

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**PETITION OF UGI UTILITIES, INC. – ELECTRIC DIVISION
FOR APPROVAL OF ITS
ENERGY EFFICIENCY AND CONSERVATION PLAN**

DOCKET NO. M-2010-_____

**TESTIMONY
OF
PAUL H. RAAB**

UGI ELECTRIC STATEMENT NO. 2

November 9, 2010

1 **Q. Please state your full name and business address.**

2 A. My name is Paul H. Raab and my business address is 5313 Portsmouth Road,
3 Bethesda, MD 20816.

4 **Q. On whose behalf are you appearing today?**

5 A. I am appearing on behalf of UGI Utilities, Inc. – Electric Division (“UGI
6 Electric” or the “Company”).

7 **Q. By whom are you employed and in what capacity?**

8 A. I am an independent economic consultant and provide consulting services by
9 myself and as a Partner with energytools, llc.

10 **Q. What are your duties as a Consultant and Partner with energytools, llc.?**

11 A. As a Consultant and Partner at energytools, llc., I have provided consulting
12 services to the utility industry for over 30 years. I have assisted electric, natural
13 gas, telephone and water utilities, Commissions and intervenor clients in a variety
14 of areas. I am trained as a quantitative economist, so most of this assistance has
15 been in the form of mathematical and economic analysis and information systems
16 development. My particular areas of focus are regulatory change management,
17 Demand Side Management (“DSM”) planning, marginal cost and rate design
18 analysis, and depreciation and life analysis. I have been responsible for
19 designing, implementing, and evaluating DSM programs for Washington Gas
20 Light Company in the District of Columbia, Maryland, and Virginia. I also have
21 worked with Piedmont Natural Gas in the design, implementation, and evaluation
22 of its DSM programs in South Carolina. I have worked on DSM program
23 offerings by electric and natural gas utilities in the District of Columbia, Kansas,

1 Maryland, Oklahoma, Texas, and Virginia. I also acted as the consultant for a
2 number of Pennsylvania natural gas distribution companies (“NGDCs”),
3 including UGI Utilities – Gas Division, in addressing the fuel-switching aspects
4 of the larger Pennsylvania electric distribution companies’ (“EDCs”) Act 129
5 filings that were reviewed by the Pennsylvania Public Utility Commission
6 (“Commission”) last summer. All of this experience has allowed me to observe
7 firsthand the real world impacts of DSM and energy efficiency programs,
8 particularly as they relate to changing markets and encouraging use of a particular
9 fuel type.

10 **Q. What is your educational background?**

11 A. I have a B.A. in Economics from Rutgers University and a M.A. from the State
12 University of New York at Binghamton with a concentration in Econometrics.
13 While attending Rutgers, I studied as a Henry Rutgers Scholar.

14 **Q. Have you previously provided expert testimony before this Commission?**

15 A. Yes. I have provided expert testimony before this Commission in Duquesne
16 Light Company’s base rate case at Docket No. R-00061346. Also, as noted
17 above, I presented testimony at the Commission’s November 19, 2008 *en banc*
18 energy efficiency hearing and in several of the larger EDCs’ Act 129 proceedings
19 that were litigated before the Commission last summer.

20 I have also provided expert testimony before the state regulatory
21 authorities of Alaska, the District of Columbia, Georgia, Indiana, Iowa, Kansas,
22 Kentucky, Louisiana, Maryland, Michigan, Missouri, Montana, Nebraska,
23 Nevada, New Jersey, New Mexico, New York, Ohio, Oklahoma, Tennessee,

1 Virginia, West Virginia, and Wisconsin, as well as the Federal Energy Regulatory
2 Commission, the Michigan House Economic Development and Energy
3 Committee, the Pennsylvania House Consumer Affairs Committee, the Province
4 of Saskatchewan, and the United States Tax Court.

5 Appendix A to my Direct Testimony presents more details on my areas of
6 focus and the subject matter of the testimony provided.

7 **Q. What is the purpose of your testimony?**

8 A. The purpose of my testimony is to provide support for and information about UGI
9 Electric’s proposed Energy Efficiency and Conservation Plan (“EE&C Plan” or
10 the “Plan”). I detail the Company’s EE&C Plan standards as set forth in the
11 Secretarial Letter issued by the Commission to smaller EDCs regarding the
12 submission of voluntary EE&C plans. My testimony also discusses how UGI
13 Electric’s EE&C Plan will meet those requirements and describes how the Plan
14 was developed. Lastly, my testimony explains that the Plan is in compliance with
15 the Commission’s guidelines for smaller EDCs.

16 **Q. What role did you play in the preparation of UGI Electric’s proposed EE&C
17 Plan?**

18 A. I worked with the internal staff of UGI Electric to design the individual programs
19 and measures in the Plan and construct the portfolio. I prepared the technical
20 analyses and calculations regarding the projected savings, costs, and benefits for
21 the individual measures and for the programs that make up the proposed portfolio.

1 **Q. Are you sponsoring any exhibits in the filing?**

2 A. Yes. I am sponsoring UGI Electric's EE&C Plan, which has been identified as
3 UGI Electric Exhibit 1. Within UGI Electric Exhibit 1, I am primarily
4 responsible for and am sponsoring Sections 2 and 3.

5 **Q. How is your testimony organized?**

6 A. I begin by describing how UGI Electric calculated its annual energy savings
7 targets and the allowed expenditures. I then describe how UGI Electric's
8 proposed EE&C Plan is designed to meet those targets and satisfy its stated
9 energy efficiency goals, which are in line with the Commission's guidelines in its
10 Secretarial Letter.

11 **Q. What are UGI Electric's annual performance goals for energy savings and
12 allowed expenditures over the course of the Plan, as suggested in the
13 Commission's Secretarial Letter?**

14 A. As discussed by the Commission in its Secretarial Letter, UGI Electric is
15 voluntarily attempting to reduce its retail customers' electric consumption cost-
16 effectively by a total of at least 3% over a period of three years, as measured
17 against the Company's base year sales from June 1, 2007 to May 31, 2008. For
18 UGI Electric, the target represents 40,868 MWh of energy savings by 2014. As
19 noted in the Commission's Secretarial Letter, UGI Electric is attempting to reach
20 this target at a cost each program year of approximately two percent (2%) of its
21 revenues for the period ended May 31, 2008, which equates to approximately \$2.8
22 million annually, or \$8.6 million over the course of the Plan.

1 **Q. Do you believe UGI Electric can feasibly reach the customer participation**
2 **levels needed to meet the stated reduction targets?**

3 A. Yes. UGI Electric has been careful in its development of the Plan to construct a
4 portfolio of programs that should be expected to meet the reduction targets within
5 the three-year time frame. I should, however, note that customer participation in
6 the current economy is an uncertain variable and may impact the success of the
7 Plan. Fortunately, the Plan, as designed, allows for UGI Electric to perform
8 evaluations of its programs and make adjustments annually to the programs to
9 account for this factor.

10 **Q. Please describe how UGI Electric’s proposed programs are designed to meet**
11 **the stated energy saving targets.**

12 A. UGI Electric has constructed a portfolio of nine programs that are designed to
13 offer customer education, technical assistance, and financial incentives to all
14 customer classes. The program design is comprehensive, with realistic
15 forecasting of numbers of participants as well as savings per participant
16 considering the economic climate UGI Electric is facing.

17 **Q. How did UGI Electric construct the portfolio of programs?**

18 A. UGI Electric carefully developed the portfolio following these steps:
19 1. UGI Electric established energy reduction targets and its budget for
20 implementation of the Plan;
21 2. UGI Electric compiled a comprehensive list of energy efficiency and
22 conservation measures and practices from a number of sources, primarily

1 the Technical Reference Manual (“TRM”), as well as by considering some
2 measures not in the TRM;

3 3. UGI Electric determined the life cycle costs, savings, and avoided cost
4 benefits for each measure to compute that measure’s cost-effectiveness
5 from a Total Resource Cost (“TRC”) test perspective;

6 4. UGI Electric calculated anticipated program-level savings, spreading the
7 aggregate, plan-level savings for each program over the three-year plan
8 cycle to set annual participation levels and savings targets; and

9 5. UGI Electric balanced the portfolio by adjusting the number of
10 participants to develop a reasonable mix of programs likely to reach the
11 target energy reduction goal.

12 **Q. How did UGI Electric choose the programs that are included in its Plan?**

13 A. The UGI Electric team selected the programs based upon the anticipated market
14 potential, the programs’ cost-effectiveness, and by considering the goal of
15 achieving an equitable balance of measures that would be available to all
16 customer classes. UGI Electric considered the experiences of other EDCs in
17 Pennsylvania with similar programs and other outside sources to identify
18 programs with a high likelihood of success.

19 **Q. Does the proposed Plan meet the Commission’s TRC test?**

20 A. Yes. As a smaller EDC, UGI Electric is not subject to the requirements of Act
21 129, but the Commission’s Secretarial Letter indicated that the voluntary
22 programs offered by a smaller EDC should meet the TRC test. The Plan as whole
23 and all of the individual programs in the Plan are cost-effective according to the

1 TRC guidelines established by the Commission. UGI Electric’s analysis indicates
2 a TRC benefit-to-cost ratio of 2.04 for the proposed portfolio, with net TRC
3 benefits in excess of \$15 million.

4 **Q. Did UGI Electric employ a budget with regard to the proposed Plan?**

5 A. Yes. Similar to the larger EDCs’ cost parameters, UGI Electric employed a
6 budget of \$2.8 million, which approximates the 2% expenditure cap followed by
7 other EDCs that filed under the Act 129 regime.

8 **Q. Does UGI Electric’s Plan meet the requirement that the customer class that**
9 **receives the benefit from the specific measures will pay the cost of those**
10 **measures?**

11 A. Yes. As explained by Mr. McAllister in his Direct Testimony, the direct cost of
12 each measure will be assigned to the customer class implementing that measure.
13 General or administrative costs that apply system-wide to all programs will be
14 allocated to individual customer classes based upon projected sales volumes.

15 **Q. Does the proposed Plan provide energy efficiency incentives to low income**
16 **customers on UGI Electric’s system?**

17 A. Yes. While UGI Electric is not subject to the requirements of Act 129, it was
18 mindful in developing its EE&C Plan to include programs and measures that will
19 aid its low income customers in reducing their energy consumption. Some
20 examples include the Compact Fluorescent Lighting Campaign, Home Energy
21 Efficiency Incentives – Fuel Switching, and the School Energy Education
22 Program. These programs should assist low income customers in reducing their
23 energy costs going forward.

1 **Q. Does UGI Electric’s Plan provide a detailed description of each program in**
2 **the Plan and a calculation of benefits and costs?**

3 A. Yes, it does. The Plan clearly delineates each program and all of its features as
4 well as the calculation of benefits and costs for each program and measure. All of
5 the programs in the Plan were evaluated for cost-effectiveness according to the
6 procedures outlined in the Commission’s TRC test and the algorithms defined in
7 the Standard Practice Manual.

8 **Q. How does UGI Electric propose to review and monitor the performance of**
9 **the Plan?**

10 A. UGI Electric anticipates performing an internal review of the success of the
11 programs in the Plan. UGI Electric anticipates that it will file annual reports with
12 the Commission regarding the results of the review. My understanding is that the
13 report and related annual review are subject to Commission audit, as it deems
14 necessary. Mr. Fitzpatrick describes that process in more detail in his Direct
15 Testimony.

16 **Q. Does UGI Electric’s Plan contain procedures for quality assurance and**
17 **measurement and verification of performance of the proposed programs?**

18 A. Yes. The Plan incorporates extensive procedures for tracking the performance of
19 each of the programs in the Plan. This is designed to assure quality of service,
20 verification for UGI Electric that the measures have in fact been employed, and
21 verification of related savings. The Plan describes the procedures UGI Electric
22 will employ for monitoring program activities and for undertaking quality
23 assurance through inspection measures to ensure equipment quality and proper

1 installation and operation. UGI Electric will make extensive efforts to ensure that
2 all necessary evaluations will be performed to assess whether adjustments are
3 necessary to the Plan on an annual basis. UGI Electric expects to provide an
4 annual report to the Commission regarding the success of the Plan as well as any
5 adjustments that may be undertaken as a result of Plan outcomes.

6 **Q. Are there any factors that, in your opinion, may jeopardize UGI Electric's**
7 **ability to meet the targets set in the Plan?**

8 A. Yes. The most glaring uncertainty is the question of customer willingness to
9 participate in the proposed programs given today's economic climate. This is
10 particularly true for the commercial and industrial markets where implementation
11 of energy efficiency projects requires sizeable initial capital investment and
12 significant lead time. These cost barriers are uncertainties that may impact Plan
13 goals. In addition, UGI Electric has made a point of making its programs
14 available to the new construction market; however, the sluggishness of activity in
15 that market may also present a significant barrier to Plan implementation. Again,
16 UGI Electric has the ability to make adjustments on an annual basis to its Plan
17 after it has some experience with the programs as currently constructed.

18 **Q. Does this conclude your Direct Testimony?**

19 A. Yes, it does.

VERIFICATION

I, Paul H. Raab, hereby state that the facts above set forth are true and correct to the best of my information and belief and that I expect UGI Utilities – Electric Division to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).



Paul H. Raab

Dated: November 9, 2010