BEFORE THE
TENNESSEE REGULATORY AUTHORITY

PREPARED DIRECT TESTIMONY
OF
DANIEL J. NIKOLICH

IN RE:
CHATTANOOGA GAS COMPANY
DOCKET NO. _____

1   *I.*   *INTRODUCTION*

2   **Q.**   **Please state your name, position, and address.**

3   A.   Daniel J. Nikolich, Manager, Planning and Forecasting, AGL Services Company.

4   My business address is 10 Peachtree Place, Location 1686, Atlanta, Georgia

5   30309.

6   **Q.**   **Have you provided a summary of your educational background and**
7   **professional experience?**

8   A.   Yes. They are included as Attachment A.

9   **Q.**   **Have you previously submitted testimony before the Tennessee Regulatory**
10   **Authority ("TRA") or any other regulatory commission?**

11   A.   Yes, I submitted testimony supporting Chattanooga Gas Company's ("CGC" or

12   "the Company") comprehensive rate for its 2006 rate case, docket number

13   0600175. In addition to submitting testimony before the Tennessee Regulatory

14   Authority ("TRA"), I previously have testified before as an expert on utility

15   ratemaking, forecasting, and regulatory issues before regulatory commissions in

16   other jurisdictions as listed in Attachment A.

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

1	A.	The purpose of my testimony is to present support for the benefits and cost
2		effectiveness of the energySMART programs presented in the testimony of Donna
3		Peeples. I will also support the recovery mechanism proposed for the
4		energySMART programs. In addition I will also support Chattanooga Gas
5		Company's new economic development tariff and other tariff changes in this
6		proceeding.
7	Q.	**Are you sponsoring exhibits in connection with your testimony?**
8	A.	Yes. I am sponsoring the following exhibits:
9		• Exhibit DJN-1: Projected Annual Participation, Costs, and Energy Savings
10		• Exhibit DJN-2: Cost Benefit Analysis Summary
11		• Exhibit DJN-3: energySMART Recovery Adjustment
12		• Exhibit DJN-4: Economic Development Tariff
13	Q.	**How is your testimony organized?**
14	A.	My testimony consists of four sections as follows:
15		I. Introduction
16		II. energySMART Program Cost/Benefit Analysis
17		III. energySMART Cost Recovery Mechanism
18		IV. Economic Development Tariff
19		V. Miscellaneous Tariff Changes
20		
21	*II.*	*COST/BENEFIT EFFECTIVENESS ANLAYSIS*
22	Q.	**Why are you providing a cost/benefit effectiveness analysis in this**
23		**proceeding?**

1	A.	The cost benefit analyses I present in my testimony are designed to establish and
2		evaluate whether the energySMART programs are cost effective and provide
3		measurable and verifiable efficiency savings.
4	**Q.**	**How does the Company propose to demonstrate the cost effectiveness of the**
5		**energySMART Program?**
6	A.	The Company proposes to employ five standard cost/ benefit analysis tests that
7		were first developed to evaluate demand side measures in California in the mid
8		1980's. These tests have since been used and accepted in various states including,
9		but not limited to, California, Utah, New Jersey, Virginia, and Florida to evaluate
10		the potential cost effectiveness of proposed conservation programs. The specific
11		tests proposed are the Participant Test, the Rate Impact Measure Test, the Total
12		Resource Cost Test, the Program Administrator Test, and the Societal Benefit test.
13	**Q.**	**Please describe the tests.**
14	A.	The five tests the Company employed can be described as follows:

15 • The Participant Test – This test determines whether a program is
16   cost effective for the party who receives the program measure.

17 • The Ratepayer Impact Measure Test – This test determines the
18   impact that a program will have on non-participating rate payers

19 • The Total Resource Cost Test – This test is designed to measure
20   whether a program is cost-effective from society's standpoint.
21   Since this test can be derived as the sum of the Participant Test and
22   the Ratepayer Impact Measure Test, it is sometimes called the All
23   Ratepayers Test.

24 • The Program Administrator Cost Test – This test is designed to
25   measure the cost-effectiveness of a program as a utility resource
26   alternative.

27 • The Societal Benefit Test – This test is a modified version of the
28   Total Resource Cost test. It modifies the TRC by using higher

1		marginal costs to reflect the cost to society of the more expensive
2		alternative resources and to reflect externality costs not captured
3		by the market system, omitting tax credits and capital costs in the
4		year in which they occur and employs a societal discount rate.
5		

6   **Q.**   **How is a measure deemed cost effective based on the tests?**

7   A.   The results of each test are presented as a ratio of benefit to cost. In general, if

8   benefits are equal to or greater than costs resulting in a ratio of 1.00 or greater a

9   measure is said to pass a test. The results of multiple tests need to be weighed

10   since benefits and costs do not accrue equally to all. No one test or perspective

11   can capture the full economic effects of a measure on every sub-group in society.

12   Therefore, the five tests are employed to examine the costs and benefits as applied

13   to different segments of society from each of their different perspectives.

14

15   **Q.**   **Have these tests been applied to the conservation and efficiency measures**

16   **proposed by CGC's energySMART Programs?**

17   A.   Yes, I have applied these tests to each of the following measures proposed:

18   ▪   Residential Free Programmable Thermostat;

19   ▪   Residential Low Income Weatherization Grants;

20   ▪   Residential Space Heating High Efficiency Furnace/Boiler Incentive;

21   ▪   Residential Tankless Water Heater Incentive;

22   ▪   Residential High Efficiency Storage Water Heater;

23   ▪   Commercial Food Service Equipment Incentive:

24   ▪   Commercial Space Heating Furnace/Boiler Incentive;

25   ▪   Commercial Tankless Water Heater Incentive;

1		▪ Commercial High Efficiency Storage Water Heater Incentive;
2		▪ Commercial Booster Water Heater Incentive.
3		The results of these tests for each program are presented in Exhibit DJN-2.
4	**Q.**	**What assumptions underlie these evaluations?**
5	A.	The major assumptions are broken into two groups, general assumptions that
6		apply equally to all programs and program specific assumptions. Page 1, of
7		Exhibit DJN-2 presents a summary of the assumptions. Additional assumptions
8		were also made with respect to natural gas utility avoided costs.
9	**Q.**	**What assumptions were made with regard to avoided utility costs?**
10	A.	Purchased gas commodity costs and capacity costs were the only avoided costs
11		assumed. Commodity costs were assumed to be equal to the purchased gas
12		portion of the Company's monthly billing rate, which was escalated at the same
13		rate as the Henry Hub prices taken from the NYMEX strip October 22, 2009
14		settlement prices. The capacity costs were based upon commercial C-2 purchased
15		gas demand rate charged to customers as of October 1, 2009, and escalated each
16		year for inflation.
17	**Q.**	**What is the assumed discount rate?**
18	A.	The requested rate of return of return in this case of 8.28% was assumed for the
19		discount rate.
20	**Q.**	**What assumptions have been made with regard to the life of the measures?**
21	A.	Measure life is assumed to vary by program. For residential programmable
22		thermostats a 17 year life was used; for residential low income weatherization a
23		25 year life was assumed; for residential tankless on-demand water heater

5

1   incentives a 20 year life was assumed; for residential conventional storage water

2   heaters a 12 year life was assumed; for residential space heating a 25 year life was

3   assumed; and for all commercial programs a 15 year life consistent with the main,

4   service and extension in the tariff was assumed.

5 **Q.   Please describe the specific assumptions for the residential free**

6 **programmable thermostat measure.**

7 A.   To evaluate the free thermostat measure the following specific assumptions were

8   used:

9   ▪ Cost of the measure $35.00/participant

10   ▪ Annual Energy savings   26 Therms

11   ▪ Annual Cost Savings $21.00/participant

12   ▪ Utility Cost of the measure $20.00/participant

13   ▪ Number of participants   1,500 per year

14   The cost of the measure is based upon a $35.00 per unit cost and 1 hour of time

15   required installing the thermostat. The annual energy savings are based upon a

16   conservative assumption of a 5% reduction in annual heating load for the average

17   CGC residential customer. The utility cost is based upon the current costs that

18   have been experienced in the past year in other AGL Resources ("AGLR") utility

19   jurisdictions. No free riders (participants who would have implemented the

20   conservation measure regardless of the utility incentive) were assumed, since this

21   measure is designed to encourage existing customers to replace their current

22   thermostat. The participation level was determined based upon the average

23   number of residential customers (52,940) during the attrition period and a 3%

1	participation rate based upon the Company's experience in other AGLR utility
2	jurisdictions with similar programs.
3	**Q.**	**Please describe the specific assumptions for the residential low income**
4	**weatherization measures and how they were arrived at?**
5	To evaluate the low income weatherization measure, the following specific
6	assumptions were made:

- Cost of the measure $1000.00/participant
- Annual Energy savings   130 Therms
- Annual Cost Savings $105/participant
- Utility Cost of the measure $1650.00/participant
- Number of participants   120 per year

The cost of the measure is based upon a $1000 per participant paid either by the participant or another party (such as additional assistance provided by either the state, federal government, local charities or some combination thereof). One example of why these additional costs may occur is that the program cap of $5000 per participant may cover an instance where a furnace replacement costing $4500, a water heater replacement costing $1000, and insulation work costing $2000 is required. In this case either the participant or another party may cover the costs of the additional work required. The annual energy savings are based upon an assumption of a 20% reduction in annual natural gas load for the average CGC residential customer. The 20% reduction is based upon repair or replacement of existing lower efficiency equipment combined with insulation, duct sealing and other weatherization measures to achieve an overall building shell drop in natural

1		gas consumption of at least 20%. The utility cost is based upon the current costs
2		that the Company has experienced in other AGLR utility jurisdictions. No free
3		riders were assumed, since without this measure low income customers could not
4		afford the upfront costs to implement these measures on their own. The
5		participation level was determined based upon the average number of low income
6		residential customers (1300 customers at or below 175% of poverty) during the
7		attrition period and a 10% participation rate based upon the Company's
8		experience in other AGLR utility jurisdictions with similar programs.
9	**Q.**	**Please describe the specific assumptions for the residential space heating**
10		**incentive measure and how they were arrived at?**
11	A.	To evaluate the residential high efficiency furnace incentive measure the
12		following specific assumptions were made:

- Cost of the measure — $800.00/participant
- Annual Energy savings — 67 Therms
- Annual Cost Savings — $54/participant
- Utility Cost of the measure — $500.00/participant
- Number of participants — 500 per year

The cost of the measure is based on informal market information for the incremental cost to install a 90%+ annual fuel utilization efficiency ("AFUE") furnace over a standard 80% AFUE unit. The annual energy savings are based upon an engineering calculation of the reduction in annual heating load that results when an 80% AFUE furnace is replaced by a 90%+ AFUE unit for the average CGC residential customer. The utility cost is the proposed incentive

1		amount based upon marketing analysis and experience with pilot programs and in
2		other jurisdictions pertaining to the level of incentive needed to attain a
3		participation rate of 23.6% or 500 customers. This participation rate was then
4		applied to the universe of all eligible residential customers (52,940) divided by
5		the 25 year average life of a conventional tank water heater (2,118). 29% free
6		riders (participants who would have implemented the conservation measure
7		regardless of the utility incentive) were assumed based upon the recent average
8		percentage of high efficiency furnace shipments to Tennessee.
9	**Q.**	**Please describe the specific assumptions for the Residential Tankless Water**
10		**Heater measure and how they were arrived at?**
11	A.	To evaluate the residential high efficiency furnace incentive measure the
12		following specific assumptions were made:

- Cost of the measure $700.00/participant
- Annual Energy savings   57 Therms
- Annual Cost Savings $47/participant
- Utility Cost of the measure $500.00/participant
- Number of participants   300 per year

The cost of the measure is based on informal market information for the incremental cost to install a tankless water heater over a conventional tank unit. The annual energy savings are based upon an engineering calculation of the reduction in annual water heating load for the annual CGC residential customer when a conventional tank unit is replaced with a tankless water heater A conventional tank unit has a 0.50 energy factor ("EF") rating, and a tankless water

1		heater has a 0.82EF rating. The utility cost is the proposed incentive amount
2		based upon marketing analysis and experience with pilot programs and in other
3		AGLR utility jurisdictions pertaining to the level of incentive needed to attain a
4		participation rate of 7% or 300 customers. This participation rate was then applied
5		to the all eligible residential customers (52,940) divided by the 12 year average
6		life of a conventional tank water heater (4,412). No free riders were assumed
7		since this is relatively new technology to consumers and in the early adoption
8		phase of its life cycle.
9	**Q.**	**Please describe the specific assumptions for the residential high efficiency**
10		**storage water heater measure and how they were arrived at?**
11	A.	To evaluate the residential high efficiency water heater incentive measure the
12		following specific assumptions were made:
13		▪ Cost of the measure $175.00/participant
14		▪ Annual Energy savings 24 Therms
15		▪ Annual Cost Savings $20/participant
16		▪ Utility Cost of the measure $150.00/participant
17		▪ Number of participants 100 per year
18		The cost of the measure is based on informal market information for the
19		incremental cost to install a high efficiency 0.67EF water heater over a
20		conventional tank unit. The annual energy savings are based upon an engineering
21		calculation of the reduction in annual water heating load for the annual CGC
22		residential customer when a conventional tank unit is replaced with a high
23		efficiency water heater. A conventional tank unit has a 0.50EF and a high

1		efficiency water heater has a 0.67EF. The utility cost is the proposed incentive
2		amount based upon marketing analysis and experience with pilot programs and in
3		other AGLR utility jurisdictions pertaining to the level of incentive needed to
4		attain a participation rate of 2% or 100 customers. This participation rate was then
5		applied to all eligible residential customers (52,940) divided by the 12 year
6		average life of a conventional tank water heater (4,412). No free riders were
7		assumed since this is relatively new technology to consumers and in the early
8		adoption phase of its life cycle.

9   **Q.**   **Please describe the specific assumptions for the commercial food service**

10   **incentives and how they were arrived at?**

11   A.   To evaluate the residential high efficiency furnace incentive measure the

12   following additional assumptions were made:

13	▪ Cost of the measure	$400.00/participant
14	▪ Annual Energy savings	48 Therms
15	▪ Annual Cost Savings	$42/participant
16	▪ Utility Cost of the measure	$200.00/participant
17	▪ Number of participants	200 per year

18   The cost of the measure is based on informal market information for the

19   incremental cost to install a higher efficiency 40+% efficient or better unit over a

20   conventional 30+% efficient one . The annual energy savings are based upon an

21   engineering calculation of the reduction in annual cooking load resulting going

22   for the typical CGC commercial restaurant/food service customer. The utility cost

23   is the proposed incentive amount based upon marketing analysis and experience

1		with pilot programs and in other jurisdictions pertaining to the level of incentive
2		needed to attain a participation rate of 200 customers. No free riders were
3		assumed.
4	**Q.**	**Please describe the specific assumptions for the commercial space**
5		**heating/boiler measures and how they were arrived at?**
6	A.	To evaluate the residential high efficiency furnace incentive measure the
7		following additional assumptions were made:

8	▪ Cost of the measure	$800.00/participant
9	▪ Annual Energy savings	67 Therms
10	▪ Annual Cost Savings	$58/participant
11	▪ Utility Cost of the measure	$500.00/participant
12	▪ Number of participants	135 per year

13		The cost of the measure is based on informal market information for the
14		incremental cost to install a 90%+ AFUE furnace over a standard 80% AFUE
15		unit. The annual energy savings are based upon an engineering calculation of the
16		reduction in annual heating load resulting going from an 80% AFUE to 90%+
17		AFUE unit for a typical CGC small commercial customer. The utility cost is the
18		proposed incentive amount based upon marketing analysis and experience with
19		pilot programs and in other jurisdictions pertaining to the level of incentive
20		needed to attain a participation rate of 2% or 135 customers. This participation
21		rate was then applied to the universe of all eligible commercial customers (6,470).
22		No free riders were assumed since the average life of the measure 15 years is less
23		than the 25 year life of the equipment.

1	Q.	**Please describe the specific assumptions for the commercial tankless water**	
2		**heater measure and how they were arrived at?**	
3	A.	To evaluate the residential high efficiency furnace incentive measure the	
4		following additional assumptions were made:	

5   ▪ Cost of the measure $700.00/participant

6   ▪ Annual Energy savings   435 Therms

7   ▪ Annual Cost Savings $378/participant

8   ▪ Utility Cost of the measure $500.00/participant

9   ▪ Number of participants   60 per year

10 The cost of the measure is based on informal market information for the

11 incremental cost to install a tankless water heater over a conventional tank unit.

12 The annual energy savings are based upon an engineering calculation of the

13 reduction in annual water heating load resulting going from a 0.50EF to a 0.82EF

14 unit for the average CGC residential customer. The utility cost is the proposed

15 incentive amount based upon marketing analysis and experience with pilot

16 programs and in other jurisdictions pertaining to the level of incentive needed to

17 attain a participation rate of 1% or 60 customers. This participation rate was then

18 applied to the universe of all eligible commercial customers (6,470). No free

19 riders were assumed since the average life of the measure 15 years is less than the

20 20 year life of the equipment and since this is relatively new technology to

21 consumers in the early adoption phase its life cycle.

22 Q. **Please describe the specific assumptions for the commercial high efficiency**

23   **storage water heater measure and how they were arrived at?**

| 1 | A. | To evaluate the residential high efficiency furnace incentive measure the |

1   A.   To evaluate the residential high efficiency furnace incentive measure the

2   following additional assumptions were made:

3   ▪ Cost of the measure $500.00/participant

4   ▪ Annual Energy savings   161 Therms

5   ▪ Annual Cost Savings $140/participant

6   ▪ Utility Cost of the measure $300.00/participant

7   ▪ Number of participants   15 per year

8   The cost of the measure is based on informal market information for the

9   incremental cost to install a high efficiency 0.67EF water heater over a

10   conventional tank unit. The annual energy savings are based upon an engineering

11   calculation of the reduction in annual water heating load resulting going from a

12   0.50EF to a 0.67EF unit for the average CGC residential customer. The utility

13   cost is the proposed incentive amount based upon marketing analysis and

14   experience with pilot programs and in other jurisdictions pertaining to the level of

15   incentive needed to attain a participation rate of 1% or 15 customers. This

16   participation rate was then applied to the universe of all eligible customers

17   (1,574). No free riders were assumed since this is relatively new technology to

18   consumers in the early adoption phase its life cycle.

19 **Q.   Please describe the specific assumptions for the commercial booster water**

20   **heater measure and how they were arrived at?**

21 A.   To evaluate the residential high efficiency furnace incentive measure the

22   following additional assumptions were made:

23   ▪ Cost of the measure $3000.00/participant

1	▪ Annual Energy savings	495 Therms
2	▪ Annual Cost Savings	$431/participant
3	▪ Utility Cost of the measure	$200.00/participant
4	▪ Number of participants	25 per year

5   The cost of the measure is based on informal market information for the

6   incremental cost to install a high efficiency 0.82EF unit over a conventional tank

7   unit. The annual energy savings are based upon an engineering calculation of the

8   reduction in annual water heating load resulting going from a 0.50EF to a 0.82EF

9   unit for the typical CGC commercial restaurant/food service customer. The utility

10   cost is the proposed incentive amount based upon marketing analysis and

11   experience with pilot programs and in other jurisdictions pertaining to the level of

12   incentive needed to attain a participation rate of 2% or 25 customers. This

13   participation rate was then applied to the universe of all eligible customers

14   (1,574). No free riders were assumed since this is relatively new technology to

15   consumers in the early adoption phase its life cycle.

16   **Q.**   **Can you summarize the findings of the cost/benefit analysis?**

17   A.   Exhibit DJN-2 presents the summary results of the cost/benefit analysis. The

18   programs overall pass the Participant Cost Test with benefit/cost ratio of 2.15, the

19   Total Resource Cost Test at 1.70, and the Program Administrator Cost Test at

20   1.90. The Societal Benefit Test is the same as the Total Resource Cost Test,

21   except it uses a higher discount rate. Since use of a higher discount rate will only

22   improve the results, it is safe to conclude that the Societal Benefit Test results in a

23   ratio of 1.70 or higher. While the Rate Impact Measure Test shows a benefit/cost

1		ratio of 0.80, an increase in gas costs will push this test to a favorable result.
2		Given the relative volatility of natural gas prices of the past several years and the
3		current low gas prices, future increases in gas costs may be highly likely.
4		
5		Based on the above results, the energySMART program in totality passes four of
6		five cost benefit test, and the free programmable thermostat program passes all
7		five tests. Based upon these analyses the Company's proposed measures will
8		decrease the customers weather normalized consumption, the average customer's
9		total gas bill, and promote saving energy in a cost-effective manner.
10		
11	*III.*	*energySMART Recovery Adjustment*
12	**Q.**	**How does the Company propose to recover the costs of the energySMART**
13		**programs?**
14	A.	The Company proposes to recover the program costs through monthly per therm
15		charges to the R-1, C-1, C-2 and T-3 customer classes. The Company proposes to
16		recover the actual costs of the program recognizing that the actual participants and
17		resulting costs may differ from those as projected based upon market conditions,
18		energy prices and other external factors.
19	**Q.**	**How will the amount of costs to recover be determined?**
20	A.	Based upon a 12 Month budget for the program year of April to March, costs for
21		the residential and commercial programs will be projected. To this amount will be
22		added any under recovery of program costs from the prior year or be subtracted

1		any over recovery of program costs from the prior year. Exhibit DJN-1 presents
2		the projected costs for the first program year by class.
3	**Q.**	**How will the recovery rates be calculated?**
4	A.	As shown on Exhibit DJN-3, the recoverable amount for each class will then be
5		divided by the estimated therm consumption of the appropriate classes
6	**Q.**	**Why does the Company proposes to charge different rates to Residential and**
7		**Commercial customers under the energySMART Recovery Adjustment?**
8	A.	The nature and type of individual measures proposed by the Company are
9		differing depending on whether a customer is a residential or commercial user of
10		natural gas. As such, the costs of each measure are easily attributable to each
11		classification of customers. Following a principal of cost causation, recovering the
12		costs generated in providing benefits to a class of customers from that same class
13		is appropriate.
14	**Q.**	**Why does the Company propose to recover costs on a per therm basis?**
15	A.	The overall goal of energySMART program is energy conservation. As such, a
16		charge per therm will serve as incentive to customers to further conserve energy.
17		In addition, those customers with the highest usage in each class will be the most
18		likely to benefit from the program, thus be the most likely to take advantage of the
19		energySMART program.
20	*IV.*	*ECONOMIC DEVELOPMENT GAS SERVICE TARIFF*
21	**Q.**	**What benefits would an economic development tariff provide the**
22		**Chattanooga community?**

1	A.	The tariff would encourage job creation through economic growth and
		development that is especially needed during this difficult period in the economy
		with unemployment rates in Chattanooga reaching near 10%. In addition it would
		promote efficient use of energy in form of natural gas by requiring the installation
		of modern equipment to qualify, which would in turn result in lower and more
		efficient use of energy.

1   A.   The tariff would encourage job creation through economic growth and

2   development that is especially needed during this difficult period in the economy

3   with unemployment rates in Chattanooga reaching near 10%. In addition it would

4   promote efficient use of energy in form of natural gas by requiring the installation

5   of modern equipment to qualify, which would in turn result in lower and more

6   efficient use of energy.

7   Q.   **How does and economic development tariff benefit the other customers?**

8   A.   By bringing on new customers, the overall costs of providing natural gas service

9   will be spread over a larger base of customers, thereby eventually leading to lower

10   rates for customers over time.

11   Q.   **Do other utilities in Tennessee provide economic development incentives?**

12   A.   Yes, the Chattanooga Electric Power Board provides economic development

13   savings. Atmos Energy Corporation also has an economic development tariff.

14   Q.   **How will the tariff work?**

15   A.   The tariff will provide discounts that are phased out over four years to qualifying

16   new customers from their base rate tariff gas commodity charge. By allowing the

17   larger discounts upfront, the tariff will provide new customers savings when they

18   need them most during their first years of operation.

19   Q.   **Which customers may qualify for the Economic Development Gas Service?**

20   A.   Any new customer who contracts to purchase or transport at least 1,000 Dths

21   annually or any existing customer that contracts to purchase or transport and

22   additional 1,000 Dths of gas annually. By using an additional 1,000 Dths, the

1		customers are demonstrating significant economic activity that highly correlates
2		with creating new jobs or avoiding job reductions.
3	**Q.**	**Will the discounts be subsidized by the other customer classes?**
4	A.	No, as new customers will still be required to meet the main and service extension
5		guidelines under the tariff.
6	*V.*	*MISCELLANEOUS TARIFF CHANGES*
7	**Q.**	**Are there any other proposed tariff changes not covered in either your**
8		**testimony or those of other Company witness' that the Company is**
9		**proposing?**
10	A.	Yes, the Company is proposing to clarify language with regard to the
11		establishment of billing demand for customers receiving service under the F-1 or
12		T-2 tariffs.
13	**Q.**	**Does this conclude your testimony?**
14	A.	Yes, it does.
15		

Daniel J. Nikolich
Manager, Planning and Forecasting

Mr. Nikolich is the Manager of Planning and Forecasting for AGL Resources who has over 16-years of experience working with regulated rates and tariffs in multiple states. Mr. Nikolich is responsible for overseeing the development of short-term and long-term demand and revenue forecasts, along with short-term and long-term new load growth forecasts. Further, he is responsible for providing economic and statistical analysis for rate design, cost of service and allocation studies. He is also responsible for market research and planning studies along with and maintaining the supporting informational databases in the various states that AGL resources has local distribution companies.

RELEVANT PROJECT EXPERIENCE

Regulatory Analysis, Ratemaking, Cost of Service

- Responsible for rate design and cost of service allocation studies for the 2006 Chattanooga Gas Company rate case. Provided testimony and represented the company and supported its position in negotiations with regulatory agencies, customers and intervenors.

- Responsible for rate design studies for the 2003 Florida City Gas Flat Rate billing filing. Provided testimony and represented the company and supported its position in negotiations with regulatory agencies, customers and intervenors.

- Responsible for the development of cost-of-service allocation, weather normalization and rate design studies for the 2002 Elizabethtown Gas rate case. Represented the company and supported its position in negotiations with regulatory agencies, customers and intervenors.

- Responsible for rate design and economic studies and analysis for the 2001 Valley Cities dual issue Customer Assistance Rate and Customer Education Rider rate case. Provided testimony and represented the company and supported its position in negotiations with regulatory agencies, customers and intervenors.

- Responsible for rate design and operational studies for the 2001 North Carolina Third Party Supplier tariff restructuring filing. Provided testimony and represented the company and supported its position in negotiations with regulatory agencies, customers and intervenors.

- Responsible for rate design, operational and economic studies and analysis for the 2000 Valley Cities Gas unbundling filing. Provided testimony and represented the company and supported its position in negotiations with regulatory agencies, customers and intervenors.

- Responsible for the development of cost-of-service, allocation and rate design studies for the 2000 Florida City Gas rate case. Represented the company and supported its position in negotiations with regulatory agencies, customers and intervenors

Forecasting

- Prepared and testified on the forecast for the 2004 Florida City Gas rate case.
- Prepared and testified on the forecast for the 2002 Elizabethtown Gas rate case.
- Developed and prepared 2005-2009 demand and revenue forecasts for Atlanta Gas Light, Chattanooga Gas, Elizabethtown Gas, Elkton Gas, and Florida City Gas. Supervised preparation of the demand and revenue forecast for Virginia Natural Gas.
- Developed and prepared the 1994-2004 demand and revenue forecasts for Elizabethtown Gas, and Florida City Gas.
- Developed and prepared the 1997-2004 forecasts for Elkton Gas.
- Developed and prepared the 1997-2001 forecasts for Valley Cities and Waverly Gas and North Carolina Gas.

Market Analysis

- Provided Market Analysis of residential and commercial attrition for Atlanta Gas Light's Georgia Market.
- Provided market analysis of Elizabethtown Gas', Florida City Gas' and Elkton Gas' Markets.
- Provided market analysis of North Carolina Gas' and Valley Cities and Waverly Gas' Markets.

Expert Witness Testimony Presentation

- Florida Public Service Commission
- New Jersey Board of Public Utilities
- Pennsylvania Public Utility Commission
- North Carolina Public Utilities Commission
- Tennessee Regulatory Authority

PROFESSIONAL HISTORY

AGL Resources (2005 – present)
Manager, Planning and Forecasting

NUI Corporation (2001-2005)
Manager, Planning and Forecasting

NUI Corporation (1993-2001)
Forecast Analyst

EDUCATION

B.S. Business, Economics, College of Business and Economics, University of Idaho, 1984

energySMART Program
Projected Annual Participation, Costs and Energy Savings

	Participants per Year	Rebate	Unit	Therms per Participant	Annual Energy Savings $ Savings per Participant	Total Therms	Total $ Savings	Total Cost Year 1	Year 2	Year 3	Year 4
Residential Measures											
Free Programmable Thermostats	1,500	$ 20	Furnace/Boiler	26	$ 21	39,000	$ 31,374	$ 30,000	$ 30,000	$ 30,000	$ 30,000
Low Income Weatherization	120	$ 1,650	Home	130	$ 105	15,600	$ 12,605	$ 198,000	$ 198,000	$ 198,000	$ 198,000
High Efficiency Furnace/Boiler Incentive	500	$ 500	Furnace/Boiler	67	$ 54	33,500	$ 26,955	$ 250,000	$ 250,000	$ 250,000	$ 250,000
Tankless Water Heater Incentive	300	$ 500	Appliance	57	$ 47	17,100	$ 14,031	$ 150,000	$ 150,000	$ 150,000	$ 150,000
High Efficiency Storage Water Heater Incentive	100	$ 150	Appliance	24	$ 20	2,400	$ 1,971	$ 15,000	$ 15,000	$ 15,000	$ 15,000
sub-Total Residential before Asset Management Funding						107,600	$ 86,936	$ 643,000	$ 643,000	$ 643,000	$ 643,000
less Asset Management Funding for Low Income Weatherization								$(198,000)	$(198,000)	$(198,000)	$(198,000)
Total Residential Programs						107,600	$ 86,936	$ 445,000	$ 445,000	$ 445,000	$ 445,000
Commercial Measures											
Food Service Equipment	200	$ 200	Appliance	48	$ 42	9,600	$ 8,352	$ 40,000	$ 40,000	$ 40,000	$ 40,000
High Efficiency Furnace/Boiler Incentive	135	$ 500	Furnace/Boiler	67	$ 58	9,045	$ 7,869	$ 67,500	$ 67,500	$ 67,500	$ 67,500
Tankless Water Heater Incentive	60	$ 500	Appliance	435	$ 378	26,100	$ 22,706	$ 30,000	$ 30,000	$ 30,000	$ 30,000
High Efficiency Storage Water Heater Incentive	15	$ 300	Appliance	161	$ 140	2,415	$ 2,101	$ 4,500	$ 4,500	$ 4,500	$ 4,500
Booster Water Heater Incentive	25	$ 200	Appliance	495	$ 431	12,375	$ 10,766	$ 5,000	$ 5,000	$ 5,000	$ 5,000
Total Commercial Measures						59,535	$ 51,793	$ 147,000	$ 147,000	$ 147,000	$ 147,000
Administration, Customer Outreach and Education								$ 300,000	$ 250,000	$ 225,000	$ 200,000
less CGC Contribution								$(100,000)	$ (50,000)	$ (25,000)	$ 0
Total energySMART						167,135	$ 138,728	$ 792,000	$ 792,000	$ 792,000	$ 792,000

energySMART Program
Cost Benefit Analysis Summary

	Residential Measures					Commercial Measures					Total energySMART
	Free Programmable Thermostats	Low Income Weatherization	High Efficiency Furnace/Boiler Incentive	Tankless Water Heater Incentive	High Efficiency Storage Water Heater Incentive	Food Service Equipment	High Efficiency Furnace/Boiler Incentive	Tankless Water Heater Incentive	High Efficiency Storage Water Heater Incentive	Booster Water Heater Incentive	Total energySMART
Assumptions											
Discount Rate	8.28%	8.28%	8.28%	8.28%	8.28%	8.28%	8.28%	8.28%	8.28%	8.28%	8.28%
Inflation Rate	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Measure Life	17 Years	25 Years	25 Years	20 Years	12 Years	15 Years	15 Years	15 Years	15 Years	15 Years	15 Years
Cost to the Participant	$ 35	$ 1,000	$ 800	$ 700	$ 175	$ 400	$ 800	$ 700	$ 500	$ 3,000	$ 3,000
Annual Energy Savings in Therms	26	130	67	57	24	48	67	435	161	495	495
Cost to the Utility per Participant	$ 20	$ 1,650	$ 500	$ 500	$ 150	$ 200	$ 500	$ 500	$ 300	$ 200	$ 200
Number of Participants	1,500	120	500	300	100	200	135	60	15	25	25
Annual Program Cost	$ 30,000	$ 198,000	$ 250,000	$ 150,000	$ 15,000	$ 40,000	$ 67,500	$ 30,000	$ 4,500	$ 5,000	$ 790,000
Administration, Customer Outreach and Education											$ 200,000
PARTICIPANTS TEST											
Benefits:											
Bill Reductions, Primary Fuel (AC)	$ 1,575,270	$ 3,250,232	$ 1,180,286	$ 765,594	$ 119,110	$ 336,186	$ 316,750	$ 914,006	$ 71,324	$ 433,365	$ 8,962,125
Incentives	$ 134,818	$ 3,707,508	$ 1,123,487	$ 674,092	$ 67,409	$ 179,758	$ 303,341	$ 134,818	$ 20,223	$ 22,470	$ 6,367,925
Bill Reductions, Alternate Fuel (AC)	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Avoided Cost, Alternate Fuel Equipment	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total Benefits	$ 1,710,089	$ 6,957,741	$ 2,303,774	$ 1,439,687	$ 186,520	$ 515,944	$ 620,091	$ 1,048,824	$ 91,547	$ 455,835	$ 15,330,050
Costs:											
Participant Costs	$ 674,092	$ 2,246,975	$ 1,797,580	$ 943,729	$ 78,644	$ 359,515	$ 485,346	$ 188,746	$ 33,705	$ 337,046	$ 7,145,377
Bill Increases, Primary Fuel (AC)	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Bill Increases, Alternate Fuel (AC)	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total Costs	$ 674,092	$ 2,246,975	$ 1,797,580	$ 943,729	$ 78,644	$ 359,515	$ 485,346	$ 188,746	$ 33,705	$ 337,046	$ 7,145,377
Net Benefit	$ 1,035,996	$ 4,710,766	$ 506,194	$ 495,957	$ 107,876	$ 156,428	$ 134,746	$ 860,079	$ 57,843	$ 118,789	$ 8,184,673
Benefit/Cost Ratio	2.54	3.10	1.28	1.53	2.37	1.44	1.28	5.56	2.72	1.35	2.15
RATE IMPACT MEASURE TEST											
Benefits:											
Avoided Cost, Primary Utility (MC)	$ 3,264,293	$ 3,971,887	$ 1,942,166	$ 791,356	$ 122,840	$ 443,676	$ 515,284	$ 950,872	$ 73,784	$ 450,845	$ 12,527,002
Revenue Gains, Primary Utility (AC)	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Avoided Cost, Alternate Fuel (MC)	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Revenue Gains, Alternate Utility (AC)	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total Benefits	$ 3,264,293	$ 3,971,887	$ 1,942,166	$ 791,356	$ 122,840	$ 443,676	$ 515,284	$ 950,872	$ 73,784	$ 450,845	$ 12,527,002
Costs:											
Primary Utility Increased Cost (MC)	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Alternate Utility Increased Cost (MC)	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Revenue Loss, Primary Utility (AC)	$ 1,575,270	$ 3,250,232	$ 1,180,286	$ 765,594	$ 119,110	$ 336,186	$ 316,750	$ 914,006	$ 71,324	$ 433,365	$ 8,962,125
Utility Cost	$ 14,162	$ 4,721	$ 4,721	$ 2,832	$ 944	$ 1,888	$ 1,275	$ 566	$ 142	$ 236	$ 231,487
Incentives	$ 134,818	$ 3,707,508	$ 1,123,487	$ 674,092	$ 67,409	$ 179,758	$ 303,341	$ 134,818	$ 20,223	$ 22,470	$ 6,367,925
Revenue Loss, Alternate Utility (AC)	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total Costs	$ 1,724,251	$ 6,962,461	$ 2,308,495	$ 1,442,519	$ 187,464	$ 517,832	$ 621,366	$ 1,049,391	$ 91,689	$ 456,071	$ 15,561,538
Net Benefit	$ 1,540,042	$ (2,990,574)	$ (366,329)	$ (651,163)	$ (64,623)	$ (74,156)	$ (106,082)	$ (98,518)	$ (17,905)	$ (5,226)	$ (3,034,535)
Benefit/Cost Ratio	1.89	0.57	0.84	0.55	0.66	0.86	0.83	0.91	0.80	0.99	0.80

MC = Calculation Based on Utility Marginal Cost
AC = Calculation Based on Utility Average Cost

energySMART Program
Cost Benefit Analysis Summary

	Residential Measures					Commercial Measures					Total energySMART
	Free Programmable Thermostats	Low Income Weatherization	High Efficiency Furnace/Boiler Incentive	Tankless Water Heater Incentive	High Efficiency Storage Water Heater Incentive	Food Service Equipment	High Efficiency Furnace/Boiler Incentive	Tankless Water Heater Incentive	High Efficiency Storage Water Heater Incentive	Booster Water Heater Incentive	
Assumptions											
Discount Rate	8.28%	8.28%	8.28%	8.28%	8.28%	8.28%	8.28%	8.28%	8.28%	8.28%	8.28%
Inflation Rate	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Measure Life	17 Years	25 Years	25 Years	20 Years	12 Years	15 Years	15 Years	15 Years	15 Years	15 Years	15 Years
Cost to the Participant	$ 35	$ 1,000	$ 800	$ 700	$ 175	$ 400	$ 800	$ 700	$ 500	$ 3,000	$ 3,000
Annual Energy Savings in Therms	26	130	67	57	24	48	67	435	161	495	495
Cost to the Utility per Participant	$ 20	$ 1,650	$ 500	$ 500	$ 150	$ 200	$ 500	$ 500	$ 300	$ 200	$ 200
Number of Participants	1,500	120	500	300	100	200	135	60	15	25	25
Annual Program Cost	$ 30,000	$ 198,000	$ 250,000	$ 150,000	$ 15,000	$ 40,000	$ 67,500	$ 30,000	$ 4,500	$ 5,000	$ 790,000
Administration, Customer Outreach and Education											$ 200,000
TOTAL RESOURCE COST TEST											
Benefits:											
Avoided Cost, Primary Fuel Utility (MC)	$ 3,264,293	$ 3,971,887	$ 1,942,166	$ 791,356	$ 122,840	$ 443,676	$ 515,284	$ 950,872	$ 73,784	$ 450,845	$ 12,527,002
Avoided Cost, Alternate Fuel (MC)	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Avoided Cost, Alternate Fuel Equipment	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total Benefits	$ 3,264,293	$ 3,971,887	$ 1,942,166	$ 791,356	$ 122,840	$ 443,676	$ 515,284	$ 950,872	$ 73,784	$ 450,845	$ 12,527,002
Costs:											
Utility Cost (MC)	$ 14,162	$ 4,721	$ 4,721	$ 2,832	$ 944	$ 1,888	$ 1,275	$ 566	$ 142	$ 236	$ 231,487
Participant Costs	$ 674,092	$ 2,246,975	$ 1,797,580	$ 943,729	$ 78,644	$ 359,515	$ 485,346	$ 188,746	$ 33,705	$ 337,046	$ 7,145,377
Primary Utility Increased Cost (MC)	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Alternate Utility Increased Cost (MC)	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total Costs	$ 688,255	$ 2,251,696	$ 1,802,301	$ 946,562	$ 79,588	$ 361,404	$ 486,620	$ 189,312	$ 33,846	$ 337,282	$ 7,376,865
Net Benefit	$ 2,576,038	$ 1,720,191	$ 139,865	$ (155,206)	$ 43,252	$ 82,272	$ 28,664	$ 761,560	$ 39,937	$ 113,563	$ 5,150,138
Benefit/Cost Ratio	4.74	1.76	1.08	0.84	1.54	1.23	1.06	5.02	2.18	1.34	1.70
PROGRAM ADMINISTRATOR TEST											
Benefits:											
Avoided Cost, Primary Fuel Utility (MC)	$ 3,264,293	$ 3,971,887	$ 1,942,166	$ 791,356	$ 122,840	$ 443,676	$ 515,284	$ 950,872	$ 73,784	$ 450,845	$ 12,527,002
Avoided Cost, Alternate Fuel Utility (MC)	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total Benefits	$ 3,264,293	$ 3,971,887	$ 1,942,166	$ 791,356	$ 122,840	$ 443,676	$ 515,284	$ 950,872	$ 73,784	$ 450,845	$ 12,527,002
Costs:											
Incentives	$ 134,818	$ 3,707,508	$ 1,123,487	$ 674,092	$ 67,409	$ 179,758	$ 303,341	$ 134,818	$ 20,223	$ 22,470	$ 6,367,925
Primary Utility Increased Cost (MC)	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Primary Utility Cost	$ 14,162	$ 4,721	$ 4,721	$ 2,832	$ 944	$ 1,888	$ 1,275	$ 566	$ 142	$ 236	$ 231,487
Alternate Utility Increased Cost (MC)	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Alternate Utility Cost	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Total Costs	$ 148,981	$ 3,712,229	$ 1,128,208	$ 676,925	$ 68,353	$ 181,646	$ 304,616	$ 135,385	$ 20,364	$ 22,706	$ 6,599,413
Net Benefit	$ 3,115,312	$ 259,658	$ 813,957	$ 114,431	$ 54,487	$ 262,030	$ 210,669	$ 815,488	$ 53,419	$ 428,139	$ 5,927,589
Benefit/Cost Ratio	21.91	1.07	1.72	1.17	1.80	2.44	1.69	7.02	3.62	19.86	1.90

MC = Calculation Based on Utility Marginal Cost
AC = Calculation Based on Utility Average Cost

energySMART Program

Annual Recovery Calculation

Docket No. _____

Exhibit   **DJN-3**

Residential Recovery Rate Calculation (R-1)

Prior Years Recoveries	$ -
less prior Years Expenses	$ -
Projected Recoverable Residential measure Costs	$ 92,000
Projected Rrecoverable Residential Outreach Costs	$ 170,558
total Residential Costs to be Recovered	$ 262,558
Annual Estimated Residential Therms Apr through March	34,872,210
Residential Rate per Therm	**$ 0.0075**

Commercial Recovery Rate Calculation (C-1, C-2, T-3)

Prior Years Recoveries	$ -
less prior Years Expenses	$ -
Projected Recoverable Residential measure Costs	$ 59,535
Projected Rrecoverable Residential Outreach Costs	$ 29,442
total Residential Costs to be Recovered	$ 88,977
Annual Estimated Commercial Therms Apr through March	33,111,200
Commercial Rate per Therm	**$ 0.0027**