

FILE

PUCO EXHIBIT FILING

Date of Hearing: 3-12-19

Case No. In the Matter of the :
Application of Vectren :
Energy Delivery of Ohio, : Case No. 18-0049-GA-ALT
PUCO Case Inc., for Approval of an :
Alternative Rate Plan. :

_____ In the Matter of the :
Application of Vectren :
Energy Delivery of Ohio, : Case No. 18-0298-GA-AIR
_____ Inc., for Approval of an :
Increase in Gas Rates. :

_____ In the Matter of the :
Application of Vectren :
Energy Delivery of Ohio, : Case No. 18-0299-GA-ALT
_____ Inc., for Approval of an :
Alternative Rate Plan. :

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Reporter's Signature: Kher Gibson

Date Submitted: 3/15/2019

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BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO

- - -

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Energy Delivery of Ohio, : Case No. 18-0299-GA-ALT
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- - -

PROCEEDINGS

before Mr. Gregory Price and Ms. Patricia Schabo,
Attorney Examiners, at the Public Utilities
Commission of Ohio, 180 East Broad Street, Room 11-A,
Columbus, Ohio, called at 10:00 a.m. on Tuesday,
March 12, 2019.

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VOLUME VI - REBUTTAL TESTIMONY

- - -

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- - -



American Gas Association

Energy Analysis

POLICY ANALYSIS GROUP
400 N. Capitol St., NW
Washington, DC 20001
www.aga.org

EA 2015-03

May 28, 2015

NATURAL GAS UTILITY RATE STRUCTURE: THE CUSTOMER CHARGE COMPONENT – 2015 UPDATE

I. Introduction

The largest part of a natural gas customer's bill is the cost of the gas itself, over which the utility has little control. This cost accounts for about 41 cents of every dollar of revenue received by a distribution utility.¹ The bill amount for the gas portion varies with price as well as amount consumed. Natural gas utilities also incur costs that are not dependent on a customer's consumption. These "fixed" costs may include:

- Meter reading
- Billing
- Fixed costs on plant and equipment
 - Depreciation and taxes
 - Distribution mains, meters, and service lines
- Most administrative and general expenses
 - Wages
 - Buildings, energy, etc.
- Natural gas storage
- Customer and service O&M

Most utilities recover at least a portion of these costs through a fixed charge on a customer's bill. This is most often called the "customer charge", but is also called minimum bill, facility charge, service charge, fixed charge, and access fee. In addition to recovering some of the fixed costs, the customer charge also represents a fee for "readiness to

¹ 2011-2013 Performance Benchmarks for Natural Gas Utilities, American Gas Association, January 31, 2015

serve”, even if the customer does not use any gas for that billing period.² This charge is typically determined between the utility and its government regulators through a rate case.

In the past few years the customer charge has increased in prominence in gas utility rate cases. In some cases utilities are finding it difficult to achieve authorized rates of return in an unpredictable gas market due in part to:

- declining use per customer;
- significant swings in the commodity cost of natural gas;
- increased costs from recent legal and regulatory mandates (pipeline safety, pension, etc.); and,
- growing bad debt costs.

Some companies have sought to increase their customer charges to better capture the actual fixed costs of serving these customers, citing the following benefits:

- moderates volatility in customer bills;
- encourages utilities to promote customer conservation;
- makes utility earnings less dependent on sales volumes;
- improves cash flow, mitigating need for working capital;
- reduces winter bills for high use customers;
- reduces the need for future rate cases; and;
- Is a more appropriate way to recover fixed costs.

This analysis updates a report done five years ago.³ The purpose of this analysis is to illustrate the current levels of customer charges, estimate the portion of fixed costs that these charges cover, and track their historical growth.

II. Executive Summary

The customer charge is a part of the natural gas utility customer's bill that does not vary with consumption. Based on Internet searches and AGA surveys, this charge:

- is typically \$11.25 per month for residential customers and \$22 for small commercial customers (median values represent about 237 rate jurisdictions);
- represents approximately 19 percent of a residential customer's annual bill;
- typically recovers only 46 percent of a utility's actual fixed costs; and,
- would be about \$24 per month for the residential sector, on average, in order to recover all of a utility's typical fixed costs.

III. Current Customer Charge Levels

A February 2015 internet search of natural gas utility tariffs provided data on customer charges for 197 rate jurisdictions in all states and the District of Columbia (see Appendix

² Gas Rate Fundamentals, American Gas Association, 1987

³ *Natural Gas Utility Rate Structure: The Customer Charge Component – 2010 Update* American Gas Association April 9, 2010.

1). Residential (excluding master metered apartments) and small commercial⁴ rates were examined.

The median customer charge for the residential sector was \$11.25 per month, with 75 percent of the companies having a residential customer charge of \$15.38 or less. The highest charge was \$45.06. The commercial customer charges showed a wider variation. For the small commercial customer, the median monthly customer charge was \$22.00, with 75 percent at or below \$30.31. The high for this sector was \$304.94⁵.

Table 1
2015 Natural Gas Utility Monthly Customer Charges

	First Quartile	Median	Third Quartile
Residential	\$9.00	\$11.25	\$15.38
Commercial	\$15.00	\$22.00	\$30.31

Based on that \$11.25 monthly figure, the customer charge comprises 19 percent of the typical residential customer's annual natural gas bill.⁶

The utilities were grouped by Census region to determine if charges varied by location. The median residential charge was highest in the Middle Atlantic region at \$14.60 per month, compared to the lowest charge of \$4.95 in the Pacific region. (See Appendix 2 for a map of the Census regions.) The highest median monthly commercial customer charge (\$28.41) occurred in the New England region, while the Pacific region again had the lowest (\$14.90 – see Table 2).

Table 2
2015 Natural Gas Utility Median Monthly Customer Charges by Census Region

Census Region	Residential	Commercial
New England	\$ 13.50	\$ 28.41
Middle Atlantic	\$ 14.60	\$ 23.60
East North Central	\$ 11.38	\$ 24.00
West North Central	\$ 13.16	\$ 24.40
South Atlantic	\$ 10.00	\$ 22.00
East South Central	\$ 14.00	\$ 16.96
West South Central	\$ 13.24	\$ 18.51
Mountain	\$ 10.80	\$ 20.00
Pacific	\$ 4.95	\$ 14.90

It should be noted that these variations in customer charges are caused by a number of factors, such as:

- the company itself – age of system, number of customers, employee wages and benefits, etc.;

⁴ For tariffs with more than one commercial category, the lowest level of consumption was selected.

⁵ One tariff had a commercial customer charge in excess of \$1,000, which was not included in the sample

⁶ Based on a total bill of \$718 per customer calculated from Gas Facts 2013 Data

- local regulatory environment – regulatory philosophy (particularly in California), intervenor activity, etc.;
- geographic location – climate, cost to install mains (e.g. rocky ground = higher cost, so proportionally more fixed costs compared to sandy soils), etc.; and,
- rate case frequency – companies that have not had a rate case in a relatively long time tend to have a relatively lower fixed charge.

IV. Customer Charges Relative to Utility Fixed Costs

The customer charge recovers only a percentage of the utility's actual fixed costs, with the remainder of the fixed costs allocated to volumetric charges. In the spring of 2015, the American Gas Association asked its members,

What percentage of the utility's fixed costs for the residential sector do you estimate is recovered in the residential monthly customer/service charge?

Companies representing more than 62 rate jurisdictions in 32 states and the District of Columbia responded. The median recovery value of responders was 46 percent of actual fixed costs on a monthly basis. Only five responders estimated that they recovered 25 percent or less of the fixed costs through the customer charge (Table 3). Based on an \$11.25 median monthly charge, on average the customer charge would be about \$24 in order to recover all of a utility's fixed costs on a monthly basis.⁷

Table 3
Portion of Fixed Costs Recovered by Customer Charge – Monthly Basis

At Most 25%	5 Companies
At Most 50%	22 Companies
At Most 75%	8 Companies

Source: AGA Survey, 2015

On a monthly basis, the percentage of fixed costs recovered by the customer charge varied by geographic area (Table 4). The highest reported recovery portion is in the West South Central section of the country, while the lowest occurred in the Pacific region.

Table 4
Regional Breakout of Portion of Fixed Costs Recovered by Customer Charge (Medians) – Monthly Basis

New England	31%
Middle Atlantic	34%
East North Central	64%
West North Central	55%
South Atlantic	48%
East South Central	48%
West South Central	85%
Mountain	42%
Pacific	16%

Source: AGA Survey, 2015

⁷ Median charge of \$11.25/month divided by 0.46 (portion of fixed costs recovered)

VI. Trends in Customer Charges

AGA surveys its members regarding customer bills on a quarterly basis. Results are available back to December 1985. While the survey does not specifically cover customer charges, it does ask what a customer's bill would be if the customer did not use any gas that month ("zero use"). The historical values for "zero use" should be a good indicator of trends in customer charges.

Table 7 shows the historical average values for residential "zero use" bills for the month of December for various years. The average value started out at \$4.91 in 1985. By 2014, the average value had risen to \$13.95.

Table 7
Trends in Average Residential Customer Charge Levels, 1985-2014

12/85	12/90	12/95	12/01*	12/05	12/10	12/14
\$4.91	\$5.47	\$6.73	\$8.04	\$8.91	\$12.49	\$13.95

Source – AGA Surveys

* December 2000 data not available

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Appendix 1
NATURAL GAS CUSTOMER CHARGE

<u>Company</u>	<u>State</u>	<u>Residential</u>	<u>Small Commercial</u>
CONTINENTAL ENERGY - ENSTAR NATURAL GAS CO	AK	\$ 14.00	\$ 30.00
SEMPRA - MOBILE GAS SERVICE	AL	\$ 8.50	\$ 16.30
ARKANSAS OKLAHOMA GAS CORP - AR	AR	\$ 10.70	\$ 15.95
CENTERPOINT ARKLA AR	AR	\$ 9.75	\$ 13.00
SOURCEGAS LLC AR	AR	\$ 10.20	\$ 18.51
SOUTHWEST GAS CORP AZ	AZ	\$ 10.70	\$ 27.50
UNISOURCE ENERGY SERVICES	AZ	\$ 10.00	\$ 20.00
PACIFIC GAS & ELECTRIC CO	CA	\$ -	\$ 8.10
SEMPRA - SAN DIEGO GAS & ELECTRIC CO	CA	\$ -	\$ 10.00
SEMPRA - SOUTHERN CALIFORNIA GAS CO	CA	\$ 4.90	\$ 14.80
SOUTHWEST GAS CORP CA	CA	\$ 5.00	\$ 11.00
ATMOS ENERGY CORPORATION CO	CO	\$ 11.00	\$ 26.28
BLACK HILLS ENERGY - CO	CO	\$ 10.08	\$ 15.12
COLORADO SPRINGS, CITY OF	CO	\$ 11.79	\$ 23.58
SOURCEGAS LLC CO	CO	\$ 10.00	\$ 20.00
XCEL - PUBLIC SERVICE CO OF COLORADO	CO	\$ 11.50	\$ 32.08
UIL - CONNECTICUT NATURAL GAS CORP	CT	\$ 16.50	\$ 47.50
UIL - SOUTHERN CONNECTICUT GAS CO	CT	\$ 14.00	\$ 35.00
YANKEE GAS SERVICES CO	CT	\$ 18.50	\$ 46.00
WASHINGTON GAS LIGHT CO DC	DC	\$ 9.90	\$ 17.10
CHESAPEAKE UTILITY CORP DE	DE	\$ 10.50	\$ 26.00
DELMARVA POWER & LIGHT COMPANY	DE	\$ 11.41	\$ 34.37
AGL - FLORIDA CITY GAS	FL	\$ 8.00	\$ 9.50
CHESAPEAKE UTILITY CORP FL	FL	\$ 11.00	\$ 20.00
GAINESVILLE REGIONAL UTIL GAS DEPT	FL	\$ 9.75	
TECO PEOPLES GAS SYSTEM INC	FL	\$ 12.00	\$ 25.00
AGL - ATLANTA GAS LIGHT CO	GA	\$ 11.00	\$ 45.00
LIBERTY UTILITIES GA	GA	\$ 26.31	\$ 55.60

Appendix 1 - Continued
NATURAL GAS CUSTOMER CHARGE

	<u>Company</u>	<u>State</u>	<u>Small</u>	
			<u>Residential</u>	<u>Commercial</u>
THE GAS COMPANY		HI	\$ 8.50	\$ 62.00
ALLIANT - INTERSTATE P&L IA		IA	\$ 12.82	
BLACK HILLS ENERGY - IA		IA	\$ 18.25	\$ 29.00
LIBERTY UTILITIES IA		IA	\$ 7.95	\$ 13.00
MIDAMERICAN ENERGY COMPANY IA		IA	\$ 10.00	
AVISTA CORP - ID		ID	\$ 8.00	\$ 12.00
MONTANA - DAKOTA UTILITIES INTERMOUNTAIN		ID	\$ 6.50	\$ 9.50
AGL - NICOR		IL	\$ 13.55	\$ 20.80
AMEREN - ILLINOIS		IL	\$ 22.31	\$ 39.77
INTEGRYS - NORTH SHORE GAS CO		IL	\$ 24.48	\$ 29.56
INTEGRYS - PEOPLES GAS LIGHT & COKE CO		IL	\$ 30.83	\$ 38.24
LIBERTY UTILITIES IL		IL	\$ 9.90	\$ 25.00
MIDAMERICAN ENERGY COMPANY IL		IL	\$ 12.69	\$ 93.18
MT CARMEL PUBLIC UTILITY CO		IL	\$ 15.00	\$ 15.00
CITIZENS GAS & COKE UTILITY		IN	\$ 9.00	\$ 22.00
NISOURCE - NIPSCO		IN	\$ 11.00	\$ 30.00
VECTREN - INDIANA GAS CO INC		IN	\$ 11.25	\$ 17.00
VECTREN - SOUTHERN INDIANA GAS & ELECTRIC CO		IN	\$ 11.00	\$ 22.00
ATMOS ENERGY CORPORATION KS		KS	\$ 18.19	\$ 40.88
BLACK HILLS ENERGY - KS		KS	\$ 17.25	\$ 26.45
ONEOK - KANSAS GAS SERVICE		KS	\$ 15.35	\$ 28.65
ATMOS ENERGY CORPORATION - KY		KY	\$ 16.00	\$ 40.00
DELTA NATURAL GAS CO INC		KY	\$ 20.90	\$ 31.30
DUKE ENERGY KENTUCKY		KY	\$ 16.00	\$ 47.50
EQUITABLE RESOURCES KY		KY	\$ 7.50	\$ 7.50
LOUISVILLE GAS & ELECTRIC CO		KY	\$ 13.50	\$ 35.00
NISOURCE - COLUMBIA GAS OF KENTUCKY INC		KY	\$ 15.00	\$ 37.50
RICHMOND NATURAL GAS & SEWAGE WKS		KY	\$ 15.49	\$ 15.49
ATMOS ENERGY CORPORATION LA		LA	\$ 13.96	\$ 23.24
ATMOS ENERGY CORPORATION TRANS LA		LA	\$ 14.00	\$ 14.00
CENTERPOINT ARKLA LA		LA	\$ 10.00	\$ 16.00
CENTERPOINT ENTEx LA		LA	\$ 11.25	\$ 16.00
ENTERGY NEW ORLEANS, INC		LA	\$ 20.40	\$ 112.58

Appendix 1 - Continued
NATURAL GAS CUSTOMER CHARGE

<u>Company</u>	<u>State</u>	<u>Residential</u>	<u>Small Commercial</u>
HOLYOKE GAS & ELECTRIC DEPT, CITY OF	MA	\$ 6.00	\$ 10.00
LIBERTY UTILITIES MA	MA	\$ 9.90	\$ 22.00
NATIONAL GRID - BOSTON GAS CO	MA	\$ 10.00	\$ 21.00
NATIONAL GRID - COLONIAL GAS CO	MA	\$ 6.00	
NATIONAL GRID - ESSEX COUNTY GAS CO	MA	\$ 21.00	\$ 39.00
NISOURCE - COLUMBIA GAS OF MASSACHUSETTS INC	MA	\$ 12.20	\$ 19.80
UIL - BERKSHIRE GAS CO	MA	\$ 11.42	\$ 12.51
UNITIL - FITCHBURG GAS & ELECTRIC LIGHT CO	MA	\$ 8.50	\$ 24.00
AGL - ELKTON GAS SERVICE	MD	\$ 5.75	\$ 11.00
BALTIMORE GAS & ELECTRIC CO	MD	\$ 13.00	\$ 35.00
CHESAPEAKE UTILITY CORP MD	MD	\$ 8.75	\$ 17.25
EASTON UTILITIES COMMISSION	MD	\$ 9.65	\$ 33.25
NISOURCE - COLUMBIA GAS OF MARYLAND INC	MD	\$ 13.62	\$ 36.68
UGI - CENTRAL PENN GAS, INC MD	MD	\$ 9.68	
WASHINGTON GAS LIGHT CO MD	MD	\$ 10.20	\$ 18.50
ENERGY EAST - MAINE NATURAL GAS	ME	\$ 24.34	\$ 34.77
GAS NATURAL - BANGOR GAS CO LLC	ME	\$ 14.29	
UNITIL - NORTHERN UTILITIES INC (ME)	ME	\$ 23.06	\$ 54.77
CONSUMERS ENERGY CO	MI	\$ 11.50	\$ 12.50
CONTINENTAL ENERGY - SEMCO	MI	\$ 11.50	\$ 11.50
DTE - CITIZENS GAS FUEL CO	MI	\$ 10.50	\$ 20.00
DTE - MICHIGAN CONSOLIDATED	MI	\$ 10.50	\$ 26.20
INTEGRYS - MICHIGAN GAS UTILITIES CO	MI	\$ 12.00	\$ 33.00
INTEGRYS - WISCONSIN PUBLIC SERVICE CORP MI	MI	\$ 5.00	\$ 7.50
XCEL - NORTHERN STATES POWER CO OF MICHIGAN	MI	\$ 7.25	\$ 16.00
ALLIANT - INTERSTATE P&L MN	MN	\$ 5.00	
CENTERPOINT ENERGY MN	MN	\$ 9.50	\$ 15.00
INTEGRYS - MERC MN	MN	\$ 8.50	\$ 14.50
MONTANA - DAKOTA UTILITIES GREAT PLAINS MN	MN	\$ 6.50	\$ 20.00
XCEL - NORTHERN STATES POWER CO OF MINNESOTA	MN	\$ 9.00	\$ 25.00
AMEREN - UNION ELECTRIC CO	MO	\$ 15.00	\$ 28.83
LACLEDE GAS CO	MO	\$ 20.70	\$ 25.50
LIBERTY UTILITIES MO	MO	\$ 20.00	\$ 23.80
SOUTHERN UNION - MISSOURI GAS ENERGY	MO	\$ 27.87	\$ 40.74
THE EMPIRE DISTRICT GAS COMPANY	MO	\$ 16.50	\$ 25.00
ATMOS ENERGY CORPORATION MS	MS	\$ 6.95	\$ 11.27
CENTERPOINT ENTEX MS	MS	\$ 11.29	\$ 16.96

Appendix 1 - Continued
NATURAL GAS CUSTOMER CHARGE

<u>Company</u>	<u>State</u>	<u>Small</u>	
		<u>Residential</u>	<u>Commercial</u>
MONTANA - DAKOTA UTILITIES CO MT	MT	\$ 6.90	\$ 12.00
NORTHWESTERN ENERGY LLC MT	MT	\$ 7.30	\$ 19.00
GREENVILLE UTILITIES COMMISSION	NC	\$ 8.00	\$ 22.00
PIEDMONT NATURAL GAS CO INC NC	NC	\$ 10.00	\$ 22.00
SCANA - PUBLIC SERVICE CO OF NORTH CAROLINA	NC	\$ 10.00	\$ 17.50
MONTANA - DAKOTA UTILITIES CO ND	ND	\$ 14.81	\$ 20.10
MONTANA - DAKOTA UTILITIES GREAT PLAINS ND	ND	\$ 3.50	\$ 3.50
XCEL - NORTHERN STATES POWER CO OF NORTH DAKOTA	ND	\$ 18.48	\$ 30.00
BLACK HILLS ENERGY - NE	NE	\$ 13.50	\$ 18.50
METROPOLITAN UTILITIES DISTRICT	NE	\$ 13.72	
MIDAMERICAN ENERGY COMPANY NE	NE	\$ 10.00	\$ 135.10
NORTHWESTERN ENERGY LLC NE	NE	\$ 8.00	\$ 9.00
SOURCEGAS LLC NE	NE	\$ 15.00	\$ 23.05
LIBERTY UTILITIES NH	NH	\$ 19.85	\$ 46.71
NATIONAL GRID - ENERGY NORTH NATURAL GAS INC	NH	\$ 8.00	\$ 11.00
UNITIL - NORTHERN UTILITIES, INC. (NH)	NH	\$ 20.01	\$ 63.18
AGL - ELIZABETHTOWN GAS CO	NJ	\$ 8.00	\$ 16.50
NEW JERSEY NATURAL GAS CO	NJ	\$ 8.25	\$ 25.00
PUBLIC SERVICE ELECTRIC & GAS CO	NJ	\$ 5.46	\$ 10.44
SOUTH JERSEY GAS CO	NJ	\$ 9.63	\$ 29.16
CONTINENTAL ENERGY - NEW MEXICO GAS	NM	\$ 11.50	\$ 20.00
NATURAL GAS PROCESSING - ZIA NATURAL GAS CO	NM	\$ 10.96	\$ 300.00
NV ENERGY	NV	\$ 14.00	\$ 18.00
SOUTHWEST GAS CORP NV	NV	\$ 10.80	\$ 25.80
CENTRAL HUDSON GAS & ELECTRIC CORP	NY	\$ 17.03	\$ 24.33
CONSOLIDATED EDISON - ORANGE & ROCKLAND UTILITY INC	NY	\$ 18.63	\$ 29.08
CONSOLIDATED EDISON CO OF NEW YORK	NY	\$ 18.60	\$ 30.45
CORNING NATURAL GAS CORP	NY	\$ 19.75	\$ 1,220.00
ENERGY EAST - NYSEG	NY	\$ 16.30	\$ 23.60
ENERGY EAST - ROCHESTER GAS & ELECTRIC	NY	\$ 16.30	
NATIONAL FUEL GAS DISTRIBUTION CORP - NEW YORK	NY	\$ 15.54	\$ 7.10
NATIONAL GRID - LONG ISLAND	NY	\$ 21.66	\$ 17.60
NATIONAL GRID - NIAGARA MOHAWK	NY	\$ 20.35	\$ 24.22
NATIONAL GRID - NY CITY	NY	\$ 45.06	\$ 76.91
ST LAWRENCE GAS CO INC	NY	\$ 15.00	\$ 25.00
VALLEY ENERGY, INC.	NY	\$ 7.62	\$ 7.62

Appendix 1 - Continued
NATURAL GAS CUSTOMER CHARGE

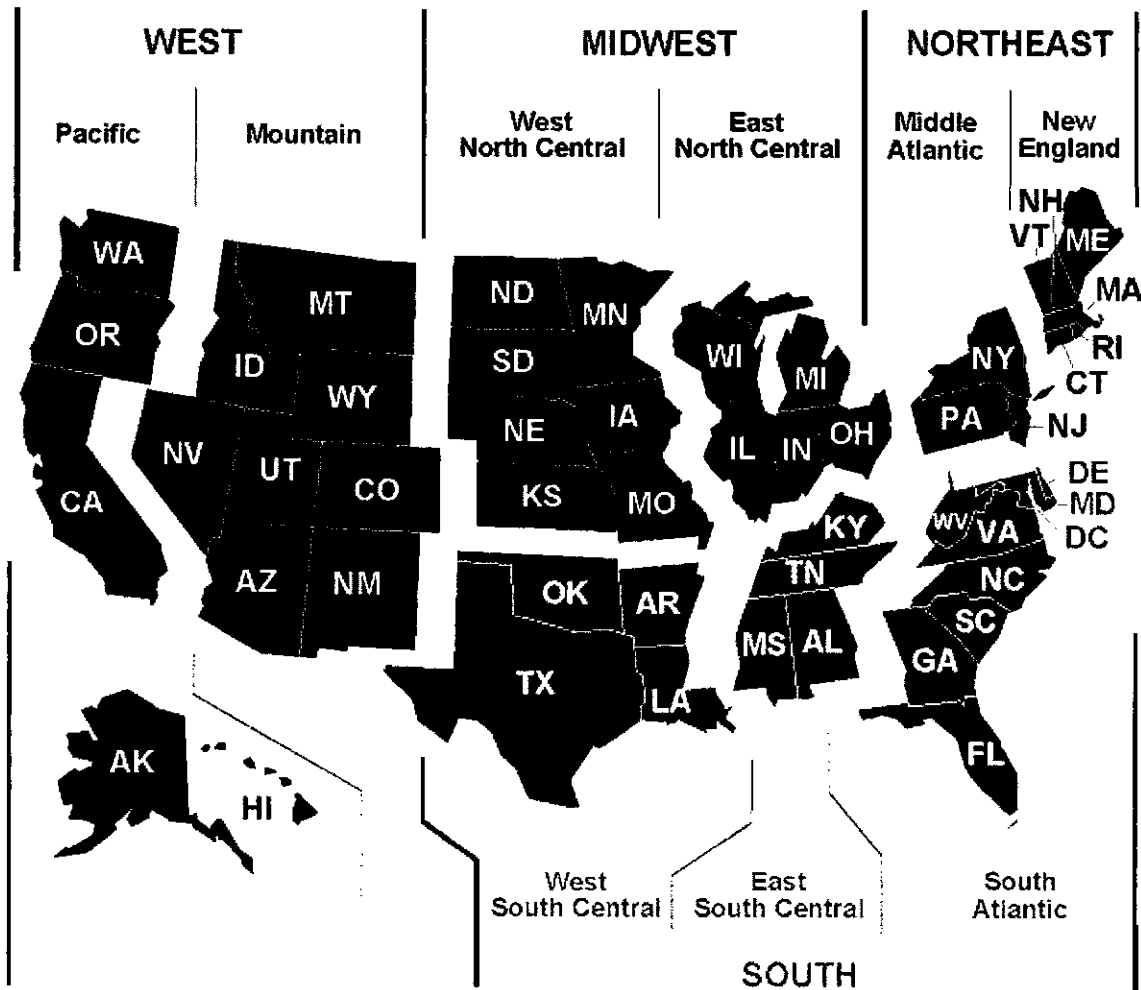
<u>Company</u>	<u>State</u>	<u>Small</u>	
		<u>Residential</u>	<u>Commercial</u>
DOMINION EAST OHIO	OH	\$ 23.58	\$ 26.00
DUKE ENERGY OHIO	OH	\$ 33.03	\$ 91.64
NISOURCE - COLUMBIA GAS OF OHIO INC	OH	\$ 24.69	\$ 24.69
VECTREN ENERGY DELIVERY OF OHIO	OH	\$ 18.37	\$ 20.00
ARKANSAS OKLAHOMA GAS CORP - OK	OK	\$ 15.65	\$ 30.15
CENTERPOINT ARKLA OK	OK	\$ 13.24	\$ 43.59
ONEOK - OKLAHOMA NATURAL GAS CO	OK	\$ 14.73	\$ 30.28
AVISTA CORP - OR	OR	\$ 4.25	\$ 95.00
MONTANA - DAKOTA UTILITIES CASCADE OR	OR	\$ 3.00	\$ 3.00
NORTHWEST NATURAL GAS CO OR	OR	\$ 8.00	\$ 15.00
EQUITABLE RESOURCES PA	PA	\$ 13.25	\$ 17.00
NATIONAL FUEL GAS DISTRIBUTION CORP PA	PA	\$ 12.00	
NISOURCE - COLUMBIA GAS OF PENNSYLVANIA	PA	\$ 16.75	\$ 21.25
PECO ENERGY CO	PA	\$ 11.75	\$ 28.55
PEOPLES NATURAL GAS COMPANY	PA	\$ 13.95	\$ 14.88
PHILADELPHIA GAS WORKS	PA	\$ 12.00	\$ 18.00
UGI - CENTRAL PENN GAS, INC PA	PA	\$ 14.60	\$ 30.40
UGI - PENN NATURAL GAS PA	PA	\$ 2.19	\$ 2.80
UGI - UGI UTILITIES, INC PA	PA	\$ 8.55	\$ 8.55
NATIONAL GRID - RI	RI	\$ 13.00	\$ 22.00
GREENWOOD COMMISSION OF PUBLIC WORKS	SC	\$ 10.00	\$ 16.25
PIEDMONT NATURAL GAS CO INC SC	SC	\$ 17.45	\$ 44.00
SCANA - SOUTH CAROLINA ELECTRIC & GAS CO	SC	\$ 10.90	\$ 21.54
MIDAMERICAN ENERGY COMPANY SD	SD	\$ 8.87	\$ 304.94
MONTANA - DAKOTA UTILITIES CO SD	SD	\$ 8.40	\$ 10.50
NORTHWESTERN ENERGY LLC SD	SD	\$ 8.00	\$ 10.00
AGL - CHATTANOOGA GAS CO	TN	13/16	25/29
ATMOS ENERGY CORPORATION TN	TN	\$ 15.40	\$ 13.85
KNOXVILLE UTILITIES BOARD	TN	\$ 6.65	\$ 13.00
MEMPHIS LIGHT GAS & WATER DIVISION	TN	\$ 10.00	
MIDDLE TENNESSEE NATURAL GAS UTIL DIST	TN	\$ 7.00	\$ 16.00
PIEDMONT NATURAL GAS CO INC TN	TN	\$ 17.45	\$ 44.00
ATMOS ENERGY CORPORATION TX	TX	\$ 18.20	\$ 38.50
CENTERPOINT ENTEX TX	TX	\$ 15.29	\$ 17.24
CORPUS CHRISTI, CITY OF - GAS DIV	TX	\$ 11.44	\$ 26.30
COSERV GAS, LTD	TX	\$ 7.00	\$ 13.30
QUESTAR GAS COMPANY UT	UT	\$ 6.75	\$ 18.25

Appendix 1 - Continued
NATURAL GAS CUSTOMER CHARGE

<u>Company</u>	<u>State</u>	<u>Small</u>	
		<u>Residential</u>	<u>Commercial</u>
AGL - VIRGINIA NATURAL GAS	VA	\$ 11.00	\$ 14.10
ATMOS ENERGY CORPORATION VA	VA	\$ 10.98	\$ 22.00
CHARLOTTESVILLE, CITY OF	VA	\$ 10.00	\$ 10.00
NISOURCE - COLUMBIA GAS OF VIRGINIA INC	VA	\$ 18.00	\$ 22.00
RICHMOND, CITY OF	VA	\$ 11.70	\$ 13.83
SOUTHWESTERN VIRGINIA GAS CO	VA	\$ 9.55	\$ 12.75
WASHINGTON GAS LIGHT CO VA	VA	\$ 11.25	\$ 20.45
VERMONT GAS SYSTEMS INC	VT	\$ 19.80	\$ 32.82
AVISTA CORP - WA	WA	\$ 9.00	\$ 87.40
MONTANA - DAKOTA UTILITIES CASCADE WA	WA	\$ 4.00	\$ 10.00
NORTHWEST NATURAL GAS CO WA	WA	\$ 7.00	\$ 15.00
PUGET SOUND ENERGY	WA	\$ 10.29	\$ 33.42
ALLETE - SUPERIOR WATER LIGHT & POWER CO	WI	\$ 7.25	\$ 15.00
ALLIANT - WISCONSIN POWER & LIGHT CO	WI	\$ 1.51	
CITY GAS CO	WI	\$ 8.50	\$ 12.75
INTEGRYS - WISCONSIN PUBLIC SERVICE CORP WI	WI	\$ 17.00	\$ 30.00
MADISON GAS & ELECTRIC CO	WI	\$ 21.60	\$ 24.00
WE ENERGIES	WI	\$ 9.90	\$ 25.50
WISCONSIN GAS CO	WI	\$ 9.90	\$ 25.50
XCEL - NORTHERN STATES POWER CO OF WISCONSIN	WI	\$ 10.25	\$ 20.00
DOMINION HOPE	WV	\$ 8.99	\$ 17.97
EQUITABLE RESOURCES - Peoples WV	WV	\$ 8.50	\$ 12.50
MOUNTAINEER GAS CO	WV	\$ 10.10	\$ 31.75
MONTANA - DAKOTA UTILITIES CO WY	WY	\$ 12.00	\$ 27.00
QUESTAR GAS COMPANY WY	WY	\$ 11.00	\$ 32.50
SOURCEGAS LLC WY	WY	\$ 15.00	\$ 70.00

Source: Spring 2015 Internet Search of Natural Gas Utility Tariffs

APPENDIX 2 U.S. CENSUS REGIONS



Source: U.S. Dept. of Energy http://www.eia.doe.gov/emeu/cbecs/census_maps.html



Premises with 12 consecutive bills (cumulative >=0) for the 12 mos. Ended June 2018

Row Labels	Sum of Annual Usage	Count of PREMISES	Average Consumption
Less than \$20,000	5,305,563	6,378	832
\$20,000 to \$29,999	25,192,305	30,684	821
\$30,000 to \$39,999	36,544,666	49,031	745
\$40,000 to \$49,999	36,089,703	48,180	749
\$50,000 to \$59,999	31,031,025	40,821	760
\$60,000 to \$69,999	13,365,717	16,629	804
\$70,000 to \$79,999	9,418,953	11,653	808
\$80,000+	22,567,232	23,630	955
Grand Total	179,515,164	227,006	791
Residential Total - Actual June 2018	232,551,846	294,761	789
Non-Selected Usage and Customers	53,036,682	67,755	783
Percentage of Total	77.19%	77.01%	

Row Labels	Sum of Annual Usage	Count of PREMISES	
1	30,497,868	37,062	823
0	149,017,296	189,944	785
Grand Total	179,515,164	227,006	791

Median HH Income Range	Average Consumption
Less than \$20,000	832
\$20,000 to \$29,999	821
\$30,000 to \$39,999	745
\$40,000 to \$49,999	749
\$50,000 to \$59,999	760
\$60,000 to \$69,999	804
\$70,000 to \$79,999	808
\$80,000+	955
Grand Total	791

Median HH Income Range	Average Consumption
Less than \$30,000	823
Greater than or Equal to \$30,000	785
Grand Total	791

bucket	LessThan30	0	LessThan30	1			
0							
	Row Labels	Count of category	Row Labels	Count of category	cat	ove30	under30
25	25	395	25	139	25	395	139
50	50	314	50	89	50	314	89
75	75	360	75	129	75	360	129
100	100	449	100	153	100	449	153
125	125	525	125	174	125	525	174
150	150	607	150	215	150	607	215
175	175	688	175	223	175	688	223
200	200	821	200	267	200	821	267
225	225	966	225	278	225	966	278
250	250	1164	250	315	250	1164	315
275	275	1405	275	364	275	1405	364
300	300	1682	300	405	300	1682	405
325	325	2020	325	490	325	2020	490
350	350	2441	350	522	350	2441	522
375	375	2812	375	600	375	2812	600
400	400	3279	400	673	400	3279	673
425	425	3732	425	747	425	3732	747
450	450	4234	450	762	450	4234	762
475	475	4699	475	891	475	4699	891
500	500	5146	500	898	500	5146	898
525	525	5697	525	946	525	5697	946
550	550	6015	550	988	550	6015	988
575	575	6234	575	995	575	6234	995
600	600	6334	600	1016	600	6334	1016
625	625	6714	625	985	625	6714	985
650	650	6508	650	985	650	6508	985
675	675	6675	675	1052	675	6675	1052
700	700	6580	700	1018	700	6580	1018
725	725	6371	725	961	725	6371	961
750	750	6335	750	981	750	6335	981
775	775	6110	775	931	775	6110	931
800	800	5793	800	1057	800	5793	1057
825	825	5541	825	943	825	5541	943
850	850	5234	850	915	850	5234	915
875	875	5000	875	810	875	5000	810
900	900	4698	900	781	900	4698	781
925	925	4465	925	776	925	4465	776
950	950	4099	950	777	950	4099	777
975	975	3857	975	759	975	3857	759
1000	1000	3583	1000	683	1000	3583	683
1025	1025	3365	1025	692	1025	3365	692
1050	1050	3022	1050	683	1050	3022	683
1075	1075	2828	1075	597	1075	2828	597
1100	1100	2445	1100	558	1100	2445	558
1125	1125	2304	1125	536	1125	2304	536
1150	1150	2263	1150	453	1150	2263	453
1175	1175	1954	1175	409	1175	1954	409
1200	1200	1843	1200	413	1200	1843	413
1225	1225	1706	1225	388	1225	1706	388
1250	1250	1428	1250	381	1250	1428	381
1275	1275	1326	1275	343	1275	1326	343
1300	1300	1274	1300	324	1300	1274	324
1325	1325	1176	1325	323	1325	1176	323
1350	1350	998	1350	281	1350	998	281
1375	1375	960	1375	290	1375	960	290
1400	1400	882	1400	270	1400	882	270
1425	1425	757	1425	250	1425	757	250
1450	1450	710	1450	246	1450	710	246
1475	1475	648	1475	190	1475	648	190
1500	1500	620	1500	186	1500	620	186
1525	1525	516	1525	190	1525	516	190
1550	1550	543	1550	155	1550	543	155
1575	1575	499	1575	169	1575	499	169
1600	1600	412	1600	136	1600	412	136
1625	1625	387	1625	146	1625	387	146
1650	1650	360	1650	123	1650	360	123
1675	1675	325	1675	94	1675	325	94
1700	1700	307	1700	105	1700	307	105
1725	1725	293	1725	91	1725	293	91
1750	1750	251	1750	94	1750	251	94
1775	1775	241	1775	78	1775	241	78
1800	1800	251	1800	85	1800	251	85
1825	1825	196	1825	79	1825	196	79
1850	1850	173	1850	62	1850	173	62
1875	1875	187	1875	66	1875	187	66
1900	1900	154	1900	58	1900	154	58
1925	1925	182	1925	50	1925	182	50
1950	1950	130	1950	59	1950	130	59
1975	1975	143	1975	49	1975	143	49
2000	2000	2303	2000	667	2000	2303	667
	Grand Total	189944	Grand Total	37062			