

February 29, 2016

Mr. James W. Gardner
Acting Executive Director
Public Service Commission
Commonwealth of Kentucky
211 Sower Boulevard
P.O. Box 615
Frankfort, KY 40602

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FEB 29 2016

PUBLIC SERVICE
COMMISSION

RE: *Application of Columbia Gas of Kentucky to Continue its Energy Efficiency Conservation Rider and Energy Efficiency Conservation Program.*

Dear Mr. Gardner

2016-00107

Enclosed for docketing with the Commission is an original and ten (10) copies of Columbia Gas of Kentucky Inc.'s *Application to Continue its Energy Efficiency Conservation Rider and Energy Efficiency Conservation Program*. Should you have any questions about this filing, please contact me at 614-460-5558.

Sincerely,

Brooke E. Wanchuck (gmc)

Brooke E. Wanchuck
Assistant General Counsel

Enclosures

cc: Hon. Richard S. Taylor
Hon. Stephen B. Seiple

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:)
)
THE TARIFF APPLICATION OF COLUMBIA GAS OF KENTUCKY, INC. TO CONTINUE ITS ENERGY EFFICIENCY CONSERVATION RIDER AND ENERGY EFFICIENCY CONSERVATION PROGRAM) Case No. 2016-_____

APPLICATION OF COLUMBIA GAS OF KENTUCKY, INC.

Pursuant to KRS 278.285, Columbia Gas of Kentucky, Inc. ("Columbia") respectfully requests the Kentucky Public Service Commission ("Commission"), authorize the continuation of Columbia's Energy Efficiency Conservation Rider and Energy Efficiency/Conversation Program through June 30, 2021. In support of the application, Columbia states as follows:

1. Columbia is engaged in the business of furnishing natural gas services to the public in certain counties in the Commonwealth of Kentucky, pursuant to the authority granted by the Commission.

2. Columbia's full name and post office address is:

Columbia Gas of Kentucky, Inc.
2001 Mercer Road
P.O. Box 14241
Lexington, KY 40512-4241

3. That Columbia's Articles of Incorporation previously have been filed with the Commission in Case No. 2013-00066 and are incorporated herein by reference.

4. By Order dated October 26, 2009, in Case No. 2009-00242, the Commission approved the creation of Columbia's Demand-Side Management ("DSM") program, also known as Columbia's Energy Efficiency/Conservation ("EEC") Program and Energy Efficiency Conservation ("EEC") Rider.

5. Columbia's EEC Rider is set forth on Tariff Sheets 51d through 51g. Tariff Sheet 51h sets forth the approved residential DSM measures. Pursuant to Columbia's tariff sheet number 51d, Columbia makes an annual filing each year in which it proposes the Energy Efficiency/Conservation Program Cost Recovery Component ("EECPRC") to be effective beginning with February bills. No changes are proposed to Tariff Sheets 51d through 51h.

6. By Order dated December 13, 2013, in Case No. 2013-00167, the Commission approved the continuation of Columbia's EEC Rider and EEC Program until June 30, 2016, and ordered Columbia to file an application no later than February 29, 2016, to request that they be continued.

7. On November 17, 2015 and December 15, 2015, Columbia met with the DSM stakeholder group to discuss potential changes to its DSM program. Columbia's DSM Collaborative members participating were Office of the Kentucky Attorney General, Community Action Council for Lexington-Fayette, Bourbon, Harrison and Nicholas Counties, Stand Energy, and IGS Energy. The Community Action Council and IGS suggested changes to the program that would expand the program, thus increase costs to Columbia's current customers. After consulting with Columbia's outside consultant, William Steven Seelye, Columbia believes its current program effectively achieves its goal of providing residential customers the opportunity to reduce natural gas consumption at a cost that is fair, just and reasonable to Columbia's customer base.

8. Pursuant to the Commission's order of December 13, 2013, in Case No. 2013-00167, Columbia submits the instant application and accompanying testimony of William Steven Seelye, attached hereto as Attachment A, in support of the continuation of its EEC program.

9. Columbia proposes no changes in its existing tariffs to continue its EEC Rider and EEC Program as previously approved.

10. Columbia requests authority to continue its approved residential DSM measures as set forth on Sheet 51h of its tariff through June 30, 2021, and its

Energy Efficiency and Conservation Rider for cost recovery as set forth on Sheets 51d through 51g through its January 2022 bills.

WHEREFORE, Columbia respectfully submits that good cause has been shown for the continuation of its demand-side management plans and it respectfully requests that the Commission issue an order authorizing their continuation pursuant to KRS 278.285 for the reasons stated herein.

Dated at Columbus, Ohio, this 29th day of February 2016.

Respectfully submitted,
COLUMBIA GAS OF KENTUCKY, INC.

By: Stephen B. Seiple (gmc)
Stephen B. Seiple
Asst. General Counsel

Stephen B. Seiple, Asst. General Counsel
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Attorneys for
COLUMBIA GAS OF KENTUCKY, INC.

ATTACHMENT A

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.

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

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

6
7 Q: What is the purpose of your testimony in this proceeding?

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

16
17 Q: Please describe Columbia Gas's EECR rate schedule.

18 A: Columbia Gas's EECR is applicable to residential customers served under Rate Schedule
19 GSR and commercial customers service under Rate Schedule GSO. It is designed to
20 provide for the recovery of DSM program costs, to provide for the recovery of net revenues
21 from lost sales due to the implementation of DSM programs, and to provide a small
22 incentive for Columbia Gas to implement DSM programs. While the EECR rate schedule
23 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 (EECRBA)
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?

4 1

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:

22

1

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

2

3

4

5

6

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.

7

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

8

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.

12

13

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

14

15

A: Yes.

16

;

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;
 - Checking for proper changes of the heating system filtering devices and clearance
20 from obstructions of all return air registers;
 - Inspection of outer wall switch plates and outlets for insulation protection or gasket
21 installation;
 - 22
 - 23

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

6

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

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

14

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

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

20

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

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

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

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

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

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

1

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

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

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

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

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

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

1 **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

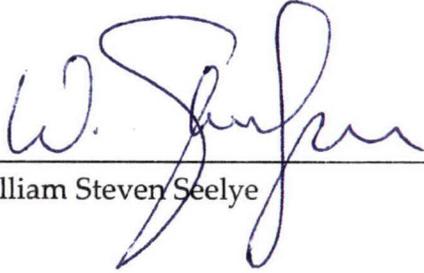
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3

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.

A handwritten signature in blue ink, appearing to read "W. Seelye", written over a horizontal line.

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

COLUMBIA GAS OF KENTUCKY, INC.

P.S.C. Ky. No. 6

**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:

$$EECPRC = EECPCR + EECPPLS + EECPPI + EECPBA$$

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.

EECPPLS = 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**

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10/27/2009

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DATE EFFECTIVE ~~October 27, 2009~~ SECTION 8 (1)

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Issued by: *Herbert H. Kelley*

By: *[Signature]* October 26, 2009
Executive Director

**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.

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26, 2009

Issued by:

Herbert McCreary

By

H. D. Brown

Executive Director

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

EECPBA = EECP BALANCE ADJUSTMENT (continued)

The EECPBA 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 EECPBA 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 EECP 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 EECP 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, EECPBA and EECPRC.

**PUBLIC SERVICE COMMISSION
OF KENTUCKY
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Issued by: *Henry McElroy*

By: *[Signature]*
Executive Director

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 TITLE	/s/ Herbert A. Miller, Jr. President

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

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	0.62 Energy Factor	40 gallon or greater	\$200
Power Vent Hot Water Heater	0.62 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 OF ISSUE:: April 30, 2012

DATE EFFECTIVE *Brent Kirtley* 7, 2009

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EFFECTIVE

10/27/2009ISSUED BY: *Herbert A. Miller Jr.*PURSUANT TO 807 KAR 6:011-SECTION 8 (1)
President

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

Exhibit Seelye-3

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

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

Exhibit Seelye-4

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

**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