

**COLUMBIA GAS OF KENTUCKY, INC.
RESPONSE TO COMMISSION STAFF'S
FIRST REQUESTS FOR INFORMATION
DATED MAY 18, 2018**

1. Provide up-to-date California Standard Tests — the Participant Test, the Program Administrator Test, the Ratepayer Impact Measure, and the Total Resource Cost Test — individually for the High-Efficiency Appliance Rebate Program, the Home Energy Audit Program, and the Low-Income High-Efficiency Furnace Replacement Program, and for Columbia's Demand Side Management program as a whole. If the test results are less than one, explain why Columbia believes the program or programs should be continued.

Response: The *California Standard Practice Manual* defines the Participant Test, the Program Administrator Test, the Ratepayer Impact Measure, and the Total Resource Cost Test as follows:

The Participant Test: The Participant Test is the measure of the quantifiable benefits and costs to the customer due to participation in a program.

The Program Administrator Cost Test: The Program Administrator Cost Test measures the net costs of a demand-side management program as a resource option based on the costs

incurred by the program administrator (including incentive costs) and excluding any net costs incurred by the participant. The benefits are similar to the Total Resource Cost Test benefits.

The Ratepayer Impact Measurement Test: The Ratepayer Impact Measure (RIM) test measures what happens to customer bills or rates due to changes in utility revenues and operating costs caused by the program. Rates will go down if the change in revenues from the program is greater than the change in utility costs. Conversely, rates or bills will go up if revenues collected after program implementations are less than the total costs incurred by the utility in implementing the program. This test indicates the direction and magnitude of the expected change in customer bills or rate levels.

The Total Resource Cost Test: The Total Resource Cost Test measures the net costs of a demand-side management program as a resource option based on the total costs of the program, including both the participants' and the utility's costs. This test represents the combination of the effects of a program on both the customers participating and those not participating in a program. In a sense, it is the summation of the benefit and cost terms in the Participant and the Ratepayer Impact Measure tests, where the revenue (bill) change and the incentive terms intuitively cancel (except for the differences in net and gross savings).

The results of the Program Administrator Test, the Ratepayer Impact Measure, and the Total Resource Cost Test for the High-Efficiency Appliance Rebate Program and the Modified Low-Income High Efficiency Furnace Replacement Program will vary depending on the assumptions made regarding the extent to which the programs change the customers' consumption patterns. If it is assumed that a percentage of customers would have switched to an alternative energy source in the absence of the

programs, then the impact of such effects should be considered in the analysis.

In the attached summaries, the standard tests were performed based on two sets of assumptions. In the first analysis, it is assumed that 2% of the customers receiving benefits under the High-Efficiency Appliance Rebate Program and the Modified Low-Income High Efficiency Furnace Replacement Program would have switched to an alternative energy source had the programs not been in effect over the analysis period. In the second analysis, it is assumed that 1% of the customers would have switched to an alternative energy source had the programs not been in effect over the analysis period. The benefit/cost ratios for all three scenarios were calculated over a 20-year analysis period.

The Participant Test, Program Administrator Test, and Total Resource Test are greater than 1.0 for all programs. As explained in the Order in Case No. 2017-00424 dated April 27, 2018, regarding Atmos Energy Corporation application to extend its DSM program, "The Commission has traditionally evaluated DSM effectiveness by focusing on the Total Resource Cost ("TRC") results." As seen in the attached summaries, the TRC results for Columbia's programs are greater than 1.0.

The Rate Impact Measure for the Audit Program is less than 1.0. The Rate Impact Measure is greater than 1.0 for the High Efficiency Furnace Rebate Program in the scenario that assumes a 2% of the customers switching to an alternative energy source for the heating appliance but is less than 1.0 in the 1% switching scenario. The Rate Impact Measure is greater than 1.0 for the Low Income High Efficiency Furnace Replacement Program in the scenarios that assume a 2% and 1% of the customers switching to an alternative energy source for the heating appliance. It is Columbia's position that the programs should be continued because the TRC results are greater than 1.0.

The Energy Audit Program and the High-Efficiency Appliance Rebate Program are available to all customers in Columbia's service territory. Therefore, these programs do not result in any unreasonable prejudice or disadvantage to the class of customers or create any subsidy from one type to another. At some point in the useful lives of their appliances or of their homes, all customers on Columbia's system could take advantage of these programs. Although the Modified Low-Income High Efficiency Furnace Replacement Program is only available to low-income customers (i.e., customer receiving LIHEAP funding), this program fulfills an important need in the communities served by Columbia. Because people

receiving LIHEAP funding are typically the customers least able to replace their inefficient furnaces, this program makes it possible for those customers who cannot otherwise afford it to improve the energy efficiency of their appliances.

All of the programs create environmental and societal benefits by incentivizing customers to use energy more efficiently and to preserve a finite resource. The spending for each program is modest, and Columbia believes the programs should be continued.

Also attached is the testimony that was submitted in support of Columbia's DSM programs in Case No. 2016-00107. Columbia's DSM programs were approved in the Commission's Order in Case No. 2016-00107 dated October 11, 2016, which is also attached.

Columbia Gas of Kentucky

California Standard Tests

Assumed 2% Annual Customer Retentions for Furnace Rebates and Replacements

	Audit Program	High Efficiency Furnace Rebate Program	Low Income High Efficiency Furnace Replacement Program	All Programs
Cost/Benefit Test Ratios				
Participant Test	8.34	1.38	9.32	2.68
Program Administrator Test	4.23	2.50	1.06	2.39
Rate Impact Measure	0.53	0.67	0.79	0.62
Total Resource Cost Test	4.23	2.50	1.06	2.39
Participant Test				
Participant Benefits	\$ 2,667,647	\$ 2,070,238	\$ 205,079	\$ 4,942,964
Participant Costs	\$ 320,000	\$ 1,500,000	\$ 22,000	\$ 1,842,000
Program Administrator Test				
Avoided Costs	\$ 846,395	\$ 998,063	\$ 327,541	\$ 2,171,999
Program Costs	\$ 200,000	\$ 400,000	\$ 308,000	\$ 908,000
Rate Impact Measure				
Avoided Costs	\$ 846,395	\$ 998,063	\$ 327,541	\$ 2,171,999
Program Costs	\$ 200,000	\$ 400,000	\$ 308,000	\$ 908,000
Lost Revenue	\$ 1,405,201	\$ 1,090,512	\$ 108,027	\$ 2,603,740
Total Resource Test				
Avoided Costs	\$ 846,395	\$ 998,063	\$ 327,541	\$ 2,171,999
Program Costs	\$ 200,000	\$ 400,000	\$ 308,000	\$ 908,000

Columbia Gas of Kentucky

California Standard Tests

Assumed 1% Annual Customer Retentions for Furnace Rebates and Replacements

	Audit Program	High Efficiency Furnace Rebate Program	Low Income High Efficiency Furnace Replacement Program	All Programs
Cost/Benefit Test Ratios				
Participant Test	8.34	1.38	9.32	2.68
Program Administrator Test	4.23	2.50	1.06	2.39
Rate Impact Measure	0.53	0.56	0.47	0.53
Total Resource Cost Test	4.23	2.50	1.06	2.39
Participant Test				
Participant Benefits	\$ 2,667,647	\$ 2,070,238	\$ 205,079	\$ 4,942,964
Participant Costs	\$ 320,000	\$ 1,500,000	\$ 22,000	\$ 1,842,000
Program Administrator Test				
Avoided Costs	\$ 846,395	\$ 998,063	\$ 327,541	\$ 2,171,999
Program Costs	\$ 200,000	\$ 400,000	\$ 308,000	\$ 908,000
Rate Impact Measure				
Avoided Costs	\$ 846,395	\$ 827,456	\$ 196,304	\$ 1,870,155
Program Costs	\$ 200,000	\$ 400,000	\$ 308,000	\$ 908,000
Lost Revenue	\$ 1,405,201	\$ 1,090,512	\$ 108,027	\$ 2,603,740
Total Resource Test				
Avoided Costs	\$ 846,395	\$ 998,063	\$ 327,541	\$ 2,171,999
Program Costs	\$ 200,000	\$ 400,000	\$ 308,000	\$ 908,000

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY OF
WILLIAM STEVEN SEELYE
ON BEHALF OF COLUMBIA GAS OF KENTUCKY, INC.

February 29, 2016

COLUMBIA GAS OF KENTUCKY, INC.

PREPARED DIRECT TESTIMONY OF WILLIAM STEVEN SEELYE

1 Q: Please state your name and business address.

2 A: My name is William Steven Seelye, and my business address is The Prime Group, LLC,
3 6435 West Highway 146, Crestwood, Kentucky, 40014.

4

5 Q: By whom and in what capacity are you employed?

6 A: I am the managing partner for The Prime Group, LLC, a firm located in Crestwood,
7 Kentucky, providing consulting and educational services in the areas of utility regulatory
8 analysis, revenue requirement support, cost of service, rate design and economic analysis.

9

10 Q: On whose behalf are you testify in this proceeding?

11 A: I am testifying for Columbia Gas of Kentucky, Inc. ("Columbia Gas" or "Company"),
12 which provides natural gas sales and transportation services in Kentucky.

13

14 Q: Please describe your educational and professional background.

15 A: I received a Bachelor of Science degree in Mathematics from the University of Louisville
16 in 1979. I have also completed 54 hours of graduate level course work in Industrial
17 Engineering and Physics. From May 1979 until July 1996, I was employed by Louisville
18 Gas and Electric Company ("LG&E"). From May 1979 until December, 1990, I held
19 various positions within the Rate Department of LG&E. In December 1990, I became
20 Manager of Rates and Regulatory Analysis. In May 1994, I was given additional
21 responsibilities in the marketing area and was promoted to Manager of Market
22 Management and Rates. I left LG&E in July 1996 to form The Prime Group, LLC, with

1 two other former employees of LG&E. Since leaving LG&E, I have performed or
2 supervised the preparation of cost of service and rate studies for over 150 investor-owned
3 utilities, rural electric distribution cooperatives, generation and transmission cooperatives,
4 and municipal utilities. A more detailed description of my qualifications is included in
5 Exhibit Seelye-1.

6
7 Q. Have you ever testified before any state or federal regulatory commissions?

8 A. Yes. I have testified in over 50 regulatory proceedings in 11 different jurisdictions
9 including the Kentucky Public Service Commission ("Commission"). A listing of my
10 testimony in other proceedings is included in Exhibit Seelye-1.

11
12 Q: Please describe your experience with demand side management (DSM) programs and cost
13 recovery mechanisms.

14 A: In Kentucky, I have assisted the following utilities with the development of DSM cost
15 recovery mechanisms: Louisville Gas and Electric Company, Kentucky Utilities, Delta
16 Natural Gas Company, and Columbia Gas. I have also developed a DSM cost recovery
17 mechanism for Nova Scotia Power Company. I have assisted numerous utilities in the
18 economic evaluation of their DSM, energy efficiency, and demand-response programs and
19 have worked with utilities in maximizing the benefit derived from their existing demand
20 side management programs. I have also developed time-of-use, interruptible, real-time
21 pricing, cogeneration, and other rates designed to encourage customers to modify their
22 demand and usage patterns.

23

1

Q: Did you submit testimony in support of Columbia Gas's current Energy Efficiency and Conservation Rider (EECR).

A: Yes. Columbia Gas proposed its current EECR rate schedule in Case No. 2009-00141, which was a general rate case. I submitted testimony in support of the EECR in that proceeding.

6

Q: What is the purpose of your testimony in this proceeding?

A: The purpose of my testimony is to provide a general assessment of the effectiveness of the EECR rate schedule and to recommend that the rider continue to remain in effect in its current form. I will also provide a general assessment of the effectiveness of the current level of funding for DSM and energy efficiency programs and of the effectiveness of the programs that have been developed through collaborative processes. I will also comment on the adequacy of the programs on a going forward basis. I testify that Columbia Gas's current level of funding for DSM and energy efficiency is reasonable and that the current programs being offered are also reasonable.

16

Q: Please describe Columbia Gas's EECR rate schedule.

A: Columbia Gas's EECR is applicable to residential customers served under Rate Schedule GSR and commercial customers service under Rate Schedule GSO. It is designed to provide for the recovery of DSM program costs, to provide for the recovery of net revenues from lost sales due to the implementation of DSM programs, and to provide a small incentive for Columbia Gas to implement DSM programs. While the EECR rate schedule is applicable to both residential and commercial rate schedules, Columbia Gas currently

1 offers no Energy Efficiency/Conservation Programs for commercial customers and
2 therefore the applicable EECR charge for commercial rate schedules is zero. Columbia
3 Gas's current EECR schedule is included as Exhibit Seelye-2.

4 Columbia Gas's EECR provides a dollar-for-dollar recovery of costs incurred by
5 the Company to implement and operate DSM programs that have been approved by the
6 Commission. Because DSM and energy efficiency programs by design result in a
7 reduction in sales to customers, the EECR rate schedule provides for the recovery of
8 revenues from lost sales due to the implementation of those programs. The EECR also
9 provides a small incentive designed to encourage the Company to develop and implement
10 DSM programs and includes a reconciliation adjustment to ensure that there will not be
11 any over- or under-recovery of either DSM program costs or revenues from lost sales under
12 the mechanism.

13 Columbia Gas's EECR thus consists of the following four components: (1) a
14 Energy Efficiency/Conservation Program Cost Recovery (EECPCR) component that
15 provides for the recovery of DSM program costs, (2) an EECR Revenue from Lost Sales
16 (EECRPLS) component that provides for the recovery of revenues from lost sales, (3) an
17 EECR Incentive (EECRPI) component that is designed to encourage Columbia Gas to
18 develop and implement DSM programs, and (4) an EECR Balance Adjustment (EECRPBA)
19 that reconciles for any over- or under-recovery of program costs, revenues from lost sales,
20 and incentives.

21
22 Q: Is Columbia Gas's EECR rate schedule consistent with the DSM mechanism described in
23 KRS 278.285?

1 A: Yes. Utilities in Kentucky can propose a DSM cost recovery mechanism pursuant to KRS
2 278.285. Subsection 2 of KRS 278.285, of states as follows:

3
4 A proposed demand-side management mechanism including:

- 5
6 a) Recover the full costs of commission-approved demand-side
7 management programs and revenues lost by implementing these
8 programs;
9 b) Obtain incentives designed to provide financial rewards to the utility
10 for implementing cost-effective demand-side management
11 programs; or
12 c) Both of the actions specified may be reviewed and approved by the
13 commission as part of a proceeding for approval of new rate
14 schedules initiated pursuant to KRS 278.190 or in a separate
15 proceeding initiated pursuant to this section which shall be limited
16 to a review of demand-side management issues and related rate-
17 recovery issues as set forth in subsection (1) of this section and in
18 this subsection.
19

20 In accordance with KRS 278.285, Columbia Gas's EECR provides for recovery of the full
21 cost of commission-approved demand-side management programs, provides for recovery
22 of revenue lost by implementing these programs, and allows the Company to obtain
23 incentives designed to financial rewards for implementing cost-effective demand-side
24 management programs. Also, consistent with the practice for most cost recovery
25 mechanisms that have been approved by the Commission over the years, the EECR rider
26 includes an over- and under-recovery mechanism that ensures that the Company doesn't
27 collect more or less than the amounts determined by the other components of the EECR.
28

29 Q: Is Columbia Gas's EECR schedule similar to DSM cost recovery mechanisms that have
30 been approved by the Commission for other utilities in Kentucky?

1 A: Yes. Columbia Gas's EECR schedule is essentially similar to DSM and energy efficiency
2 cost recovery approved by the Commission for the following utilities that provide natural
3 gas distribution service: Louisville Gas and Electric Company, Atmos Energy, Duke
4 Energy - Kentucky, and Delta Natural Gas Company. Columbia Gas Company's DSM cost
5 recovery mechanism was modeled after the mechanism that was approved by the
6 Commission in Case No. 2008-00062 for Delta Natural Gas Company.

7
8 Q: Without a DSM cost recovery mechanism, do utilities have a financial incentive to pursue
9 demand-side management strategies that would reduce sales?

10 A: No. In traditional regulation, utilities have a financial incentive to increase retail sales
11 relative to historical test-year levels that were used for calculating their base rates. The
12 incentive for utilities to maximize the "throughput" of gas sales and transportation volumes
13 in an attempt to increase net margins is referred to as a "throughput incentive". Utility
14 profits are reduced when demand side management and energy efficiency programs reduce
15 sales and transportation volumes from levels that would have been obtained without these
16 programs. Under traditional regulation, there is an incentive for utilities to increase sales
17 and to avoid programs aimed at reducing sales. It is critical to address this throughput
18 incentive and to provide for DSM program cost recovery if the utility is to become actively
19 involved in demand side management and energy efficiency programs that have the
20 potential to reduce sales.

21
22 Q: Is Columbia Gas's EECR rate schedule still adequate?

1 A: Yes. The EECR rate schedule still reflects sound ratemaking principles for encouraging
2 Columbia to promote DSM and energy conservation programs; it is fully consistent with
3 provisions set forth in Section 2 of KRS 278.285; and it is consistent with DSM and energy
4 conservation cost recovery mechanisms that have been approved for other gas and electric
5 utilities.

6
7 Q: Do you recommend any changes to the EECR rate schedule?

8 A: No.

9
10 Q: Please describe Columbia Gas's current DSM and energy efficiency programs.

11 A: Columbia Gas offers three programs targeted to residential customers taking service under
12 Rate Schedule GSR -- (i) High-Efficiency Appliance Rebates, (ii) a Home Energy Audit
13 program, and (iii) a Low-Income High Efficiency Furnace Replacement program. The
14 Energy Audit and the High-Efficiency Furnace Rebate programs are generally available to
15 all customers taking service under Rate Schedule GSR. The Low-Income High Efficiency
16 Furnace Replacement program is only available to residential customers with household
17 annual gross income at or below 200% of the Federal poverty level guidelines.

18
19 Q: Please describe the High-Efficiency Appliance Rebates offered by Columbia Gas.

20 A: Under the High-Efficiency Appliance Rebate Program, Columbia Gas currently provides
21 the following rebates for the installation of high-efficiency appliances:
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Table 1. High Efficiency Appliance Rebates

Appliance	Efficiency Level	Size	Rebate
Forced Air Furnace	≥ 90%	≥ 30,000 Btu	\$400
Dual Fuel Furnace	≥ 90%	≥ 30,000 Btu	\$300
Space Heater	99%	≥ 10,000 Btu	\$100
Gas Logs	99%	≥ 18,000 Btu	\$100
Gas Fireplace	≥ 90%	≥ 18,000 Btu	\$100
Tank Hot Water Heater	0.62 Energy Factor	≥ 40 gallons	\$200
Power Vent Hot Water Heater	0.62 Energy Factor	≥ 40 gallons	\$250
On Demand Hot Water Heater	0.67 Energy Factor	N/A	\$300

These rebates incentivize customers to install appliances that are more efficient yet more costly to install than standard appliances. These rebates help off-set the higher installation cost of higher-efficiency alternatives.

Q: Are appliance rebates developed as part of a collaborative process?

A: Yes. Columbia Gas formed a DSM collaborative group to discuss new programs and the modification of existing programs. The implementation of any new rebate would be discussed at a collaborative meeting consisting of community action councils, gas marketers, the Office of the Attorney General, and/or other interested parties.

Q: Are these rebates generally comparable to the level of rebates being offered by other gas distribution utilities in Kentucky.

A: Yes.

;

1 Q: How much did Columbia Gas spend on High-Efficiency Appliance rebates during the most
2 recent program year?

3 A: For the 12-month period ended October 31, 2015, Columbia Gas spent \$451,731 on High-
4 Efficiency Appliance rebates.

5
6 Q: Do you recommend that Columbia Gas continue to offer these High Efficiency Appliance
7 Rebates?

8 A: Yes. However, I would also recommend that Columbia Gas continue to monitor the
9 emergence of new technologies for high-efficient appliances and discuss any new
10 technologies at DSM collaborative meetings with an eye toward possibly introducing
11 additional rebates.

12
13 Q: Please describe the Columbia Gas's Energy Audit program .

14 A: Under the Energy Audit Program (or "Home Energy Check-Up Program"), Columbia Gas
15 funds free walk-through energy audits to residential customers. The audits are performed
16 by a qualified outside contractor selected by the Company. These audits encompass the
17 following services:

- 18 • An analysis of the dwelling's usage history and the detection of any abnormalities
19 or trends relative to the square footage, load and surrounding dwelling usage trends;
- 20 • Checking for proper changes of the heating system filtering devices and clearance
21 from obstructions of all return air registers;
- 22 • Inspection of outer wall switch plates and outlets for insulation protection or gasket
23 installation;

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- Checking of ceiling insulation levels;
- Inspection of duct systems;
- Checking of exterior windows and doors for unwanted leakage and heat loss;
- Identification of areas of high energy loss through thermal imaging;
- Providing options and recommendations to the occupant.

Q: How does Columbia Gas inform residential customers about the existence and benefits of the program?

A: Columbia Gas uses a number of communication channels to inform residential customers about the program, including commercial and public radio notices, online advertisement (e.g. the Weather Channel), Public Television notices, customer in-bill newsletters, the Company's website, magnets on service vehicles, and direct mail. These channels are similar to those used by other utilities in Kentucky.

Q: Do other gas and electric utilities in Kentucky offer programs similar to Columbia Gas's Energy Audit program?

A: Yes. Delta Natural Gas Company, LG&E, KU and other utilities in Kentucky provide similar services. This type of program is offered by utilities across the U.S. and is a standard DSM program offered by many utilities.

Q: Do you recommend that Columbia Gas continue to offer its Energy Audit Program?

A: Yes. Energy audits are important and effective tools for helping customers to conserve energy, and Columbia has received very positive feedback from customers.

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2 Q: Please describe the Low-Income High Efficiency Furnace Replacement Program proposed
3 by Columbia Gas.

4 A: Under the Low-Income High Efficiency Furnace Replacement Program, Columbia Gas
5 currently provides up to \$2,200 toward the cost of installing a high efficiency forced air
6 furnace of 90 percent efficiency or higher for a qualifying customer receiving LIHEAP
7 funding. Columbia Gas partners with the Community Action Council for Lexington-
8 Fayette, Bourbon, Harrison and Nicholas Counties, Inc. ("CAC") to provide this service.
9 The CAC identifies potential customers, qualifies the customers, and works with its
10 contractors to replace existing furnaces with high efficiency forced air furnaces of 90
11 percent efficiency or higher.

12

13 Q: Why is the Low-Income High Efficiency Furnace Replacement Program an important part
14 of Columbia Gas's DSM and energy efficiency program?

15 A: People who receive LIHEAP funding often live in older homes with older, less efficient
16 furnaces. I have conducted study after study for utilities across the U.S. and have found
17 that customers receiving LIHEAP funding use more gas and electric energy than the
18 average residential usage. One of the reasons for this is that LIHEAP customers often have
19 inefficient appliance stocks. Because people receiving LIHEAP funding are the customers
20 who are typically the least able financially to replace inefficient furnaces, this program
21 fulfills an important need in Columbia Gas's service territory for improving energy
22 efficiency. While the High-Efficiency Appliance Rebate program will incentivize
23 customers who have sufficient financial resources to install more efficient appliances, for

1 low-income customers rebates are simply not enough to encourage the efficient
2 replacement of aging, inefficient furnaces.

3
4 Q: Is Columbia Gas proposing to make any changes to the Low-Income High Efficiency
5 Furnace Replacement program?

6 A: Yes. Columbia Gas currently provides \$2,200 towards the total cost of replacing low
7 efficient furnaces for low-income customers with high-efficient furnaces. Columbia is
8 proposing to increase the replacement cost of the furnace to \$2,800. CAC will continue
9 to be responsible for the cost of pre- and post-inspection fees, intake fees, and
10 administrative costs. Columbia Gas is not proposing, however, to increase the overall cost
11 of its DSM programs.

12
13 Q: How much did Columbia Gas spend on its Low-Income Furnace Replacement program
14 during the most recent program year?

15 A: For the 12-month period ended October 31, 2015, Columbia Gas spent \$252,645 on its
16 Low-Income Furnace Replacement program.

17
18 Q: Do you recommend that Columbia Gas continue to offer its Low-Income Furnace
19 Replacement program?

20 A: Yes.

21
22 Q: How much is Columbia Gas's total annual budget for its Energy Efficiency/Conservation
23 Program?

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1 A: Columbia Gas's total annual budget for all three programs is \$908,000. This annual budget
2 has not changed since the EECR rate schedule was first introduced in November, 2009.

3

4 Q: Have you prepared an exhibit showing the annual expenditures for each program since the
5 inception of the Energy Efficiency/Conservation Program?

6 A: Yes. Exhibit Seelye-3 shows the annual expenditures for each program along with
7 administrative costs since inception. Table 2 shows the average annual direct cost for each
8 program.

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Table 2. Average Annual Program Costs

Program	Average Annual Direct Expenditure For Program
High-Efficiency Appliance Rebates	\$ 408,774
Home Energy Audit program	\$ 104,845
Low-Income High Efficiency Furnace Replacement	\$ 339,871
Total Direct Expenditures	\$ 853,490

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13 Q: How does Columbia Gas's budget compare to the DSM budgets for Atmos Energy
14 Corporation and Delta Natural Gas Company?

15 A: Atmos Energy Corporation's annual budget is \$917,898 for residential customers and
16 \$79,004 for commercial customers. Delta Natural Gas Company's annual budget is
17 \$205,292. These DSM budgets equate to \$0.49 per residential customer per month for
18 Atmos Energy ($\$917,898 \div 155,300 \text{ residential customers} \div 12 \text{ months} = \$0.49/\text{Cust}/\text{Mo}$)
19 and \$0.58 per residential customer per month for Delta Natural Gas ($\$205,292 \div 29,500$

1 residential customers ÷ 12 months = \$0.58/Cust/Mo). The \$0.49 per customer cost for
2 Atmos Energy and \$0.58 per customer cost for Delta Natural Gas compare to \$0.63 per
3 residential customer for Columbia Gas ($\$908,000 \div 119,600$ residential customers ÷ 12
4 months = \$0.62/Cust/Mo). Therefore, all three utilities spend similar amounts per
5 residential customer.

6
7 Q: Is the overall level spent by Columbia Gas on conservation and energy efficiency programs
8 reasonable?

9 A: Yes, I would characterize Columbia Gas's DSM and energy efficiency program as modest
10 yet reasonable. I would not recommend changing the program at this time.

11
12 Q: Have you prepared an exhibit showing the number of participants for each program since
13 the inception of the Energy Efficiency/Conservation Program?

14 A: Yes. Exhibit Seelye-4 shows the number of participants for each program since inception.
15 Table 3 shows the total participants for each program since the EECR rate schedule was
16 implemented in 2009.

17
18 Q: Are the program participants widely dispersed throughout Columbia Gas's service
19 territory?

20 A: Yes. Residential customers in 30 counties participated in Columbia Gas's Energy
21 Efficiency/Conservation Program. Participants by county are shown in Exhibit Seelye-
22 5.

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Table 3. Program Participation

Program	Total Participants
High-Efficiency Appliance Rebates	6,188
Home Energy Audit program	2,385
Low-Income High Efficiency Furnace Replacement	835
Total Participants	9,408

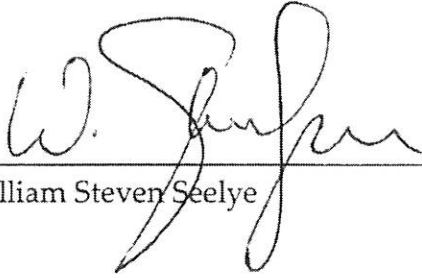
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4 Q: Does this complete your Prepared Direct testimony?

5 A: Yes, however, I reserve the right to file rebuttal testimony if necessary.

I hereby certify that the information contained in my attached testimony is true and accurate to the best of my knowledge, information and belief.



William Steven Seelye

Date

WILLIAM STEVEN SEELYE

Summary of Qualifications

Provides consulting services to numerous investor-owned utilities, rural electric cooperatives, and municipal utilities regarding utility rate and regulatory filings, cost of service and wholesale and retail rate designs; and develops revenue requirements for utilities in general rate cases, including the preparation of analyses supporting pro-forma adjustments and the development of rate base.

Employment

Principal and Managing Partner
The Prime Group, LLC
(1996 to 2012) (2015-Present)
(Associate Member 2012-2015)

Provides consulting services in the areas of tariff development, regulatory analysis revenue requirements, cost of service studies, rate design, fuel and power procurement, depreciation studies, lead-lag studies, and mathematical modeling.

Assists utilities with developing strategic marketing plans and implementation of those plans. Provides utility clients assistance regarding regulatory policy and strategy; project management support for utilities involved in complex regulatory proceedings; process audits; state and federal regulatory filing development; cost of service development and support; the development of innovative rates to achieve strategic objectives; unbundling of rates and the development of menus of rate alternatives for use with customers; performance-based rate development.

Prepared retail and wholesale rate schedules and filings submitted to the Federal Energy Regulatory Commission (FERC) and state regulatory commissions for numerous of electric and gas utilities. Performed cost of service or rate studies for over 150 utilities throughout North America. Prepared market power analyses in support of market-based rate filings submitted to the FERC for utilities and their marketing affiliates. Performed business practice audits for electric utilities, gas utilities, and independent transmission

organizations (ISOs), including audits of production cost modeling, retail utility tariffs, retail utility billing practices, and ISO billing processes and procedures.

Instructor in Mathematics
Walden School and Private Instruction
(2012-2015)

Taught advanced placement calculus, linear algebra, pre-calculus, college algebra and differential equations.

Manager of Rates and Other Positions
Louisville Gas & Electric Co.
(May 1979 to July 1996)

Held various positions in the Rate Department of LG&E. In December 1990, promoted to Manager of Rates and Regulatory Analysis. In May 1994, given additional responsibilities in the marketing area and promoted to Manager of Market Management and Rates.

Education

Bachelor of Science Degree in Mathematics, University of Louisville, 1979
66 Hours of Graduate Level Course Work in Electrical and Industrial Engineering and Physics.

Associations

Member of the Society for Industrial and Applied Mathematics

Expert Witness Testimony

Alabama: Testified in Docket 28101 on behalf of Mobile Gas Service Corporation concerning rate design and pro-forma revenue adjustments.

Colorado: Testified in Consolidated Docket Nos. 01F-530E and 01A-531E on behalf of Intermountain Rural Electric Association in a territory dispute case.

FERC: Submitted direct and rebuttal testimony in Docket No. EL02-25-000 et al. concerning Public Service of Colorado's fuel cost adjustment.

Submitted direct and responsive testimony in Docket No. ER05-522-001 concerning a rate filing by Bluegrass Generation Company, LLC to charge reactive power service to LG&E Energy, LLC.

Submitted testimony in Docket Nos. ER07-1383-000 and ER08-05-000 concerning Duke Energy Shared Services, Inc.'s charges for reactive power service.

Submitted testimony in Docket No. ER08-1468-000 concerning changes to Vectren Energy's transmission formula rate.

Submitted testimony in Docket No. ER08-1588-000 concerning a generation formula rate for Kentucky Utilities Company.

Submitted testimony in Docket No. ER09-180-000 concerning changes to Vectren Energy's transmission formula rate.

Submitted testimony in Docket No. ER11-2127-000 concerning transmission rates proposed by Terra-Gen Dixie Valley, LLC.

Submitted testimony in Docket No. ER11-2779 on behalf of Southern Illinois Power Cooperative concerning wholesale distribution service charges proposed by Ameren Services Company.

Submitted testimony in Docket No. ER11-2786 on behalf of Norris Electric Cooperative concerning wholesale distribution service charges proposed by Ameren Services Company.

Florida: Testified in Docket No. 981827 on behalf of Lee County Electric Cooperative, Inc. concerning Seminole Electric Cooperative Inc.'s wholesale rates and cost of service.

Illinois: Submitted direct, rebuttal, and surrebuttal testimony in Docket No. 01-0637 on behalf of Central Illinois Light Company ("CILCO") concerning the modification of interim supply service and the implementation of black start service in connection with providing unbundled electric service.

Indiana: Submitted direct testimony and testimony in support of a settlement agreement in Cause No. 42713 on behalf of Richmond Power & Light regarding revenue requirements, class cost of service studies, fuel adjustment clause and rate design.

Submitted direct and rebuttal testimony in Cause No. 43111 on behalf of Vectren Energy in support of a transmission cost recovery adjustment.

Submitted direct testimony in Cause No. 43773 on behalf of Crawfordsville Electric Light & Power regarding revenue requirements, class cost of service studies, fuel adjustment clause and rate design.

Kansas: Submitted direct and rebuttal testimony in Docket No. 05-WSEE-981-RTS on behalf of Westar Energy, Inc. and Kansas Gas and Electric Company regarding transmission delivery revenue requirements, energy cost adjustment clauses, fuel normalization, and class cost of service studies.

Kentucky: Testified in Administrative Case No. 244 regarding rates for cogenerators and small power producers, Case No. 8924 regarding marginal cost of service, and in numerous 6-month and 2-year fuel adjustment clause proceedings.

Submitted direct and rebuttal testimony in Case No. 96-161 and Case No. 96-362 regarding Prestonsburg Utilities' rates.

Submitted direct and rebuttal testimony in Case No. 99-046 on behalf of Delta Natural Gas Company, Inc. concerning its rate stabilization plan.

Submitted direct and rebuttal testimony in Case No. 99-176 on behalf of Delta Natural Gas Company, Inc. concerning cost of service, rate design and expense adjustments in connection with Delta's rate case.

Submitted direct and rebuttal testimony in Case No. 2000-080, testified on behalf of Louisville Gas and Electric Company concerning cost of service, rate design, and pro-forma adjustments to revenues and expenses.

Submitted rebuttal testimony in Case No. 2000-548 on behalf of Louisville Gas and Electric Company regarding the company's prepaid metering program.

Testified on behalf of Louisville Gas and Electric Company in Case No. 2002-00430 and on behalf of Kentucky Utilities Company in Case No. 2002-00429 regarding the calculation of merger savings.

Submitted direct and rebuttal testimony in Case No. 2003-00433 on behalf of Louisville Gas and Electric Company and in Case No. 2003-00434 on behalf of Kentucky Utilities Company regarding pro-forma revenue, expense and plant adjustments, class cost of service studies, and rate design.

Submitted direct and rebuttal testimony in Case No. 2004-00067 on behalf of Delta Natural Gas Company regarding pro-forma adjustments, depreciation rates, class cost of service studies, and rate design.

Testified on behalf of Kentucky Utilities Company in Case No. 2006-00129 and on behalf of Louisville Gas and electric Company in Case No. 2006-00130 concerning methodologies for recovering environmental costs through base electric rates.

Testified on behalf of Delta Natural Gas Company in Case No. 2007-00089 concerning cost of service, temperature normalization, year-end normalization, depreciation expenses, allocation of the rate increase, and rate design.

Submitted testimony on behalf of Big Rivers Electric Corporation and E.ON U.S. LLC in Case No 2007-00455 and Case No. 2007-00460 regarding the design and implementation of a Fuel Adjustment Clause, Environmental Surcharge, Unwind Surcredit, Rebate Adjustment, and Member Rate Stability Mechanism for Big Rivers Electric Corporation in connection with the unwind of a lease and purchase power transaction with E.ON U.S. LLC.

Submitted testimony in Case No. 2008-00251 on behalf of Kentucky Utilities Company and in Case No. 2008-00252 on behalf of Louisville Gas and Electric Company regarding pro-forma revenue and expense adjustments, electric and gas temperature normalization, jurisdictional separation, class cost of service studies, and rate design.

Submitted testimony in Case No. 2008-00409 on behalf of East Kentucky Power Cooperative, Inc., concerning revenue requirements, pro-forma adjustments, cost of service, and rate design.

Submitted testimony in Case No. 2009-00040 on behalf of Big Rivers Electric Corporation regarding revenue requirements and rate design.

Submitted testimony on behalf of Columbia Gas Company of Kentucky in Case No. 2009-00141 regarding the demand side management program costs and cost recovery mechanism.

Submitted testimony in Case No. 2009-00548 on behalf of Kentucky Utilities Company and in Case No. 2009-00549 on behalf of Louisville Gas and Electric Company regarding pro-forma revenue and expense adjustments, electric and gas temperature normalization, jurisdictional separation, class cost of service studies, and rate design.

Submitted testimony in Case No. 2010-00116 on behalf of Delta Natural Gas Company concerning cost of service, temperature normalization, year-end normalization, depreciation expenses, allocation of the rate increase, and rate design.

Submitted testimony in Case No. 2011-00036 on behalf of Big Rivers Electric Cooperative concerning cost of service, rate design, pro-forma TIER adjustments, temperature normalization, and support of MISO Attachment O.

Maryland: Submitted direct testimony in PSC Case No. 9234 on behalf of Southern Maryland Electric Cooperative regarding a class cost of service study.

Nevada: Submitted direct and rebuttal testimony in Case No. 03-10001 on behalf of Nevada Power Company regarding cash working capital and rate base adjustments.

Submitted direct and rebuttal testimony in Case No. 03-12002 on behalf of Sierra Pacific Power Company regarding cash working capital.

Submitted direct and rebuttal testimony in Case No. 05-10003 on behalf of Nevada Power Company regarding cash working capital for an electric general rate case.

Submitted direct and rebuttal testimony in Case No. 05-10005 on behalf of Sierra Pacific Power Company regarding cash working capital for a gas general rate case.

Submitted direct and rebuttal testimony in Case Nos. 06-11022 and 06-11023 on behalf of Nevada Power Company regarding cash working capital for a gas general rate case.

Submitted direct and rebuttal testimony in Case No. 07-12001 on behalf of Sierra Pacific Power Company regarding cash working capital for an electric general rate case.

Submitted direct testimony in Case No. Docket No. 08-12002 on behalf of Nevada Power Company regarding cash working capital for an electric general rate case.

Submitted direct testimony in Case No. Docket No. 10-06001 on behalf of Sierra Pacific Power Company regarding cash working capital for an electric general rate cases.

Submitted direct testimony in Case No. Docket No. 11-06006 on behalf of Nevada Power Company regarding cash working capital for an electric general rate case.

New Mexico Submitted affidavits in support of filing of Advice Notice No. 60 on behalf of Kit Carson Electric Cooperative, Inc.

Submitted direct testimony in Case No. 15-00375-UT on behalf of Kit Carson Electric Cooperative, Inc. regarding revenue requirements, the need for a rate increase, class cost of service study, apportionment of the revenue increase to the classes of service, and rate design.

Nova Scotia: Testified on behalf of Nova Scotia Power Company in NSUARB – NSPI – P-887 regarding the development and implementation of a fuel adjustment mechanism.

Submitted testimony in NSUARB – NSPI – P-884 regarding Nova Scotia Power Company's application to approve a demand-side management plan and cost recovery mechanism.

Submitted testimony in NSUARB – NSPI – P-888 regarding a general rate application filed by Nova Scotia Power Company.

Submitted testimony on behalf of Nova Scotia Power Company in the matter of the approval of backup, top-up and spill service for use in the Wholesale Open Access Market in Nova Scotia.

Submitted testimony in NSUARB – NSPI – P-884 (2) on behalf of Nova Scotia Power Company's regarding a demand-side management cost recovery mechanism.

Virginia: Submitted testimony in Case No. PUE-2008-00076 on behalf of Northern Neck Electric Cooperative regarding revenue requirements, class cost of service, jurisdictional separation and an excess facilities charge rider.

Submitted testimony in Case No. PUE-2009-00029 on behalf of Old Dominion Power Company regarding class cost of service, jurisdictional separation, allocation of the revenue increase, general rate design, time of use rates, and excess facilities charge rider.

Submitted testimony in Case No. PUE-2009-00065 on behalf of Craig-Botetourt Electric Cooperative regarding revenue requirements, class cost of service, jurisdictional separation and an excess facilities charge rider.

Submitted testimony in Case No. PUE-2011-00013 on behalf of Old Dominion Power Company regarding class cost of service, jurisdictional separation, allocation of the revenue increase, and rate design.

EXHIBIT Seelye-2

TARIFF SHEETS 51d – 51h

Original Sheet No. 51d

COLUMBIA GAS OF KENTUCKY, INC.

P.S.C. Ky. No. 5

**ENERGY EFFICIENCY AND CONSERVATION RIDER
ENERGY EFFICIENCY/CONSERVATION PROGRAM COST RECOVERY**

APPLICABILITY

Applicable to residential and commercial customers under the GS and SVGTS rate schedules.

PURPOSE

The Energy Efficiency/Conservation Program is a demand-side management (DSM) program established to promote conservation and the efficient use of natural gas by Company's residential and commercial customers.

The Energy Efficiency/Conservation Program Recovery Component (EECPRC) shall be updated annually and applied to applicable customer's bills becoming effective with meter readings beginning with Company's February Unit 1 bills.

DETERMINATION OF EECPRC

The Company shall file an annual report with the Commission which shall contain updated EECPRC rates at least thirty (30) days prior to the effective date of the new rates. The annual amount computed under the Energy Efficiency/Conservation Program Cost Recovery Component shall be collected based on the EECPRC amount divided by the expected number of customers for the upcoming program year. The EECPRC is calculated using the following formula:

$$\text{EECPRC} = \text{EECPCR} + \text{EECPLS} + \text{EECPI} + \text{EECPBA}$$

Whereby:

EECPCR = ENERGY EFFICIENCY/CONSERVATION PROGRAM COST RECOVERY

The EECPCR shall include all expected costs of DSM measures which have been approved by the Commission for each twelve month period for Energy Efficiency/Conservation programs of the Company "approved programs". Such program costs shall include the cost of planning, developing, implementing, monitoring, and evaluating EECR programs. In addition, all costs incurred including, but not limited to, costs for consultants, employees and administrative expenses, will be recovered through the EECPCR.

EECPLS = EECR REVENUE FROM LOST SALES

Revenues from lost sales due to EECR programs implemented on and after the effective date of this tariff will be recovered as follows:

**PUBLIC SERVICE COMMISSION
OF KENTUCKY**

EFFECTIVE
10/27/2009

PURSUANT TO 807 KAR 5:011

DATE EFFECTIVE: October 27, 2009

DATE OF ISSUE: November 6, 2009

Issued by authority of an Order of the Public Service Commission in Case No. 2

By: *[Signature]*
Executive Director

Issued by: *[Signature]*

Second Substitute Original Sheet No. 51e

COLUMBIA GAS OF KENTUCKY, INC.

P.S.C. Ky. No. 5

**ENERGY EFFICIENCY AND CONSERVATION RIDER
ENERGY EFFICIENCY/CONSERVATION PROGRAM COST RECOVERY
(Continued)**

EECPLS = EECR REVENUE FROM LOST SALES (continued)

The estimated reduction in customer usage (in Mcf) as a result of the approved programs shall be multiplied by the delivery charge per Mcf for purposes of determining the lost revenue to be recovered hereunder.

The aggregate lost revenues attributable to the program participant shall be divided by the estimated number of customers for the upcoming twelve-month period to determine the applicable EECPLS surcharge.

Revenues collected hereunder are based on engineering estimates of energy savings, actual program participation and estimated number of customers for the upcoming twelve-month period. At the end of each such period, any difference between the lost revenues actually collected hereunder and the lost revenues determined after any revisions of the engineering estimates, actual program participation and numbers of customers are accounted for shall be reconciled in future billings under the EECR Balance Adjustment (EECPBA) component.

EECPI = EECR INCENTIVE

For all Energy Efficiency/Conservation Programs, the EECR Incentive amount shall be computed by multiplying the net resource savings estimated from the approved programs times fifteen (15) percent. Net resource savings are defined as program benefits less utility program costs and participant costs where program benefits will be calculated on the basis of the present value of Company's avoided commodity costs over the expected life of the program.

The EECR Incentive amount shall be divided by the expected number of customers for the upcoming twelve-month period to determine the EECPI. EECR Incentive amounts will be assigned for recovery purposes to the rate classes whose programs created the incentive.

EECPBA = EECR BALANCE ADJUSTMENT

The EECPBA shall be calculated on a twelve-month basis and is used to reconcile the difference between the amount of revenues actually billed through the EECPCR, EECPLS, EECPI and previous application of the EECPBA and the revenues which should have been billed.

The program has an October year-end with rates to be effective with meter readings beginning on and after Company's February Unit 1 billing cycle.

PUBLIC SERVICE COMMISSION
OF KENTUCKY
EFFECTIVE
10/27/2009

PURSUANT TO 807 KAR 5:011

DATE EFFECTIVE SECTION 17, 2009

DATE OF ISSUE: November 6, 2009

Issued by authority of an Order of the Public Service Commission in Case No. 21

Issued by: *Harold McCreary*

By: *H. D. Brown*
Executive Director

28, 2009

Executive Director

Original Sheet No. 51f

COLUMBIA GAS OF KENTUCKY, INC.

P.S.C. Ky. No. 5

**ENERGY EFFICIENCY AND CONSERVATION RIDER
ENERGY EFFICIENCY/CONSERVATION PROGRAM COST RECOVERY
(Continued)**

EECPBA = EECB BALANCE ADJUSTMENT (continued)

The EECBBA is the sum of the following components:

- The difference between the amount billed in a twelve-month period from the application of the EECPCR component and the actual cost of the approved programs during the same twelve-month period.
- The difference between the amount billed during the twelve-month period from the application of the EECPLS component and the amount of lost revenue determined for the actual DSM measures implemented during the twelve-month period.
- The difference between the amount billed during the twelve-month period from the application of the EECPI component and the incentive amount determined for the actual DSM measures implemented during the twelve-month period.
- Interest to be calculated at a rate equal to the average of the "3-month Commercial Paper Rate" for the immediately preceding 12-month period.

The balance adjustment amounts, plus interest, shall be divided by the expected number of customers for the upcoming twelve-month period to determine the EECBBA for each rate class.

MODIFICATIONS TO EECPRC

The filing of modifications to the EECPRC which require changes in the EECPCR component shall be made at least two months prior to the beginning of the effective period for billing. Modifications to other components of the EECPRC shall be made at least thirty days prior to the effective period for billing. Each filing shall include the following information as applicable:

- (1) A detailed description of each EECB program, the total cost of each program over the previous twelve-month period and budgeted costs for the next program year, an analysis of expected resource savings, information concerning the specific EECB measures to be installed, and any applicable studies which have been performed, as available.
- (2) A statement setting forth the detailed calculation of the EECPCR, EECPLS, EECPI, EECBBA and EECPRC.

PUBLIC SERVICE COMMISSION
OF KENTUCKY
EFFECTIVE

10/27/2009

PURSUANT TO 807 KAR 5:011

DATE EFFECTIVE SECTION 21, 2009

DATE OF ISSUE: November 6, 2009

Issued by authority of an Order of the Public Service Commission in Case No. 2009-00000

Issued by:

Heurt Mey

By

H. D. Brown

Executive Director

26, 2009

COLUMBIA GAS OF KENTUCKY, INC.

GAS TARIFF
 PSC KY NO. 5
 FIFTH REVISED SHEET NO. 51g
 CANCELLING PSC KY NO. 5
 FOURTH REVISED SHEET NO. 51g

**ENERGY EFFICIENCY AND CONSERVATION RIDER
 ENERGY EFFICIENCY/CONSERVATION PROGRAM COST RECOVERY
 (Continued)**

MODIFICATIONS TO EECPRC (continued)

Each change in the EECPRC shall be placed into effect with meter readings on and after the effective date of such change.

Adjustment Factors: Per Meter per Billing Period

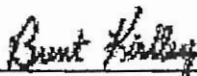
Residential:

EECPCR	\$0.61	
EECPLS	\$0.03	
EECPI	\$0.12	
EECPBA	<u>(\$0.07)</u>	R
Total EECPRC for Residential Customers	\$0.69	R

Commercial:

EECPCR	\$0.00
EECPLS	\$0.00
EECPI	\$0.00
EECPBA	<u>\$0.00</u>
Total EECPRC for Commercial Customers	\$0.00

DATE OF ISSUE December 31, 2015
 DATE EFFECTIVE February 1, 2016
 ISSUED BY /s/ Herbert A. Miller, Jr.
 TITLE President

KENTUCKY PUBLIC SERVICE COMMISSION
JEFF R. DEROUEN EXECUTIVE DIRECTOR
TARIFF BRANCH 
EFFECTIVE 2/1/2016 PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

Original Sheet No. 51h

COLUMBIA GAS OF KENTUCKY, INC.

P.S.C. Ky. No. 5

ENERGY EFFICIENCY/CONSERVATION PROGRAM
 Approved DSM Measures

RESIDENTIAL

1. High Efficiency Appliance Rebates – provides a rebate to customer based upon installation of high-efficiency natural gas appliances. The rebate amount varies with the appliance(s) installed as shown below:

Natural Gas Appliance	Efficiency Level	Size	Rebate Amount
Forced Air Furnace	90% or greater	30,000 BTU or greater	\$400
Dual Fuel Furnace	90% or greater	30,000 BTU or greater	\$300
Space Heater	%99	10,000 BTU or greater	\$100
Gas Logs	%99	18,000 BTU or greater	\$100
Gas Fireplace	90% or greater	18,000 BTU or greater	\$100
Tank Hot Water Heater	0.82 Energy Factor	40 gallon or greater	\$200
Power Vent Hot Water Heater	0.82 Energy Factor	40 Gallon or greater	\$250
On Demand Hot Water Heater	0.67 Energy Factor		\$300

2. Home Energy Audit – provides a walk-through audit to the customer at no charge. The customer is provided a summary of what was found during the audit and information regarding suggested weatherization actions that can be taken to improve the energy efficiency of the home.
3. Low-income Furnace Replacement - In partnership with the Community Action Council, replaces old, non-working or inefficient furnace equipment with high-efficiency models for income-eligible customers.

KENTUCKY PUBLIC SERVICE COMMISSION
JEFF R. DEROUEN EXECUTIVE DIRECTOR
TARIFF BRANCH
DATE EFFECTIVE: <i>Scott Kirtley</i> 7, 2009
EFFECTIVE No. 2009-00141 dated October 28, 2009 10/27/2009
PURSUANT TO 807 KAR 5.011 SECTION 8 (1) President

DATE OF ISSUE:: April 30, 2012

Issued by authority of an Order of the Public Service Commission In Case No. 2009-00141

ISSUED BY: *Herbert A. Miller Jr.*

Exhibit Seelye-3

Columbia Gas of Kentucky, Inc.
Energy Efficiency/Conservation Program Costs

Program Period Year End	Energy Audit Program	High-Efficiency Appliance Rebate Program	Furnace Replacement Program	Direct Program Cost	CKY Program Administration	Total Program Cost
Oct-10	\$ 53,189	\$ 189	\$ 58,246	\$ 111,624	\$ -	\$ 111,624
Oct-11	171,252	616,153	195,801	983,206	2,500	985,706
Oct-12	29,949	442,839	296,421	769,209	27,694	796,903
Oct-13	302,235	443,083	704,940	1,450,258	20,325	1,470,583
Oct-14	40,257	498,650	531,170	1,070,077	73,170	1,143,247
Oct-15	32,189	451,731	252,645	736,565	18,397	754,962
Total	\$ 629,071	\$ 2,452,645	\$ 2,039,223	\$ 5,120,939	\$ 142,086	\$ 5,263,025
Average Annual	\$ 104,845	\$ 408,774	\$ 339,871	\$ 853,490	\$ 23,681	\$ 877,171

Exhibit Seelye-4

Columbia Gas of Kentucky, Inc.
 Energy Efficiency/Conservation Program Participants

Program Period Year End	Energy Audit Program	High-Efficiency Appliance Rebate Program	Furnace Replacement Program	Total Program Participants
Oct-10	183	-	24	207
Oct-11	277	1,429	91	1,797
Oct-12	158	1,138	160	1,456
Oct-13	1,399	1,194	264	2,857
Oct-14	252	1,248	198	1,698
Oct-15	116	1,179	98	1,393
Total	2,385	6,188	835	9,408
Average Annual	398	1,031	139	1,568

Exhibit Seelye-5

Columbia Gas of Kentucky, Inc.
Energy Efficiency/Conservation Program Participants

County	Appliance Rebate Program	Low-Income Furnace Replacement Program	Energy Audit Program	All Programs
Bourbon	92	84	34	210
Boyd	599	32	132	763
Bracken	4			4
Casey	1			1
Clark	147	12	83	242
Clay	2			2
Estill	21	10	9	40
Fayette	3,883	623	1,521	6,027
Floyd	2	1	15	18
Franklin	355	3	235	593
Grant	1			1
Greenup	326	14	103	443
Harrison	49	48	22	119
Jessamine	99		24	123
Johnson			1	1
Knott	1		3	4
Laurel	1			1
Lawrence	8	1	10	19
Lewis			1	1
Madison	13	3	7	23
Martin	2		2	4
Mason	74		19	93
Montgomery	74		23	97
Nicholas	1	2		3
Perry	1			1
Pike	6		4	10
Scott	201	2	62	265
Taylor	3			3
Woodford	222		75	297
Total	6,188	835	2,385	9,408

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

TARIFF APPLICATION OF COLUMBIA GAS OF)	
KENTUCKY, INC. TO CONTINUE ITS ENERGY)	CASE NO.
EFFICIENCY CONSERVATION RIDER AND)	2016-00107
ENERGY EFFICIENCY CONSERVATION PROGRAM)	

ORDER

On February 29, 2016, Columbia Gas of Kentucky Inc. ("Columbia") submitted an application requesting approval to continue its Energy Efficiency Conservation ("EEC") Program through June 30, 2021, and Columbia's EEC Rider through January 2022. The application was filed in compliance with the Commission's Order in Case No. 2013-00167,¹ which required Columbia to file an application no later than February 29, 2016, to request the continuation of the program. On June 30, 2016, the Commission issued an Order continuing the program pending a final Order in this proceeding. On August 24, 2016, an Informal Conference ("IC") was held to clarify certain issues in this case. Columbia responded to three requests for information from Commission Staff. There are no intervenors in this proceeding, and the matter now stands submitted to the Commission for a decision based on the evidentiary record.

¹ Case No. 2013-00167, *Application of Columbia Gas of Kentucky, Inc. for an Adjustment of Rates for Gas Service* (Ky. PSC Dec. 13, 2013).

DISCUSSION

Pursuant to KRS 278.285, Columbia's EEC Rider provides a dollar-for-dollar recovery of costs associated with the implementation of the EEC programs and lost sales revenues. It also includes a small incentive component designed to encourage Columbia to develop and implement cost-effective DSM programs, as well as a reconciling adjustment for any over- or under-recoveries of program costs.

Columbia offers three residential Demand Side Management ("DSM") measures through the EEC Program:

- High-Efficiency Appliance Rebates provide rebates for the installation of high-efficiency space and water heating appliances;
- Home Energy Audits provide free walk-through energy audits; and
- Low-Income High Efficiency Furnace Replacement provides up to \$2,200 toward the cost of installing a high-efficiency forced-air furnace for a qualifying low-income customer.

Columbia met in November and December 2015 with its DSM Collaborative to discuss potential changes to its DSM programs. Participating collaborative members included the Office of the Kentucky Attorney General, Community Action Council for Lexington-Fayette, Bourbon, Harrison and Nicholas Counties ("CAC"), Stand Energy, and IGS Energy. CAC and IGS Energy suggested expanding current programs. Columbia states that after consulting with its outside consultant, it believes that its current programs effectively achieve its goals.²

² Application paragraph 7.

Columbia is proposing no changes to its existing tariffs and wishes to continue its EEC Program and EEC Rider as previously approved, with the exception of a proposal to increase the maximum replacement reimbursement for the Low-Income High Efficiency Furnace Replacement Program from \$2,200 to \$2,800. Despite this increase in program costs, Columbia does not propose to increase the overall budget of its DSM Programs, which has remained at \$908,000 annually since it was first approved in 2009, but notes that the increased furnace replacement cost could reduce the number of participants served.³

COST-EFFECTIVENESS

Columbia provided results of cost-effectiveness tests ("California tests"), which are widely used in the evaluation of DSM programs and set out in the California Standard Practice Manual. The California tests are the Participant Test, the Program Administrator Test, the Ratepayer Impact Measure, and the Total Resource Cost ("TRC") Test. Test results are shown in the table below,⁴ and assume that 2 percent of the customers receiving benefits under the High-Efficiency Appliance Rebate Program and the Modified Low-Income High Efficiency Furnace Replacement Program would have switched to an alternative energy source such as electricity for space heating had the programs not been in effect. (Results greater than 1 imply the benefits are greater than the costs.)

³ Response to Staff's First Request for Information (filed Apr.4, 2016), Item 4b.

⁴ Amended and Supplemental Response to Commissions Staff's Second Request for Information (filed June 2, 2016), Item 1.

Program Name	Participant Test	Program Administrator Test	Ratepayer Impact Measure	Total Resource Cost Test
Audit Program	6.65	2.63	0.42	2.63
High Efficiency Furnace Rebate Program	1.10	1.77	0.58	1.77
Low-Income High Efficiency Furnace Replacement Program	7.43	0.88	0.70	0.88
All Programs	2.14	1.77	0.52	1.66

As can be seen in the table above, the TRC Test for all programs collectively is greater than one. Columbia asserts that, although the Low-Income Efficiency Furnace Replacement test results are all less than one, the program fulfills an important need in that the target customers are the least able to replace their inefficient furnaces, and this program allows them to improve their energy efficiency. Columbia further states that its programs create environmental and societal benefits while also incentivizing customers to use energy more efficiently. The appliance rebates help customers install appliances that are more efficient, although more costly to install than standard appliances. Additionally, the rebates allow Columbia to be competitive with electric utility DSM appliance rebate program offerings. Columbia has also received positive customer response in regards to the energy audits. The audits offer conservation tools, and Columbia states that its program is similar to audit programs offered by neighboring utilities.

FINDINGS

Having reviewed the record and being otherwise sufficiently advised, the Commission finds that Columbia's programs offer the opportunity for reduced gas

consumption and reduce the possibility that customers will switch to electric service due to attractive electric DSM programs. Columbia should continue its approved DSM measures, including the proposed increase in the Low-Income High Efficiency Furnace Replacement Program to \$2,800, through June 30, 2021, and the current EEC Rider should be approved for cost recovery through its January 2022 bills.

IT IS THEREFORE ORDERED that:

1. Columbia's request to continue its approved residential EEC Program DSM measures through June 30, 2021, is approved.
2. Columbia's request to increase the maximum replacement cost for the Low-Income High Efficiency Furnace Replacement Program to \$2,800 is approved.
3. Columbia's DSM cost recovery through its EEC Rider is approved through January 2022.
4. Columbia shall file an application no later than February 28, 2021, to request continuation of its EEC Program and EEC Rider.

By the Commission



ATTEST:

Executive Director

*Columbia Gas of Kentucky, Inc.
290 W Nationwide Blvd
Columbus, OH 43215

*Honorable Stephen B Seiple
Attorney at Law
Columbia Gas of Kentucky, Inc.
290 W. Nationwide Blvd.
Columbus, OHIO 43215

**COLUMBIA GAS OF KENTUCKY, INC.
RESPONSE TO COMMISSION STAFF'S
FIRST REQUESTS FOR INFORMATION
DATED MAY 18, 2018**

2. Refer to Columbia Gas's Energy Efficiency/Conservation Program Year End Program Results filed December 28, 2017.

a. For the Low-Income High-Efficiency Furnace Replacement Program explain why participation increased 22.6 percent from the prior year.

b. For the High-Efficiency Appliance Rebate Program, explain why participation increased 4 percent from the prior year.

c. For the Home Energy Audit Program. Explain why participation increased 45 percent from the prior year.

Response:

- a. Low-Income Furnace Replacements dropped in the 2016 program year due to the lack of contractor resources available to perform installation work. This was an element that was addressed in Case No. 2016-00107, *Tariff Application of Columbia Gas of Kentucky, Inc. to Continue Its Energy*

Efficiency Conservation Rider and Energy Efficiency Conservation Program.

The result was a modification to the program, increasing the maximum amount that is provided toward furnace replacement cost from \$2,200 to \$2,800. This modification provided the financial resources for the Community Action Council to be able obtain the contractor resources to do the installation work. Thus, the participation increased in the 2017 program year.

- b. and c. Program participation for both the High-Efficiency Appliance Rebate Program and Home Energy Audit Program were lower in the 2016 program year than in any other year. Participation in both programs returned to more characteristic levels in the 2017 program year. Participation in both of these programs is closely correlated to promotion efforts. In 2016, Columbia deferred promotional efforts because its Application in Case No. 2016-00107 to continue the Program, filed in compliance with the Commission's Order of December 13, 2013 in Case No. 2013-00167, was pending. The Commission issued the Final Order in Case No. 2016-00162 on October 11, 2016 authorizing approval of the DSM program measures and cost recovery. The resumption of promotional efforts by Columbia in 2017 stimulated participation. Columbia's

experience has demonstrated that the Home Energy Audit Program is particularly stronger in response to its promotional efforts.

**COLUMBIA GAS OF KENTUCKY, INC.
RESPONSE TO COMMISSION STAFF'S
FIRST REQUESTS FOR INFORMATION
DATED MAY 18, 2018**

3. Explain why Columbia Gas should continue its Energy Efficiency Conservation Program, given that the current net resource savings is negative.

Response: The current net resource savings is calculated to determine if Columbia is eligible for the Energy Efficiency/Conservation Program Incentive as an amount to be included in its Energy Efficiency/Conservation Program Cost Recovery Component rate. It is *not* an evaluation of the broader cost-benefit analysis of the program.

As the Commission most recently stated in its Order dated April 27, 2018, in Case No. 2017-00424, *Application of Atmos Energy Corporation to Extend Its Demand-Side Management Program, As Amended, and Cost Recovery Mechanism, As Amended for Three (3) Years*, "(t)Commission has traditionally evaluated DSM effectiveness by focusing on the Total Resource Cost ("TRC") results".

Please see the response to Commission Staff's First Request, Question No. 1 wherein the TRC results for Columbia's program are positive. Therefore, the program should continue.

**COLUMBIA GAS OF KENTUCKY, INC.
RESPONSE TO COMMISSION STAFF'S
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4. Explain why Columbia Gas should continue its Energy Efficiency Conservation Program, given the declining offerings of Demand Side Management programs by electric utilities in Columbia Gas's service territory.

Response: Columbia's Energy Efficiency Conservation Program was not created based upon the Demand Side Management programs offered by electric utilities in Columbia's service territory. Columbia's program was created to encourage energy efficiency and conservation by customers and provide a financial incentive to the utility to promote energy efficiency and conservation. These are still valid purposes. Additional benefits in residential home safety, reliability and customer satisfaction were not part of the original purpose but have been realized as a result of the program.

In its Order approving the continuation of Columbia's Energy Efficiency Conservation Program less than 18-months ago in Case No. 2016-00107, *Tariff*

Application of Columbia Gas of Kentucky, Inc. To Continue Its Energy Efficiency Conservation Rider and Energy Efficiency Conservation Program, the Commission found, “that Columbia’s programs offer the opportunity for reduced gas consumption and reduce the possibility that customers will switch to electric service due to attractive electric DSM programs” (page 4-5). I would clarify that Columbia’s position was not that customers will switch to electric service due to the availability of electric DSM programs, but rather, that the offering of electric DSM programs with rebates and incentives created an expectation of consumers for utility rebates and programs. The reality is, customers are more likely to switch to electric service not because of electric DSM programs but rather, customers are more likely to switch to electric service because electric appliances are easier and less costly than natural gas appliances to install, may be less expensive to purchase than natural gas appliances and are often more readily available to the customer than natural gas appliances. The declining offerings of electric Demand Side Management Programs do not eliminate or diminish the risk that Columbia faces of a natural gas customer switching to electric service.

The Findings in the Commission’s 2016 Order indicate that two of the factors it utilized in approving Columbia’s request to continue its Energy Efficiency Conservation Program and Rider are that the programs 1) offer the opportunity for reduced gas consumption and 2) reduce the possibility that customers will

switch to electric service. The rationale and validity of these findings has not changed since the issuance of the Commission's Order on October 11, 2016. And while not limited to just these factors to determine the reasonableness of Columbia's Energy Efficiency Conservation Program as a whole, Columbia believes there has not been any significant change upon which the Commission could reasonably arrive at a different conclusion regarding its Energy Efficiency Conservation Program and Rider. Columbia should be allowed to continue its Energy Efficiency Conservation Program and Rider as authorized on October 11, 2106.

KRS 278.285 provides that the Commission may determine the reasonableness of demand-side management plans considering a number of factors which include, but are not limited to, (a) specific changes in customers' consumption patterns which a utility is attempting to influence, (b) cost and benefit analysis, (c) recovery in rates, (d) whether an unreasonable prejudice or disadvantage results to any class of customers, (e) the involvement of customer representatives and the Office of the Attorney General, and, (f) the availability, affordability and usefulness to all customers. Columbia's Energy Efficiency Conservation Program meets or exceeds all of these factors. In summary, (a) Customer consumption patterns are influenced in two ways – reducing consumption and creating more efficient consumption by a customer that would have switched to

an alternative energy source in the absence of the program. (b) The Total Resource Cost Test is greater than 1.0 for each of Columbia's program measures and the Energy Efficiency Conservation Program as a whole. (c) The Energy Efficiency Conservation Program Rider provides for the recovery in rates. The proposed change is an increase of 4 cents from \$0.55 to \$0.59 per residential customer. In the history of Columbia's program, the Energy Efficiency Conservation Program Recovery Component rate has never exceeded \$1.00 per month. (d) No unreasonable prejudice or disadvantage results to any class of customers. Columbia's program is available to all customers in its residential class. Only the Modified Low-Income Furnace Replacement Program has an income threshold. (e) Columbia's DSM Collaborative is made up customer representatives and the Office of the Attorney General. Collaborative members have participated in the original design of the program measures and provided input concerning subsequent changes in Columbia's Energy Efficiency Conservation Program, including that proposed and authorized by the Commission in Case No. 2016-00107. (f) The availability, affordability and usefulness to customers is somewhat addressed in items (c) and (d) and further evidenced by customer perceptions. Columbia utilizes J. D. Power to survey residential customer perceptions. Columbia does not meet the 135,000 residential customer threshold required by J. D. Power to be included in the

syndicated survey, but NiSource (Columbia's parent) pays J. D. Power to survey Columbia's customers. Survey results in 2018 show that if it were included in the syndicated survey, Columbia would rank Number One in residential customer satisfaction in the MidWest, mid-size segment. The research results demonstrate that Columbia's customers value Energy Efficiency programs and desire that energy efficiency programs be made available for their use, whether they use them or not. It is an important attribute of customer satisfaction with their natural gas utility. Further, Columbia has not received even one complaint about its Energy Efficiency Conservation Program.

An unanticipated factor and an important aspect of Columbia's Energy Efficiency Conservation Program is the increase in residential home safety to its customers. For example, the installation of a new, high efficiency appliance or furnace and the inspection conducted in a "Home Energy Check-Up" provide the opportunity to improve the reliability of service and eliminate natural gas hazards in the home.

For all these reasons, Columbia should be allowed to continue its Energy Efficiency Conservation Program regardless of what electric utilities may now offer.

**COLUMBIA GAS OF KENTUCKY, INC.
RESPONSE TO COMMISSION STAFF'S
FIRST REQUESTS FOR INFORMATION
DATED MAY 18, 2018**

5. Provide the number of participants and actual program costs to date for 2018 separately for the High-Efficiency Appliance Rebate Program, the Home Energy Audit Program, and the Low-Income High-Efficiency Furnace Replacement Program, and for Columbia's Demand Side Management program as a whole.

Response:

High-Efficiency Appliance Rebate Program

- Number of Participants – 732
- Actual Program Cost - \$280,755.49

Home Energy Audit Program

- Number of Participants – 30
- Actual Program Cost - \$4,300.00

Low-Income High-Efficiency Furnace Replacement Program

- Number of Participants – 56
- Actual Program Cost - \$184,235.00

Columbia's Demand Side Management Program (*as a whole*)

- Number of Participants – 818
- Actual Program Cost - \$475,200.49

**COLUMBIA GAS OF KENTUCKY, INC.
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6. Provide the number of participants and estimated program costs for the High-Efficiency Appliance Rebate Program, the Home Energy Audit Program, and the Low-Income High-Efficiency Furnace Replacement Program, and for Columbia's Demand Side Management program as a whole for those customers who have applied for but have not received a rebate, audit, or replacement furnace.

Response: The information requested is not readily available as it is in the control of 3rd parties and is still being gathered. Columbia will update this response as soon as the information becomes available.