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December 11, 2009

VIA EMAIL AND HAND DELIVERY

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Chairman Sara Kyle
c/o Ms. Sharla Dillon
Tennessee Regulatory Authority
460 James Robertson Parkway
Nashville, Tennessee 37243

Re: **Petition of Piedmont Natural Gas, Inc. for Approval of Service Schedule
No. 317 and Related Energy Efficiency Programs**
Docket No. 09-00104

Dear Chairman Kyle:

Enclosed please find an original and five (5) copies of Piedmont Natural Gas, Inc.'s Pre-Filed Rebuttal Testimony of Steve Lisk for filing in Docket No. 09-00104. A copy of the filing has also been transmitted electronically to the Tennessee Regulatory Authority Docket Manager, Sharla Dillon. Please stamp one copy as "filed" and return to me by way of our courier.

Should you have any questions concerning any of the enclosed, please do not hesitate to contact me.

Sincerely,



Erin M. Everitt

Enclosures

cc: Hon. Mary Freeman (*w/o enclosure*)
Hon. Eddie Roberson, Ph.D. (*w/o enclosure*)
Hon. Kenneth C. Hill (*w/o enclosure*)
Ryan McGehee, Esq.
James H. Jeffries, Esq.

**Before the
Tennessee Regulatory Authority**

Docket No. 09-00104

**Petition of Piedmont Natural Gas Company, Inc.
to Implement a Margin Decoupling Tracker (MDT) Rider
and Related Energy Efficiency and Conservation Programs**

**Rebuttal Testimony
of
Steve Lisk**

**On Behalf Of
Piedmont Natural Gas Company, Inc.**



December 11, 2009

1 **Q. Mr. Lisk, please state your name and business address.**

2 A. My name is Steve Lisk. My business address is 4720 Piedmont Row Drive,
3 Charlotte, North Carolina.

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

5 A. I am employed by Piedmont Natural Gas Company, Inc. ("Piedmont") as
6 Manager of Market Development and Technical Services.

7 **Q. Are you the same Steve Lisk that previously filed direct testimony in**
8 **this proceeding?**

9 A. Yes.

10 **Q. What is the purpose of your rebuttal testimony?**

11 A. The purpose of my rebuttal testimony is to respond to various criticisms of
12 Piedmont's proposed energy efficiency programs contained in the direct
13 testimony of Consumer Advocate witness Dismukes. These matters fall
14 under Issue 5 identified by the Hearing Officer in this proceeding.

15 **Q. Dr. Dismukes' first criticism of Piedmont's energy efficiency program**
16 **filing is that Piedmont did not provide the results of all California**
17 **Standard Practice Manual tests for each of its programs. Do you**
18 **believe that this is a valid criticism of the programs?**

19 A. No.

20 **Q. Would you please describe the cost effectiveness testing methods that**
21 **were used to evaluate Piedmont's Equipment Rebate program?**

22 A. The cost effectiveness analysis of Piedmont's Equipment Rebate program
23 was evaluated using economic cost/benefit tests that were established under
24 the California Standard Practice Manual. These tests are considered to be

1 the industry standard for evaluating energy efficiency programs. The
2 California Standard Practice Manual consists of five separate tests that are
3 used to compare the costs and benefits associated with energy efficiency
4 programs. Each test evaluates a program from a different perspective. The
5 table below summarizes the five tests and gives a description of each.

6

Test	Description
Participant Cost Test (PCT)	Comparison of cost and benefits of the customer installing the measure.
Utility Cost Test (UCT) or Program Administrator Cost Test (PACT)	Comparison of the program administrators cost to supply side costs.
Ratepayer Impact Test (RIM)	Comparison of the administrators costs and utility bill reductions to supply side resource cost options.
Total Resource Cost Test (TRC)	Comparison of program administrator and customer costs to utility resource savings.
Societal Cost Test (SCT)	Comparison of societies costs of energy efficiency to resource savings and non-cash costs and benefits.

7
8 The UCT evaluates program effectiveness from the administrator or the
9 utility perspective. The benefits are the avoided cost of the program
10 including energy and capacity requirements. The costs involved with the
11 UCT are those costs that are incurred by the administrator for sponsoring the
12 programs. If the cost avoided by the program outweighs the cost of
13 sponsoring the program then the tests are considered to be beneficial to the
14 administrator.

1 The TRC takes a holistic approach, representing the combined effect of the
2 program costs and benefits, from the perspective of both the participating
3 and the non-participating customer(s). The analysis is a summation of the
4 benefit and the cost in terms of the Participant Test and the Ratepayer
5 Impact Test.¹ In most jurisdictions, all of the cost-effectiveness tests may be
6 evaluated but the TRC typically serves as the primary test to determine
7 whether a program makes sense and whether the total cost for meeting the
8 energy service needs increase or decrease as a result of the program.² The
9 TRC benefits include the avoided costs of the program and can include any
10 additional monetized savings such as water reduction, environmental
11 benefits or applicable tax savings. The cost includes both the cost incurred
12 by the administrator for sponsoring the programs and the cost incurred by
13 the participant. For this reason, Piedmont focused its cost-effectiveness
14 testing on the TRC to represent the ratepayers and participants interest in its
15 proposed Equipment Rebate program filing.

16 **Q. Did Piedmont provide appropriate documentation for the cost**
17 **effectiveness testing?**

18 A. Yes, for the Consumer Advocate data request (Docket 09-00104, October
19 13, 2009) Piedmont provided documentation of the inputs and the results of
20 the cost effectiveness analysis performed by our energy consultant for the
21 proposed Equipment Rebate program. While the underlying calculations
22 used in the analysis are not considered proprietary, the working document is

¹ Total Resource Cost Test definitions – California Standard Practice Manual July 2002.

² Regulatory Assistance Project (RAP) – Benefits Costs Test for Energy Efficiency, Kansas Corporation Commission March 25, 2008.

1 a proprietary evaluation model that was developed by Piedmont's
2 consultant, The Cadmus Group. At the request of Cadmus, Piedmont agreed
3 not to share the working spreadsheet model because they consider that
4 proprietary company information. The Cadmus Group is a reputable
5 environmental and engineering consulting company that works with many
6 utilities and regulatory bodies throughout the US in the development and
7 implementation of energy efficiency programs.

8 **Q. What approach did Piedmont take for justifying the Customer**
9 **Education Program?**

10 A. Piedmont did not attempt to apply any cost effectiveness testing to the
11 energy education programs due to the difficulty in capturing specific energy
12 savings and adoption of energy conservation practices resulting from the
13 program. Rather, Piedmont plans to utilize appropriate and effective
14 communication channels for communicating to mass markets and delivering
15 our energy efficiency message through those proven channels. These
16 channels could include but are not limited to television, company website,
17 electronic or social media outlets, bill inserts and print advertising. It is
18 important to remember that while customer education efforts are difficult to
19 test and measure, they hold the potential for very high cost/benefit ratios if
20 customers respond to the conservation/efficiency messages.

21 **Q. Dr. Dismukes is also critical of the manner in which Piedmont tested its**
22 **proposed programs. Do you agree with Dr. Dismukes' criticisms?**

23 A. No, I do not.

1 **Q. Did Piedmont provide any adjustments for Free Riders, Free Drivers,**
2 **Kickbacks or any other influence on the programs energy savings net to**
3 **gross ratio?**

4 A. As part of the cost-effectiveness testing analysis, Piedmont's energy
5 consultant recommended using a net to gross ratio of 1.0. Piedmont relied
6 on their extensive knowledge and expertise for running the cost-
7 effectiveness analysis using proven assumptions and industry standards.
8 The net to gross ratio of 1.0 was used for program planning purposes to
9 provide estimates of the net natural gas savings. Once the energy efficiency
10 programs have been implemented, Piedmont plans to contract with a third-
11 party energy consultant to determine the impact evaluation and at that point
12 the net to gross ratio will be factored into the energy savings results.

13 **Q. Please provide additional information in regard to the support of**
14 **Piedmont's proposed Residential Low-Income Energy Efficiency**
15 **program.**

16 A. In evaluating our proposed energy efficiency programs Piedmont felt that
17 performing cost-effectiveness tests would not really establish whether the
18 Low-Income program was truly cost-effective or not because there are
19 several non-energy societal benefits that are hard to quantify. Through our
20 own experiences administering a low-income program in North Carolina we
21 knew that low-income customers would benefit from this program not only
22 from a better comfort and healthy environment perspective but also from an
23 energy savings perspective.

24 Energy savings is even more important to low-income households because

1 according to the Oak Ridge Laboratory,³ “From 2001 through 2005, the
2 average residential energy burden for low-income households rose from
3 12.6 percent to 14.6 percent of income. For non-low-income households the
4 average burden was 3.1 percent of income in 2001 and remained essentially
5 unchanged at 3.2 percent of income in 2005.” In addition, below is an
6 excerpt⁴ from the Department of Energy’s website on the Federal
7 Weatherization Assistance Program identifying the advantages of the
8 Federal Low-Income program which Piedmont’s program has been modeled
9 after:

- 10 ○ “For every \$1 invested, weatherization returns \$2.73 in benefits.
11 These include \$1.65 in energy-related benefits and \$1.07 in other
12 benefits such as reducing pollution, unemployment, and adverse
13 health concerns.
- 14 ○ Low-income families save approximately \$350 or more each year
15 on their energy bills after their homes have been weatherized.
16 These homes avoid an estimated 1.79 tons of carbon dioxide
17 emissions annually.
- 18 ○ Weatherization measures reduce average gas space heating by 32%
19 annually.
- 20 ○ By decreasing the amount of personal income spent on home
21 energy, weatherization makes housing more affordable, lowers the

³ Short and Long-Term Perspectives: The Impact on Low-Income Consumers of Forecasted Energy Price Increases in 2008 and a Cap-and-Trade Carbon Policy in 2030

⁴ http://apps1.eere.energy.gov/weatherization/recovery_act_faqs.cfm

1 demand for public assistance, and keeps more money in local
2 communities.

- 3 ○ Weatherization improves local air quality, avoids emissions of
4 greenhouse gases, reduces the risk of fires, and decreases cases of
5 homelessness.
- 6 ○ According to studies conducted in 2005, the average avoided costs
7 during the winter for all households weatherized were nearly \$1.9
8 billion annually.
- 9 ○ Weatherization reduces national energy demand by the equivalent
10 of 18 million barrels of oil each year.”

11 Piedmont’s first low-income assistance weatherization program was in
12 Farmville, North Carolina, where there was a high concentration of older,
13 less energy efficient homes. Piedmont partnered with the NC State Office
14 of Economic Opportunity to administer this program through one of the
15 community action agencies that administered the Federal low-income
16 program. This program in Farmville addressed whole-house energy
17 efficiency and promoted a whole-community approach. Piedmont provided
18 funding to cover weatherization and energy education services to 100 homes
19 in Farmville over the winter of 2006/2007.

20 Piedmont compiled and analyzed the natural gas bills⁵ for the program
21 participants, comparing their pre-weatherization usage to post-
22 weatherization usage on a weather-normalized basis. Piedmont also hired a

⁵ Only 89 of the 100 homes could be analyzed on a 12-month pre-weatherization / 12-month post-weatherization basis because some accounts were closed or inactive during the 24-month period.

1 third-party energy consultant to analyze the customer's electric⁶ usage on a
2 weather-normalized basis. By analyzing the natural gas and electric usage,
3 it showed the savings from a total energy perspective.

4 Based on the natural gas usage analysis, the average annual savings per
5 customer on a weather-normalized basis was 101 therms (10.1 Dth), which
6 equaled an average annual savings of \$136.57 per customer.⁷ Based on the
7 electric usage analysis, the average annual savings per customer on a
8 weather-normalized basis was 1,012 kWh, which equaled an average annual
9 savings of \$126.54 per customer.⁸ Evaluating the program from a total
10 energy perspective (including the weatherization effect on electricity usage);
11 the total savings, on a weather-normalized basis, equaled an average annual
12 savings of \$263.11 per customer.

13 **Q. How does Piedmont propose to evaluate the success of its energy**
14 **efficiency programs?**

15 A. Piedmont plans to contract with a third-party energy consultant to perform
16 an appropriate Evaluation, Measurement and Verification of the Equipment
17 Rebate program and the Residential Low-Income program. The energy
18 consultant will use standard industry accepted procedures to perform an
19 impact evaluation of the program. Through this analysis, the energy
20 consultant will be able to provide Piedmont with the calculated energy
21 savings of the programs. These energy savings will be reported to the TRA
22 in an annual report.

⁶ Only 79 of the 100 homes could be analyzed on a 12-month pre-weatherization / 12-month post-weatherization basis because some accounts were closed or inactive during the 24-month period.

⁷ Based on the average residential natural gas rate for post-weatherization period.

⁸ Based on the average residential electric rate for post-weatherization period.

1 **Q. What approach did Piedmont take in developing the proposed**
2 **equipment selected and the rebate incentive amounts for the proposed**
3 **Equipment Rebate program?**

4 A. In determining the type of equipment to offer and the rebate incentive levels,
5 Piedmont researched the energy efficiency programs of various small and
6 large natural gas utilities in the US. Through this research, Piedmont
7 recognized that a large majority of the utilities offered rebates for high-
8 efficiency natural gas water heaters and furnaces. Piedmont felt that by
9 providing rebates for high-efficiency water heaters and furnaces this would
10 provide a good solid base for our program. Also, for a residential
11 homeowner a large portion of their energy bill is used for water heating and
12 space heating. Customers will be able to make smart energy choices in
13 choosing high-efficiency natural gas equipment and also be rewarded for it.
14 The equipment we chose to offer are products that are readily available in
15 the marketplace and can be installed by almost any licensed Plumbing or
16 HVAC contractor.

17 As an example, the following is a summary of the current residential
18 equipment rebates levels that are being offered by the utilities listed in
19 Exhibit DED-3 of Dismukes testimony.

2009 Gas Utilities Residential Equipment Rebate Programs

	Furnace (AFUE \geq 90%)	Tankless Water Heaters (E.F. \geq 0.82)	Storage Water Heater (EF \geq 0.62)
Aquila	\$250	\$250	\$45
Centerpoint -Minnesota	\$150	N/A	N/A
Keyspan	\$100 - \$400	\$300	\$50
Northwest Natural	\$200	\$200	N/A
N Star	\$400	\$300	\$50
PG&E	\$300	N/A	\$30
Southern California Gas	\$200	\$200	\$30
Vermont Gas	\$100 - \$400	\$100	\$100
Xcel Energy Minnesota	\$100	\$100	\$60

Source: Rebate values are those currently listed on the respective utility website.

On March 23, 2009 The North Carolina energy efficiency programs were approved by the NC Utility Commission. A program description as previously outlined in the Consumer Advocate data request (Docket 09-00104, October 13, 2009) included an Equipment Rebate Program. The equipment rebates offered in the proposed Tennessee program are identical to the North Carolina program. Since the North Carolina programs were approved, Piedmont has experienced increasing participation rates in the programs. For example the rebate applications received in the last four months have increased approximately 300%.

Q. Does this conclude your testimony?

A. Yes it does.

**BEFORE THE TENNESSEE REGULATORY AUTHORITY
NASHVILLE, TENNESSEE**

IN RE:

PETITION OF PIEDMONT NATURAL GAS
COMPANY, INC. TO IMPLEMENT A
MARGIN DECOUPLING TRACKER (MDT)
AND RELATED ENERGY EFFICIENCY AND
CONSERVATION PROGRAMS

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Docket No. 09-00104

AFFIDAVIT

STATE OF NORTH CAROLINA

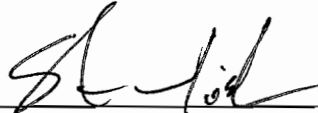
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COUNTY OF MECKLENBURG

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Steve Lisk, being duly sworn, deposes and says that he is the Steve Lisk whose Rebuttal Testimony accompanies this affidavit; that such rebuttal testimony was prepared by him; that he is familiar with the contents thereof; that the facts set forth therein are true and correct to the best of his knowledge, information and belief; and that he does adopt the same as his sworn rebuttal testimony in this proceeding.

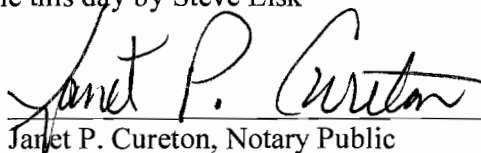


Steve Lisk

Mecklenburg County, North Carolina

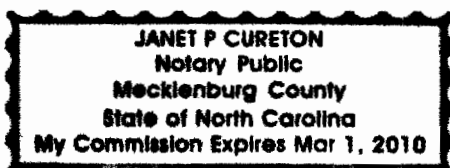
Signed and sworn to before me this day by Steve Lisk

Date: 12-9-2009


Janet P. Cureton, Notary Public

(Official Seal)

My commission expires: March 1, 2010



CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing Pre-Filed Rebuttal Testimony was served via U.S. Mail or electronic mail upon:

C. Scott Jackson
Ryan L. McGehee
Office of the Attorney General
Consumer Advocate and Protection Division
PO Box 20207
Nashville, Tennessee 37202-0207

This 11th day of December, 2009.