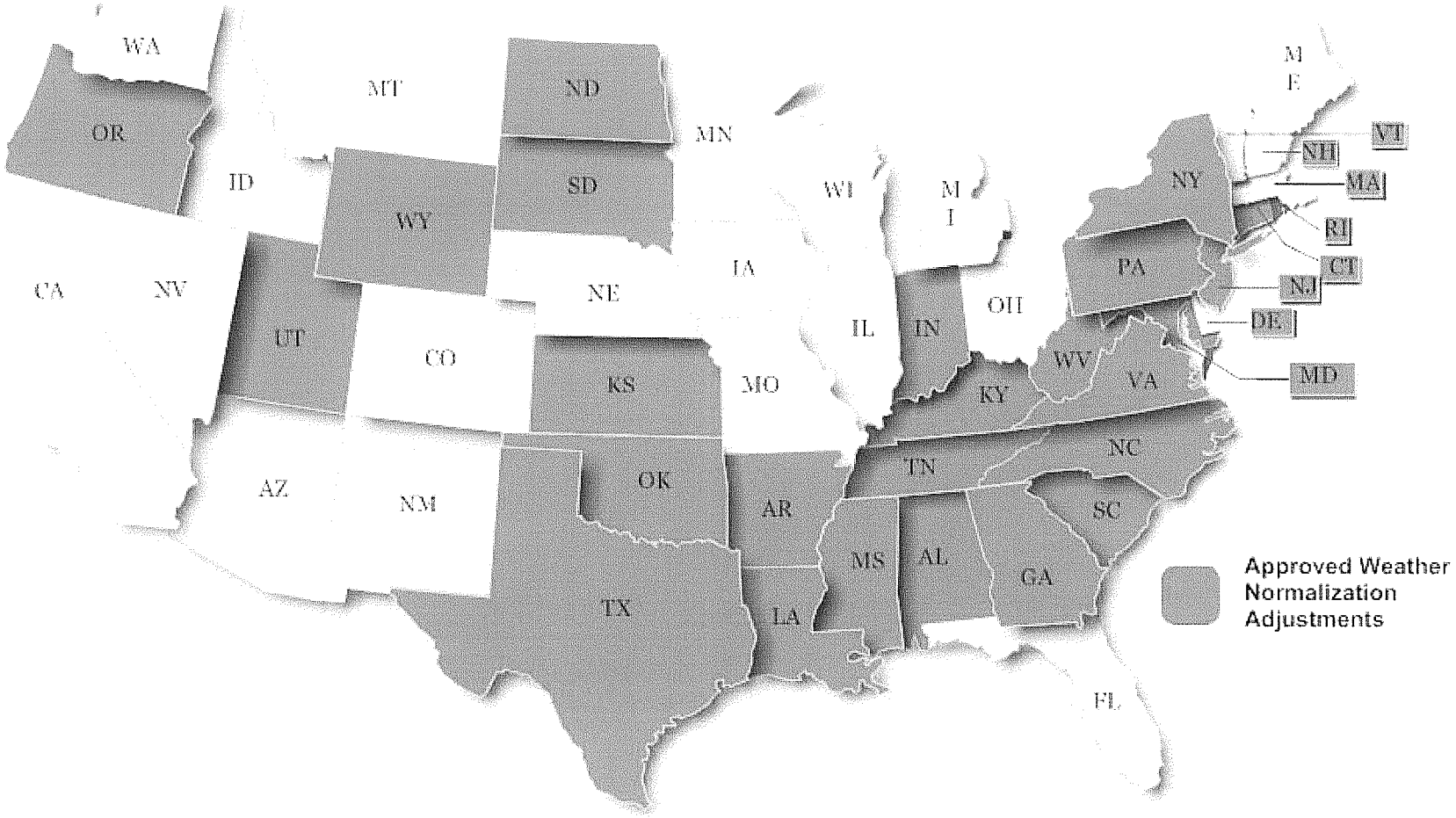
States with Weather Normalization Adjustments
25 Approved as of March 2012



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Weather Normalization Adjustment Clauses as of March 2012

Approved - 55 Companies, 25 States, 16 Million Res. US Customers; 5 Million Res. Customers at US Companies w/o Decoupling or RS*

1. AB – Atco Gas
2. AL - Alabama Gas
3. AL – Mobile Gas
4. AR – Arkansas Western
5. AR - CenterPoint Energy
6. BC – Terasen Gas
7. CT - Southern Connecticut Gas*
8. GA - Atmos Energy
9. IN – Vectren North Indiana Gas
10. IN – Vectren South SIGECO
11. KS - Atmos Energy*
12. KS – Black Hills*
13. KS – Kansas Gas Service*
14. KY - Atmos Energy*
15. KY - Columbia Kentucky*
16. KY - Delta Natural Gas*
17. KY - Louisville Gas and Electric*
18. LA – Atmos - Louisiana Gas Service
19. LA - Atmos - Trans Louisiana
20. MD - Chesapeake Utilities*
21. MD - Columbia Maryland*
22. MS - Atmos Energy
23. ND – Montana-Dakota Utilities*
24. NJ – Elizabethtown Gas*
25. NJ – Public Service Electric and Gas*
26. NY - Consolidated Edison
27. NY - National Fuel Gas Distribution
28. - NY – National Grid Long Island
29. - NY – National Grid Niagara Mohawk
30. -NY – National Grid NYC
31. - NY – New York State Electric and Gas*
32. - NY - Orange & Rockland Utilities
33. - NY - Rochester Gas & Electric
34. - OK - CenterPoint Energy
35. - OK – Oklahoma Natural Gas
36. - OR - NW Natural
37. - PA - Philadelphia Gas Works*
38. - QB - Gaz Metro
39. - RI - National Grid Narragansett Gas
40. - SC - Piedmont Natural Gas
41. - SC - South Carolina Electric & Gas
42. - SD – Montana-Dakota Utilities*
43. - TN – Atmos Energy*
44. - TN - Chattanooga Gas
45. - TN - Piedmont Natural Gas*
46. - TX - Atmos Energy
47. - TX - Texas Gas Service
48. - UT – Questar Gas
49. - VA – Atmos Energy*
50. - VA – City of Richmond Dept. Pub. Utils*
51. - VA – Columbia Virginia
52. - VA - Roanoke Natural Gas*
53. - VA - Southwestern Virginia Gas*
54. - WV – West Virginia Utilities*
55. - WY – Questar Gas

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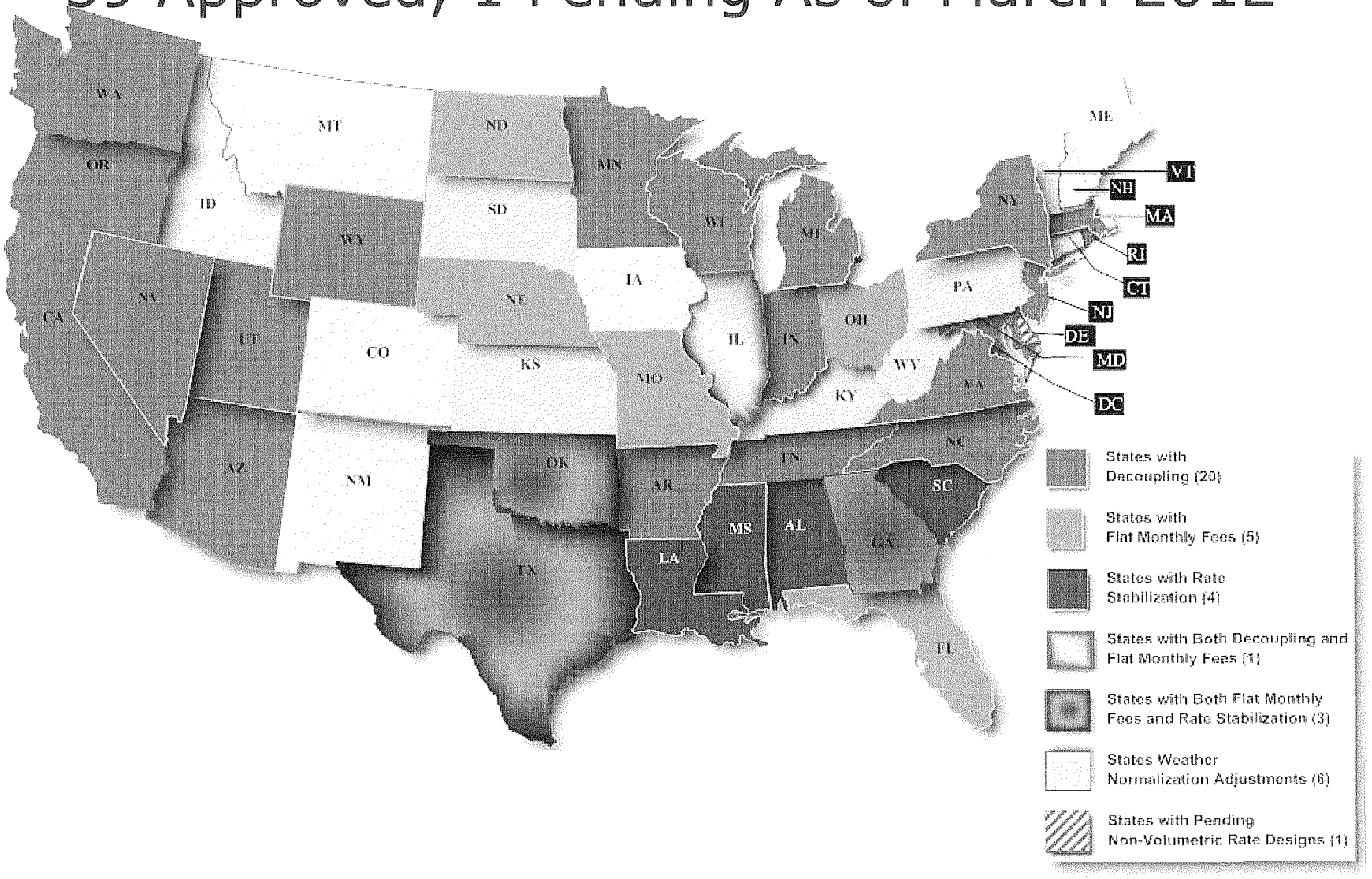
States with Non-Volumetric Rates and WNA
39 Approved, 1 Pending As of March 2012



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States with WNA and Non-Volumetric Rate Designs for Natural Gas as of March 2012

Approved - 112 Companies, 39 States, 50 Million Res. Customers

STATES WITH DECOUPLING

1. Arizona
2. Arkansas
3. California
4. Colorado
5. Indiana
6. Massachusetts
7. Maryland
8. Michigan
9. Minnesota
10. New Jersey
11. Nevada
12. New York
13. North Carolina
14. Oregon
15. Tennessee
16. Utah
17. Virginia
18. Washington
19. Wisconsin
20. Wyoming

STATES WITH FLAT MONTHLY FEES

1. Florida
2. Missouri
3. Nebraska
4. North Dakota
5. Ohio

STATES WITH RATE STABILIZATION

1. Alabama
2. Mississippi
3. Louisiana
4. South Carolina

STATES WITH BOTH DECOUPLING AND FLAT MONTHLY FEES

1. Illinois

STATES WITH BOTH FLAT MONTHLY FEES AND RATE STABILIZATION

1. Georgia
2. Oklahoma
3. Texas

STATES WITH WNA AND WITHOUT OTHER TYPES

1. Connecticut
2. Kansas
3. Kentucky
4. Pennsylvania
5. South Dakota
6. West Virginia

PENDING STATES

1. Delaware

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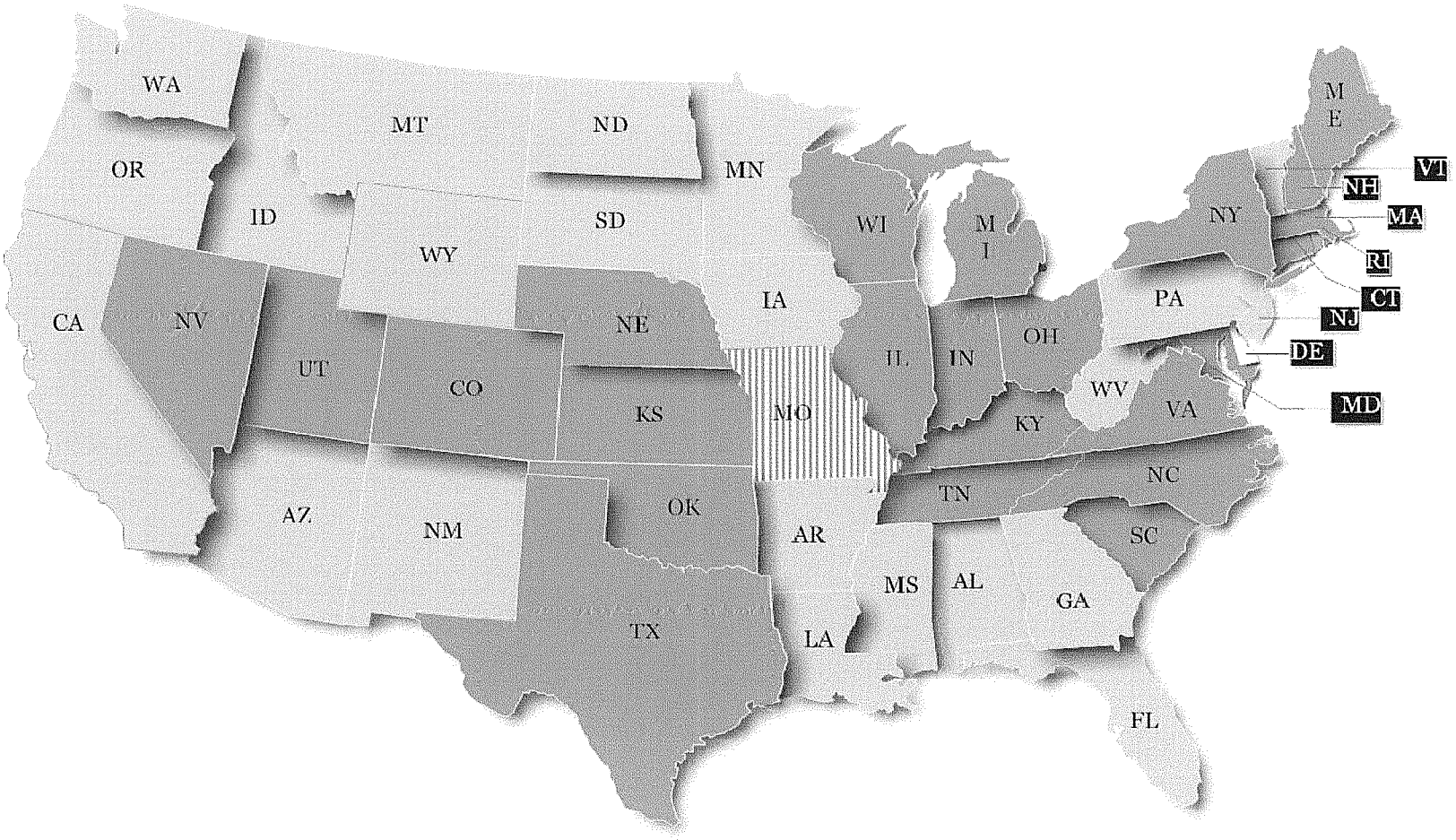
States With Innovative Bad Debt Cost Recovery Mechanisms as of March 2012



States with Approved Bad Debt Cost Recovery Mechanisms (24)

States with Pending Bad Debt Cost Recovery Mechanisms (1)

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Utilities with Innovative Bad Debt Cost Recovery Mechanisms as of March 2012

Approved - 61 Companies, 24 States, 25 Million Res. Customers

1. CO – Atmos Energy
2. CT – Connecticut Natural Gas
3. CT - Southern Connecticut Gas
4. CT – Yankee Gas Services
5. DC – Washington Gas
6. IL – Ameren Illinois
7. IL – Integrys Peoples Gas
8. IL – Integrys North Shore Gas
9. IL – Nicor Gas
10. IN – NIPSCO
11. IN – Vectren North Indiana Gas
12. IN – Vectren South SIGECO
13. KS - Atmos Energy
14. KS – Black Hills
15. KS – Kansas Gas Service
16. KY – Atmos Energy
17. KY – Columbia Kentucky
18. KY – Delta Natural Gas
19. KY – Duke Energy
20. MA – Columbia Massachusetts
21. MA – National Grid Massachusetts
22. MA – NSTAR Gas
23. MD – Baltimore Gas and Electric
24. MD – Washington Gas
25. ME – Northern Utilities
26. MI – Michigan Consolidated Gas
27. MI – Michigan Gas Utilities
28. NC – Piedmont Natural Gas
29. NE – Black Hills
30. NE – SourceGas
31. NH – National Grid EnergyNorth
32. NH – Northern Utilities
33. NV – Southwest Gas
34. NY – Central Hudson Gas and Electric
35. NY - Consolidated Edison
36. NY – National Grid New York City
37. NY – National Grid Long Island
38. NY - National Fuel Gas Distribution
39. NY – National Grid Niagara Mohawk
40. NY – New York State Electric and Gas
41. NY - Orange & Rockland Utilities
42. OH – Columbia Ohio
43. OH – Dominion East Ohio
44. OH – Eastern Natural Gas
45. OH – Pike Natural Gas
46. OH – Vectren Ohio
47. OK – Oklahoma Natural Gas
48. ON – Union Gas
49. RI - National Grid Narragansett Gas
50. SC - Piedmont Natural Gas
51. TN – Atmos Energy
52. TN - Chattanooga Gas
53. TN - Piedmont Natural Gas
54. TX - Atmos Energy
55. TX - Texas Gas Service
56. UT – Questar Gas
57. VA - Atmos Energy
58. VA – Washington Gas
59. WI - Wisconsin Electric – Gas
60. VA – Columbia Virginia
61. VA – Virginia Natural Gas

Pending – 1 Million Res. Custs.

1. MO – Atmos Energy
2. MO– Laclede Gas

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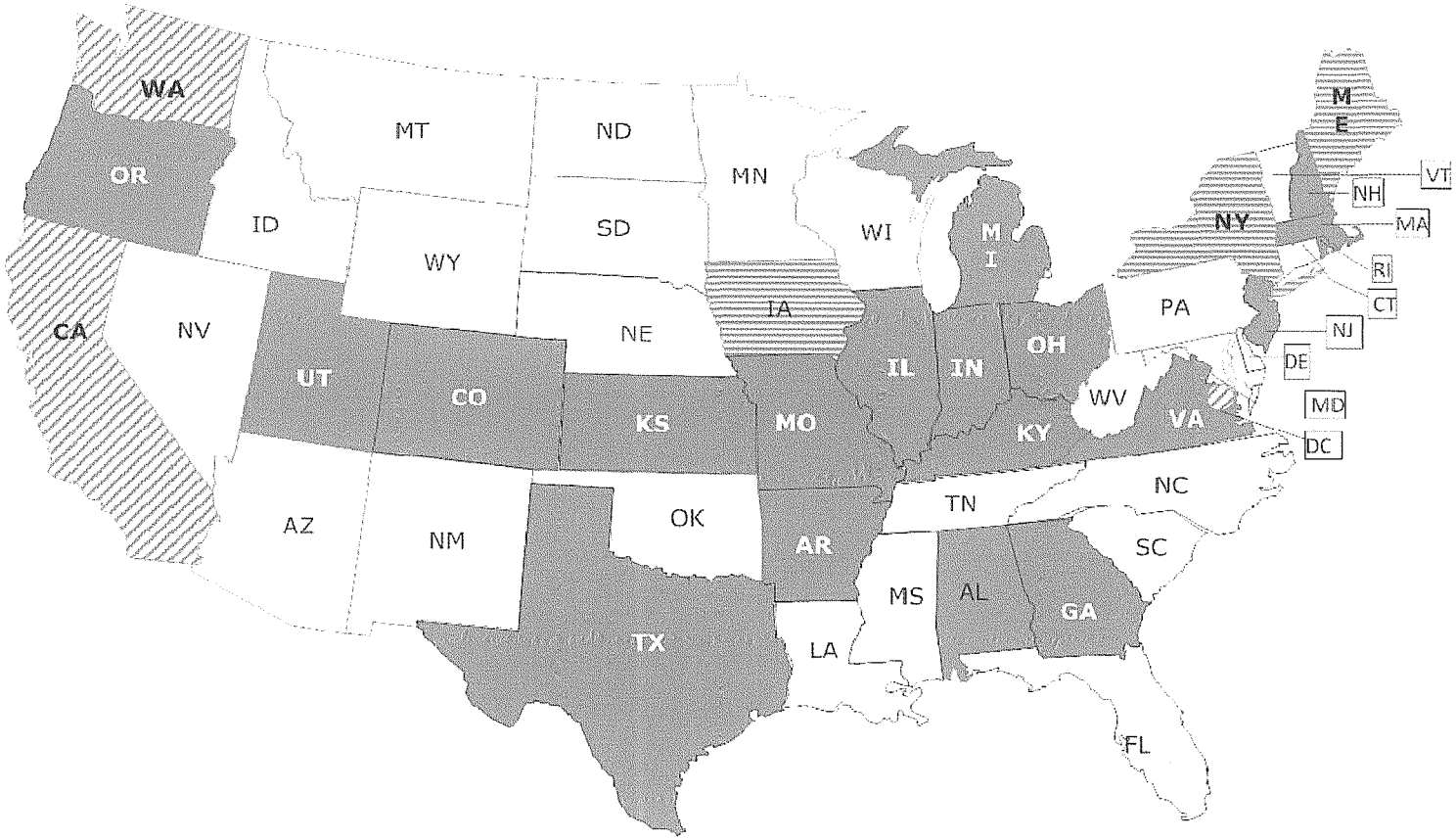
States With Infrastructure Cost Recovery Mechanisms as of March 2012



States with Full Infrastructure Cost Recovery Mechanisms (19)

States with Limited Infrastructure Cost Recovery Mechanisms (3)

States with Pending Infrastructure Cost Recovery Mechanisms (2 + DC)

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Infrastructure Cost Recovery Mechanisms as of March 2012

20 Million Residential Customers - Of 65 Million (2010) US Customers

FULL - 19 States

1. AL – Mobile Gas Service
2. AR – CenterPoint Energy
3. CO – Public Service Co. of Colorado
4. GA – Atlanta Gas Light
5. GA – Atmos Energy
6. IL– Integrys Peoples Gas
7. IN – Vectren North Indiana Gas
8. IN – Vectren South SIGECO
9. KS – Atmos Energy
10. KS – Black Hills
11. KS – Kansas Gas Service
12. KY – Atmos Energy
13. KY – Columbia Kentucky
14. KY – Delta Natural Gas
15. KY – Duke Energy Kentucky
16. MA – Columbia Massachusetts
17. MA – National Grid Massachusetts
18. MA – New England Gas
19. MI – SEMCO Energy
20. MO – Ameren Missouri
21. MO – Atmos Energy
22. MO – Laclede Gas
23. MO – Missouri Gas Energy
24. NH – National Grid EnergyNorth
25. NJ – New Jersey Natural
26. NJ – Elizabethtown Gas
27. NJ – Public Service Electric and Gas
28. NJ – South Jersey Gas
29. OH – Columbia Ohio
30. OH – Dominion East Ohio
31. OH – Duke Energy
32. OH – Vectren Ohio
33. OR – Avista Corp.
34. OR – NW Natural
35. RI – National Grid Narragansett Gas
36. TX – Atmos Energy
37. TX – CenterPoint Energy
38. TX – Texas Gas Service
39. TX – All Natural Gas Utilities May Apply
40. UT – Questar Gas
41. VA – Columbia Virginia
42. VA – Washington Gas

    VA – All Natural Gas Utilities May Apply

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– Limited and Pending – Infrastructure Cost Recovery Mechanisms as of March 2012

Of 65 Million Customers in U.S. (2010)

LIMITED - 3 States

1. ME – Northern Utilities
   IA – All Natural Gas Utilities May Apply
2. NY – Corning Natural Gas
3. NY – National Grid NYC
4. NY – National Grid Long Island
5. NY – National Grid Niagara Mohawk

2 Million Residential Customers

PENDING – 3 Additional States

1. CA – Southern California Gas
2. CA – San Diego Gas and Electric
3. DC – Washington Gas
4. NH – Northern Utilities
5. WA – Puget Sound Energy

7 Million Residential Customers

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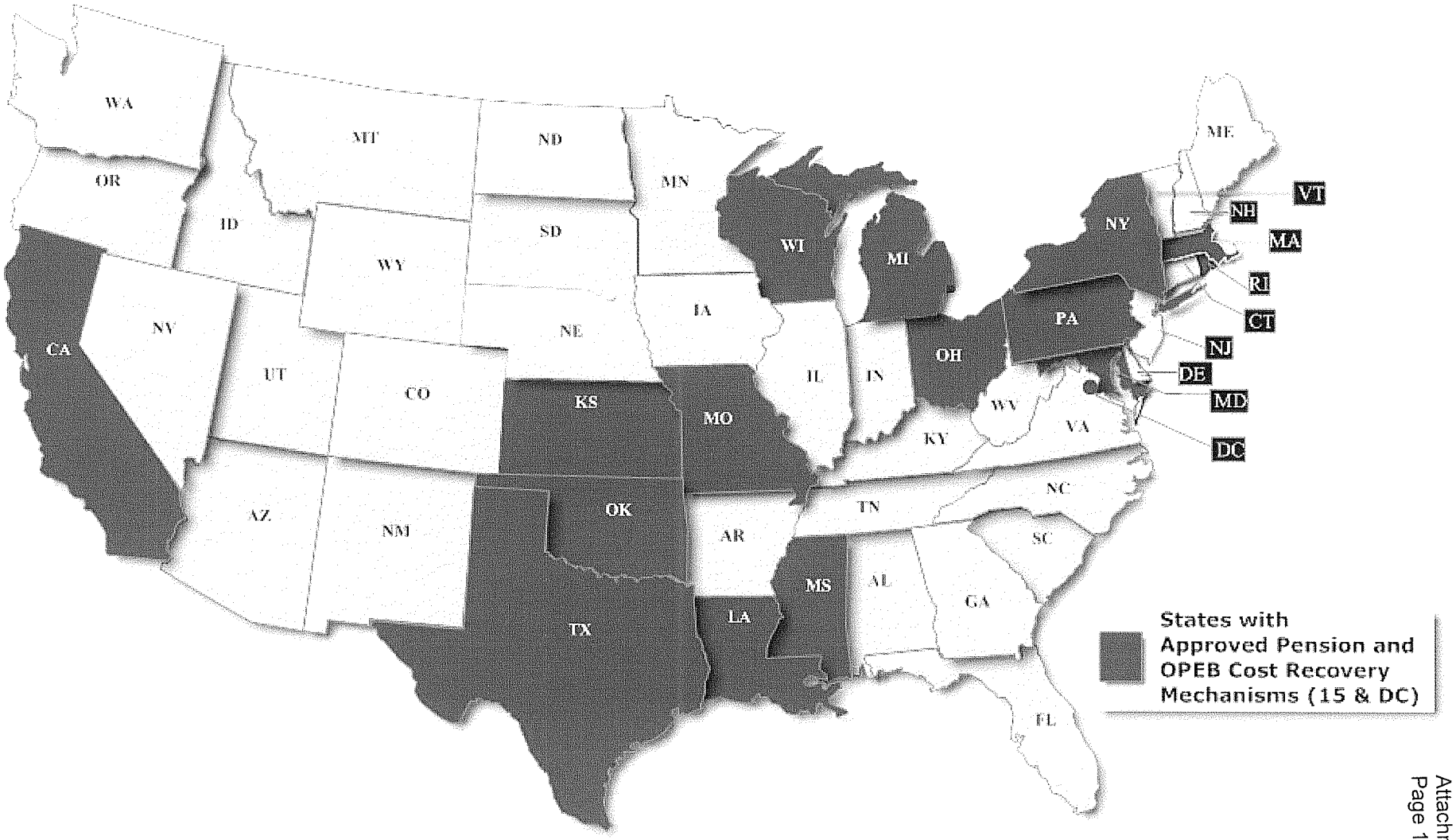
States with Innovative Pension and OPEB Cost Recovery Mechanisms - As of March 2012



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Pension and OPEB Cost Recovery Mechanisms as of March 2012

APPROVED – 26 Companies, 15 States + DC, 17 Million Res. Custs.*

1. CA - San Diego Gas & Electric
2. CA - Southern California Gas
3. DC - Washington Gas
4. KS - Kansas Gas Service
5. LA - Atmos Energy
6. LA - CenterPoint Energy Arkla
7. LA – CenterPoint Energy Entex
8. MA - Columbia Massachusetts
9. MA - National Grid Boston Gas
10. MD - Baltimore Gas & Electric
11. MI - Michigan Consolidated Gas
12. MO - Ameren Missouri
13. MO - Laclede Gas
14. MO - Missouri Gas Energy
15. MS - Atmos Energy
16. NY - Central Hudson Gas & Electric
17. NY - Consolidated Edison
18. NY - Orange and Rockland Utilities
19. NY - National Grid
20. OH – Columbia Ohio
21. OK - CenterPoint Energy
22. OK - Oklahoma Natural Gas
23. PA - UGI – Penn
24. RI - National Grid Narragansett Gas
25. TX – CenterPoint Energy
26. WI - Wisconsin Power & Light

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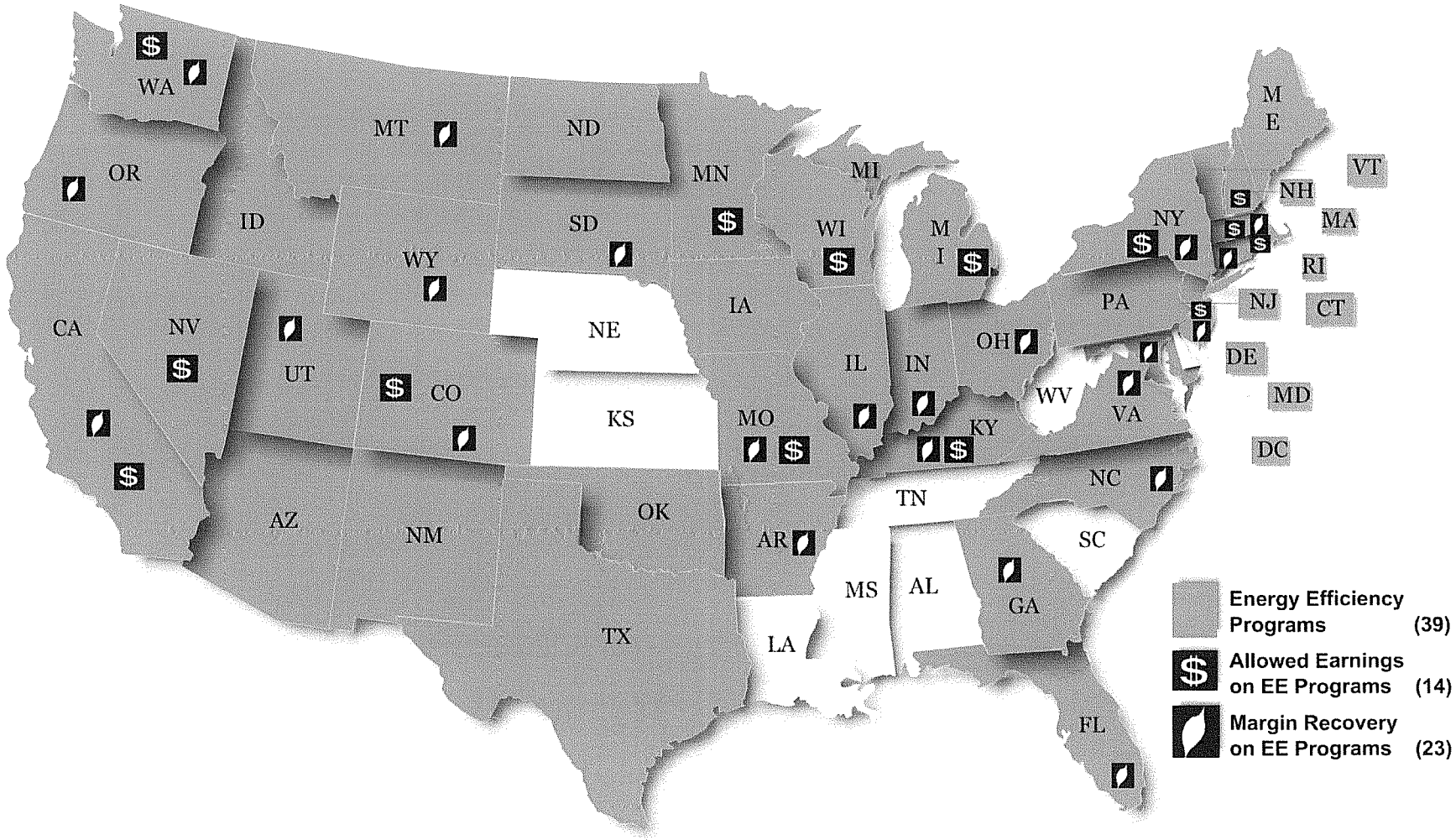
*** Of 65 Million (2010) US Residential Customers**

States with Natural Gas Energy Efficiency Programs in 2011 – 117 Utilities



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Utilities with Energy Efficiency Programs in 2011 - page 1

1. AR - Arkansas Oklahoma Gas
2. AR - Arkansas Western Gas
3. AR - CenterPoint Energy
4. AZ - Southwest Gas
5. CA - Pacific Gas and Electric
6. CA - San Diego Gas & Electric
7. CA - Southern California Gas
8. CA - Southwest Gas
9. CO - Atmos Energy
10. CO - Black Hills Energy
11. CO - Colorado Natural Gas
12. CO - Source Gas
13. CO - Public Service Co. of Colorado
14. CT - Connecticut Natural Gas
15. CT - Southern Connecticut Natural Gas
16. CT - Yankee Gas Service
17. FL - TECO Peoples Gas
18. GA - Atlanta Gas Light
19. IA - Atmos Energy Midstates Division
20. IA - Black Hills Energy
21. IA - Interstate Power and Light
22. IA - MidAmerican Energy
23. ID - Avista Utilities
24. ID - Intermountain Gas
25. IL - Ameren Illinois Utilities
26. IL - MidAmerican Energy
27. IL - Nicor Gas
28. IL - North Shore Gas
29. IL - Peoples Gas
30. IL - Citizens Energy Group
31. IL - Northern Indiana Public Service Co.
32. IN - Vectren Energy Delivery
33. KY - Atmos Energy - Midstates Division
34. KY - Columbia Gas of Kentucky
35. KY - Delta Natural Gas
36. KY - Duke Energy
37. KY - Louisville Gas and Electric
38. MA - Bay State Gas Company
39. MA - Berkshire Gas
40. MA - Fitchburg Gas and Electric Light
41. MA - National Grid Massachusetts
42. MA - NSTAR Electric and Gas
43. MD - Baltimore Gas and Electric
44. MD - Columbia Gas of Maryland
45. MD - Washington Gas Light
46. ME - Northern Utilities
47. MI - Consumers Energy
48. MI - MichCon
49. MI - Michigan Gas Utilities
50. MN - CenterPoint Energy
51. MN - Great Plains Natural Gas
52. MN - Interstate Power and Light
53. MN - Minnesota Energy Resources
54. MN - Xcel Energy
55. MO - Atmos Energy Midstates Division
56. MO - Empire District Gas
57. MO - Laclede Gas
58. MO - Missouri Gas Energy
59. MT - Montana-Dakota Utilities
60. NC - Piedmont Natural Gas

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Utilities with Energy Efficiency Programs in 2011 - page 2

61. NC - Public Service Co. of North Carolina
62. ND - Montana-Dakota Utilities
63. ND - Xcel Energy
64. NH - National Grid New Hampshire
65. NH - Northern Utilities
66. NJ - Elizabethtown Gas
67. NJ - New Jersey Natural Gas
68. NJ - Public Service Electric and Gas
69. NJ - South Jersey Gas
70. NM - New Mexico Gas
71. NV - NV Energy
72. NV - Southwest Gas
73. NY - Consolidated Edison of New York
74. NY - National Fuel Gas
75. NY - National Grid NY Downstate(LI & NYC)
76. NY - Niagara Mohawk
77. NY - Orange & Rockland Utilities
78. NY - St. Lawrence Gas
79. OH - Columbia Gas of Ohio
80. OH - Dominion East Ohio
81. OH - Duke Energy
82. OH - Vectren Energy Delivery of Ohio
83. OK - Oklahoma Natural Gas
84. OR - Avista Utilities
85. OR - Cascade Natural Gas
86. OR - NW Natural
87. PA - Columbia Gas of Pennsylvania
88. PA - Equitable Gas
89. PA - PECO
90. PA - Peoples Natural Gas
91. PA - Philadelphia Gas Works
92. PA - UGI Utilities
93. RI - National Grid Rhode Island
94. SD - MidAmerican Energy
95. SD - Montana-Dakota Utilities
96. TX - Atmos Energy - Mid-Texas Division
97. TX - Texas Gas Service
98. UT - Questar Gas
99. VA - Columbia Gas of Virginia
100. VA - Virginia Natural Gas
101. VA - Washington Gas Light
102. VT - Vermont Gas Systems
103. WA - Avista Utilities
104. WA - Cascade Natural Gas
105. WA - NW Natural
106. WA - Puget Sound Energy
107. WI - City Gas
108. WI - Madison Gas and Electric
109. WI - Midwest Natural Gas
110. WI - St. Croix Valley Natural Gas
111. WI - Superior Water, Light & Power
112. WI - We Energies
113. WI - Wisconsin Power and Light
114. WI - Wisconsin Public Service
115. WI - Xcel Energy
116. WY - Montana-Dakota Utilities
117. WY - Questar Gas

Revenue Tracker Summary
as of March 2012

Revenue Decoupling
- 21 states, 48 companies, 30 million residential customers

Rate Stabilization Tariffs
- 7 states, 14 companies, 6 million customers

Weather Normalization (Partial Decoupling)
- 25 states and Canada, 55 companies, 16 million US residential customers

All Revenue Trackers
- 98 companies, 34 states and Canada, 40 million US residential customers

*** Of 65 Million (2010) US Residential Customers**

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Cost Tracker Summary
as of March 2012

Gas Cost Tracker (PGA)
- All states

Lost and Unaccounted For Tracker (LUAF)
- 47 States (excluding MI, MT, SD)

Bad Debt Cost Tracker
- 24 states plus DC and Canada, 61 companies, 25 million US customers; pending 2 companies, 1 million customers

Infrastructure Investment Cost Tracker
- 22 states (19 full, 3 limited), 47 utilities plus all in Texas, 22 million customers; pending 5 companies, 7 million customers

Pension Trackers
- 15 states plus DC, 26 companies, 17 million customers

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MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED NOVEMBER 30, 2012
DOCKET NO. D2012.9.100

MCC-118 RE: Proposed DDSM
Witness: Tamie A. Aberle

In your testimony at page 28, lines 4-6, you state "With the implementation of the proposed DDSM, customers will pay each year approximately the same amount for gas delivery service as if they had experienced normal weather." Please provide all analyses, calculations and documents you used in reaching and supporting this conclusion.

Response:

Please see Exhibit No. ___(TAA-6). As demonstrated by the example provided, the distribution delivery revenues paid under each scenario, 1-normal weather, 2-20% colder than normal weather and 3-20% warmer than normal weather, are approximately the same. Distribution delivery revenues under the normal weather scenario are $13.87. When the DDSM is credited to the bill in the colder than normal scenario the distribution delivery revenue is $13.88 and when DDSM is added to the bill in the warmer than normal scenario the distribution delivery revenue is $13.87.

MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED NOVEMBER 30, 2012
DOCKET NO. D2012.9.100

MCC-120 RE: Service Interruptions
Witness: Tamie A. Aberle

Please state the date(s), the number of customers affected, and the quantities interrupted, in Mcf and Dkt, for each capacity-related service interruption on MDU's Montana system during the period 2002 through 2011.

Response:

Please see Response No. MCC-105 for pipeline capacity or gas supply related service interruptions for the period 2009-2011. There were no distribution capacity-related service interruptions called on Montana-Dakota's Montana system during the period 2002-2011.