BASS
BERRY • SIMS PLC

150 Third Avenue South, Suite 2800
Nashville, TN 37201
(615) 742-6200

David Killion
PHONE: (615) 742-7718
FAX: (615) 742-0414
E-MAIL: dkillion@bassberry.com

October 28, 2013

VIA HAND DELIVERY

Executive Director Earl Taylor
c/o Sharla Dillon
Tennessee Regulatory Authority
460 James Robertson Parkway
Nashville, Tennessee 37243

Re: ***In re: Petition of Piedmont Natural Gas Company, Inc. for Approval of an Integrity Management Rider to Its Approved Rate Schedules and Service Regulations***
Docket No. 13-00118

Dear Mr. Taylor:

Enclosed please find an original and five (5) copies of Piedmont Natural Gas Company's Direct Testimony filed on behalf of Piedmont's witnesses Victor M. Gaglio and David R. Carpenter.

This material is also being filed today by way of email to the Tennessee Regulatory Authority docket manager, Sharla Dillon. Please file the original and four copies of this material and stamp the additional copy as "filed." Then please return the stamped copy to me by way of our courier.

Should you have any questions concerning this matter, please do not hesitate to contact me at the email address or telephone number listed above.

Sincerely,

David Killion

cc: James H. Jeffries, IV
Joe Shirley, Consumer Advocate and Protection Division

12499790.1

Before the
Tennessee Regulatory Authority

Docket No. 13-00118

**Petition of Piedmont Natural Gas Company, Inc.
for Approval of an Integrity Management Rider to its
Approved Rate Schedules and Service Regulations**

Testimony and Exhibit
of
Victor M. Gaglio

On Behalf of
Piedmont Natural Gas Company, Inc.

October 28, 2013

Q. Mr. Gaglio, please state your name and business address.

A. My name is Victor M. Gaglio. My business address is 4720 Piedmont Row Drive, Charlotte, North Carolina.

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

A. I am a Senior Vice President and Chief Utility Operations Officer for Piedmont Natural Gas Company, Inc. ("Piedmont" or "the Company").

Q. Please describe your educational and professional background.

A. I graduated from Virginia Polytechnic Institute and State University with a B.S. in Engineering Science and Mechanics. I have attended development programs at the University of Virginia's Darden School of Business, University of Pennsylvania's Wharton School of Business and the University of Michigan's Ross School of Business. I serve on the Board of Directors for the Interstate Natural Gas Association of America ("INGAA") and I have previously held various leadership positions on technical committees for the Southern Gas Association ("SGA") and the American Gas Association ("AGA"). From 1981 until 2012, I served in various positions with Columbia Gas and NiSource culminating in my final position with that company of Senior Vice President of Operations for NiSource Gas Transmission and Storage. I joined Piedmont in 2012 and am employed as Senior Vice President and Chief Utility Operations Officer.

Q. Have you previously testified before the Tennessee Regulatory Authority ("TRA") or any other regulatory authority?

A. I have not testified before the Authority previously but I have recently submitted testimony in Piedmont's general rate case proceeding in North Carolina.

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

A. My testimony in this proceeding will address the requirements of Piedmont's pipeline and distribution integrity management and safety programs, including the reasons and basis for this program, and our projected capital expenditures related to compliance with federal pipeline integrity and safety requirements.

Q. Are you sponsoring any exhibits to your testimony?

A. Yes, I am sponsoring Exhibit__(VMG-1), which is our projected transmission integrity management program and distribution integrity management program expenditures for Tennessee for our Fiscal Years 2013 through 2016. This exhibit is attached hereto and incorporated herein by reference.

Q. Was this exhibit prepared by you or under your direction?

A. Yes.

Federal Pipeline Safety and Integrity Management

Q. Is the Company proposing a rider mechanism in this case to provide for the recovery of costs associated with Piedmont's system integrity and safety program?

A. Yes. Piedmont's capital requirements related to compliance with federal laws governing system integrity and safety enhancements have been

significant since the effective date of rates in Piedmont's last general rate case in Tennessee and will continue to be significant into the foreseeable future. These capital expenditures are the direct result of Piedmont's prudent practices to comply with prevailing federal standards for pipeline and distribution integrity and safety. Because of the nature of these costs and their projected magnitude, the Company is proposing to establish a rider mechanism in this proceeding to provide for the recovery of costs associated with these capital expenditures in the interim period between rate cases. Mr. Carpenter addresses the actual proposed rider mechanism in his testimony. My testimony below describes the nature and scope of these future capital expenditures and the underlying factual justification for our proposed rider mechanism, and why it is in the public interest.

Q. Please explain the nature of Piedmont's approach to system integrity and safety and how it relates to mandatory federal requirements.

A. Piedmont is subject to substantial and relatively new federal regulatory requirements and expectations designed to compel local distribution companies to engage in enhanced levels of assessment, investigation and evaluation of their existing transmission and distribution systems. These same regulations require that Piedmont remediate any facilities which Piedmont determines do not meet federal guidelines.

Q. Where do these requirements come from?

A. Subparts O and P of Part 192 of the United States Department of Transportation ("DOT") regulations establish a mandatory regimen of

inspection, assessment, analysis, testing, and remediation applicable to natural gas transmission and distribution facilities in the United States, including those operated by Piedmont in Tennessee. The regimen applicable to transmission lines under Subpart O is generally referred to as transmission integrity management planning or "TIMP." The regimen applicable to distribution lines under Subpart P is generally referred to as distribution integrity management planning or "DIMP." Over the last few years, the Pipeline and Hazardous Materials Safety Administration ("PHMSA"), which is the administering agency for TIMP and DIMP, has issued further advisories that also inform our actions regarding our overall pipeline integrity programs.

Q. What are the requirements of TIMP?

A. The initial focus of TIMP is in so-called "High Consequence Areas" or "HCAs" which involve higher degrees of risk to public safety in the event of a pipeline failure or leak. Criteria for determining HCAs are prescribed in the federal regulations. These regulations require extensive assessment, inspection, and remediation, if needed, of transmission facilities within HCAs. The detailed requirements of Part 192, Subpart O are set out in the regulations but include, in part, the following:

- Identification of HCAs
- Identification of threats to covered pipeline segments
- Risk Analysis

- Development and implementation of baseline assessment plans, including inspection of pipeline facilities
- Establishment of remediation provisions
- Development of preventive and mitigative measures
- Record keeping
- Quality assurance measures
- Reassessments, including inspections of pipeline facilities

Q. Is Piedmont's distribution system subject to the same requirements?

A. Piedmont's distribution system is not subject to the same requirements as its transmission system; however, it is subject to the corollary requirements of DIMP, which require Piedmont to establish its own plan to address the safety, integrity, and reliability of its distribution assets. DIMP requires us to gather data about our distribution system and to provide for effective measures to collect and preserve that data. We are also required to assess the distribution system to determine and rank potential risks to the system that could lead to system anomalies. Mitigation measures and actions must then be identified and implemented. The requirements of Piedmont's DIMP plan are ongoing and continuous.

Q. What do the regulations require if Piedmont determines that remediation is required of some portions of its transmission lines as a result of TIMP/DIMP testing procedures?

A. The DOT regulations are clear that Piedmont must take prompt action to address all anomalous conditions discovered through the pipeline integrity assessment process. TIMP also requires that risks identified within covered segments of our transmission system (HCAs) be further evaluated in non-covered segments (Part 192.917(5) and 192.473(a)).

Q. What was the genesis of Subpart O of the DOT's Part 192 regulations?

A. As the Commission is aware, many parts of the natural gas infrastructure in the United States have been in place for many decades. Given the complex and dynamic operating conditions that these infrastructure assets are subjected to over decades of service, it is not uncommon for damage or degradation to occur to both plastic and steel pipelines. Because the vast majority of the infrastructure assets are underground, any damage or degradation cannot be easily observed or measured. Prior to the issuance of Subpart O, Part 192 of the DOT's regulations there was no mandatory comprehensive assessment and risk-based analysis regimen established for assessing, analyzing and remediating natural gas transmission facilities in the United States.

Q. Does this mean transmission facilities were not inspected or remediated prior to Part 192?

A. No. Piedmont and other natural gas local distribution companies have long had inspection, evaluation, and remediation programs in place to ensure the reliability and safety of their natural gas transmission facilities.

Prior to Part 192, however, those programs were based on industry best practices and individual company experience.

Q. How is Piedmont's program for meeting the requirements of Part 192, Subpart O different from Piedmont's prior programs?

A. Subpart O, Part 192 establishes a uniform, mandatory and comprehensive assessment, inspection, and evaluation regime applicable to the vast majority of natural gas transmission lines in the United States. Further, the assessment, inspection, and evaluation regime established by Subpart O, Part 192 requires ongoing identification and evaluation of HCAs and that covered pipeline segments are reassessed using the prescribed tools and techniques at least every seven years.

Q. What tools and techniques does Piedmont use to conduct the inspection and evaluation procedures required by TIMP?

A. TIMP basically requires Piedmont to engage in one or more types of assessment of its transmission facilities in high consequence areas. These three types of assessment are: (1) direct assessments of pipeline segments; (2) internal inspections accomplished through the use of an in-line inspection device commonly referred to as a "smart-pig"; and (3) pressure testing. Much of the pipeline integrity and safety costs being incurred by Piedmont, to comply with federal TIMP requirements, both currently and for the next few years, are focused on this assessment requirement, especially internal inspections.

Q. What lines are impacted by the TIMP requirements?

A. Over the course of the prescribed testing period, all of Piedmont's transmission lines within HCAs are required to be assessed and then reassessed every seven years or less. Depending upon inspection and evaluation results for HCAs, Part 192 requires operators to incorporate non-covered segments of pipeline into TIMP and to apply the prescribed tools and techniques to those segments as well.

Q. How long has Piedmont been operating under TIMP and DIMP?

A. Development of the DOT regulations that eventually established the TIMP and DIMP requirements began in 2002 but the full scope and applicability of the rules and Piedmont's initiation of substantive efforts to comply with them have only occurred in the last several years.

Q. Can you please describe Piedmont's activities pursuant to DOT requirements for transmission pipe inspection and assessment?

A. Yes, in 2002, when the federal integrity management requirements were initially published, Piedmont's primary focus was on completing a baseline assessment on 50 % of its highest risk HCAs on our transmission system by 2007 and then assessing the remaining 50% by the end of 2012, consistent with the requirements of TIMP. The integrity management rules provided several options for companies to assess their transmission lines:

In Line Inspection is accomplished by passing an intelligent tool commonly known as a smart-pig through the line to measure wall thickness and detect abnormalities.

Hydrostatic Testing involves removing a line from service in order to pressurize the line with water and hold a test pressure for a specified period of time - typically eight hours.

Direct Assessment is a four-step process which utilizes pre-assessment, indirect above-ground inspection, direct examination, and post-assessment to identify areas on the pipeline where external corrosion may have occurred or may be occurring. This methodology was adopted in recognition that not all lines are piggable or capable of being hydrostatically tested without major disruptions to service.

Piedmont's initial strategy in 2002 (which was adopted by most, if not all, of the natural gas distribution companies in the industry), was to use a Direct Assessment methodology for the baseline assessment. The Direct Assessment approach is a perfectly acceptable engineering solution that had been given a great deal of thought and "vetting" across the industry, both internally at companies and across industry trade groups such the AGA and the SGA and with PHMSA staff and regulators. Another consideration driving the Direct Assessment methodology at that time was the state of pigging technology. It had not yet developed to the point of being usable on the smaller diameter pipe which comprises a large part of our system located in HCAs.

The primary focus areas for our initial Direct Assessment activity in Tennessee included our highest risk ranked HCAs based on the model we incorporated into our planning process. During this process, we gained

significant information about the condition of our system. And while technology began to develop during this period that allowed "pigging" of smaller diameter pipes, the Direct Assessment approach was the predominant inspection methodology for Piedmont during the nine years following the initial effectiveness of the federal integrity management regulations.

The federal integrity management regulations require that a re-inspection process be initiated after the seventh year of the regulations' effectiveness. As a result, in 2010 we began that process and in doing so modified our strategy. Specifically, technology advances had occurred during this time that allowed for pigging of smaller diameter pipe and based on the need to gather more detailed information about the condition of our transmission lines we decided to move more toward In Line Inspection as the Company's preferred assessment methodology.

As we found things like damaged coating, or third party damage or corrosion or dents during our initial Direct Assessment within our HCAs, the regulations required us to look for these things elsewhere. This meant significantly more digs and a very big administrative burden to keep up with the documentation required for each dig. In Line Inspection became a more viable inspection technique for us as a result. In Line Inspection inspects more miles of pipe, you get better information about the condition of your system and it requires only a few confirmatory digs after inspection to ensure the accuracy of the tool.

As such, we have modified our inspection approach. While we still use Direct Assessment today where it makes sense, we have a preference toward internally inspecting our transmission pipelines. As we began planning for our re-assessments, we decided to modify our system to accept internal tools in areas of high risk. Those internal inspections began in 2010 and our long range forecast includes significant expenditures for modification of our entire transmission system in order to prepare it for accepting internal tools. With the completion of the South Nashville 20" Pipeline, all of the transmission pipelines operated by Piedmont Natural Gas in Tennessee will have been inspected using ILI tools.

In September of 2010, the incident in San Bruno, California occurred. The subsequent scrutiny following this tragedy, and the likelihood of more prescriptive legislation in the future, added further emphasis to our already established intention of performing more inline inspection and hydro-testing. Direct Assessment is still a tool that is used but to a much lesser extent on transmission systems.

Q. Has compliance with the federal integrity management regulations required Piedmont to increase its capital expenditures?

A. Yes. Because of the very broad assessment, evaluation, and remediation requirements of the DOT regulations, Piedmont has been forced to expend significant amounts of capital to comply with the federal regulations governing transmission integrity management and distribution integrity management.

Q. Are TIMP and DIMP expenses ongoing in nature?

A. Yes, Piedmont expects to incur significant integrity management related costs on an annual basis for the foreseeable future in order to comply with current and potential future federal pipeline safety and integrity management requirements.

Q. Can you please describe Piedmont's capital expenditure projections for its system integrity and safety related activities planned for next few years?

A. Yes, based on existing federal system integrity and safety requirements, Piedmont currently projects that it will make a total investment of approximately $50.4 million in fiscal years 2014 through 2016 in order to comply with federal TIMP and DIMP requirements.

Q. Can you describe the nature of the activities contemplated under the projected investments in system integrity and safety?

A. Yes. Our projected system integrity investments through 2016 include the following categories of work necessitated by TIMP and DIMP: (1) corrosion control, (2) casing remediation, (3) distribution integrity management, (4) integrity related development of Piedmont's OASIS work and asset management system, (5) replacement of certain existing pipeline facilities, and (6) retrofitting and pigging of certain portions of existing pipeline facilities.

Q. Please describe what types of action are covered by each of the integrity program designations listed above.

A. Corrosion control involves activities designed to protect our steel pipelines. This will include replacement of coating, installation of cathodic protection systems, installation of ground beds and installation of AC mitigation systems.

Casing remediation activities involve removal of existing casing and possibly replacement of carrier pipe.

Distribution integrity management activities include assessments and implementation of programs or measures to mitigate risk due to corrosion, natural forces, excavation damage, other outside force damage, substandard materials or joining, equipment failure, incorrect operations, and other concerns that could threaten the integrity of the system.

OASIS is Piedmont's new Operations Assets and System Integrity Solutions system currently under development by the Company. This work and asset management system consists of multiple integrated technology projects that will be implemented over the course of several years and will provide Piedmont a platform through which to manage all aspects of its physical operations. This system will play a critical role in the management of Piedmont's future planned system integrity and safety activities.

Pipeline replacement activities for transmission pipelines will include replacements that are too costly or too difficult to retrofit for internal inspection and those which require replacement in order to allow In Line inspection, an example of this is our South Nashville replacement

project that is currently under construction. For distribution pipelines and services, these would include those facilities that are identified as containing substandard material, cathodic protection deficiencies, excavation damage, outside forces, incorrect operations or other identified risks which preclude the ongoing operations of these facilities.

Retrofitting and pigging activities involve the retrofitting of existing transmission pipeline facilities in order to be able to deploy, utilize, and recover "smart pigs" for the purpose of examining the physical condition of Piedmont's natural gas transmission facilities from inside the pipe.

Q. Are all of these activities required to be accomplished in order to comply with federal pipeline integrity management regulations?

A. Yes.

Q. Does Piedmont anticipate future amendments to the prevailing federal transmission and distribution integrity and safety regulations?

A. We certainly cannot rule out the possibility of further regulations as the federal authorities, including PHMSA, the DOT, Congress and the President, continue to consider appropriate infrastructure safety and integrity improvement requirements in the wake of San Bruno and other similar incidents. If future additional regulations impose more system integrity requirements or safety measures, it will only add to Piedmont's projected expenditures in this area.

Q. Do you think it would be appropriate to include such additional costs under Piedmont's proposed rider mechanism?

A. Yes. Our purpose in proposing the rider is to provide an interim mechanism to capture extraordinary system integrity management related costs required by federal regulation. Any new or additional costs that meet that definition should be eligible for inclusion under the rider mechanism.

Q. Will there be any negative consequences if Piedmont's rider proposal is not accepted by the TRA in this proceeding?

A. Yes, it will create added pressure to seek additional and repeated rate relief from the Authority in the future in order to roll Piedmont's system integrity investments – which generate no incremental revenue -- into rate base.

Q. In your opinion, is Piedmont's proposed Integrity Management Rider mechanism a reasonable approach to dealing with the significant future capital costs associated with TIMP and DIMP requirements?

A. Yes. These costs will be incurred and they will be significant. If they are not addressed through the proposed rider mechanism they will cause additional and unnecessary rate cases to be filed on a serial basis. The proposed rider mechanism is a much more efficient way for all parties to deal with these extraordinary expenses and for that reason it is in the public interest.

Q. Do you have anything to add to your testimony?

A. Not at this time.

EXHIBIT__(VMG-1)

Exhibit_(VMG-1)

Projected Capital Expenditures for TIMP and DIMP for Tennessee, by cost category

	FY13	FY14	FY15	FY16	Total
Corrosion Control	$ 1,062,002	$ 1,090,190	$ -	$ -	$ 2,152,191
Casing Remediation	$ -	$ 324,255	$ 575,875	$ 156,588	$ 1,056,719
Distribution Integrity	$ 4,212,781	$ 4,515,331	$ 2,556,251	$ 3,133,715	$ 14,418,078
Transmission Integrity	$ 79,097,710	$ 30,714,261	$ 1,062,526	$ -	$ 110,874,496
Information Systems (OASIS)	$ 5,256,798	$ 4,407,305	$ 1,507,477	$ 392,525	$ 11,564,105
Total	$ 89,629,290	$ 41,051,342	$ 5,702,129	$ 3,682,828	$ 140,065,589

Before the
Tennessee Regulatory Authority

Docket No. 13-00118

**Petition of Piedmont Natural Gas Company, Inc.
for Approval of an Integrity Management Rider to its
Approved Rate Schedules and Service Regulations**

Testimony and Exhibits
of
David R. Carpenter

On Behalf of
Piedmont Natural Gas Company, Inc.

October 28, 2013

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

A. My name is David R. Carpenter. My business address is 4720 Piedmont Row Drive, Charlotte, North Carolina.

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

A. I am employed by Piedmont Natural Gas Company, Inc., ("Piedmont" or "the Company") as Vice President – Planning and Regulatory Affairs.

Q. Please describe your educational and professional background.

A. I received a B.S. degree from Furman University in 1977. In 1980, Deloitte, Haskins and Sells employed me as a staff accountant, and I was promoted to senior assistant in 1981. I was employed by Piedmont in 1982 as Supervisor of Property Records and in 1990 was promoted to Manager of Financial Reporting and Property Records. I was promoted to Manager of Rate Administration in 1993 and in February 2003 was promoted to Director of Rates. I was promoted to Managing Director of Regulatory Affairs in July, 2006. I was appointed to my current position in August, 2011.

Q. Mr. Carpenter, have you previously testified before the Tennessee Regulatory Authority ("TRA") or any other regulatory authority?

A. Yes. I have entered testimony before the TRA, The North Carolina Utilities Commission, and the Public Service Commission of South Carolina on numerous prior occasions.

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

A. The purpose of my testimony is to support Piedmont's proposed IMR mechanism in this proceeding.

Q. Do any exhibits accompany your testimony?

A. Yes. The following exhibits are part of my testimony:

Exhibit__(DRC-1) Integrity Management Rider

Exhibit__(DRC-2) Piedmont Capitalization Policy

Exhibit__(DRC-3) American Gas Foundation 2012 Summary

Exhibit__(DRC-4) Illustration of the Operation of the IMR Mechanism

Q. Were these exhibits prepared by you or under your direction?

A. Yes, Exhibit__(DRC-1), Exhibit__(DRC-2) and Exhibit__(DRC-4) were all prepared by me or under my direction.

Establishment of an Integrity Management Rider Mechanism

Q. Why is Piedmont proposing the establishment of an Integrity Management Rider mechanism?

A. As is described in Mr. Gaglio's testimony, Piedmont currently projects capital investments of approximately $50.4 million dollars for projects designed to satisfy federal pipeline safety and integrity management regulations during Piedmont's fiscal years 2014-2016. These projects are required in order to comply with federal laws and regulations and will generate no additional revenue for the Company. They vary significantly in nature, scope, and scale from prior Piedmont system reinforcement/maintenance projects and also from Piedmont's more usual system expansion projects. In addition, federal authorities continue to

consider further integrity regulations which would increase Piedmont's projected expenditures in this area. Given the size of the current projected investment, as well as potential additional investment and the absence of any projected revenues associated with them, these expenditures will create significant pressure on Piedmont to file a new and possibly repeated rate cases unless some other mechanism is implemented to allow Piedmont to recover the costs associated with this level of new investment.

We do not believe that multiple rate cases over a short period of time are in the public interest for a number of reasons. First, our experience is that the multiple other inputs into Piedmont's rates, examined and approved in a general rate case, do not typically change materially over a short period – as is reflected by the fact that Piedmont has historically had intervals between rate cases ranging from 3 to 8 years. Second, the expense associated with general rate proceedings can approach $750,000 dollars and that expense is amortized and recovered from our customers. Third, we believe that frequent rate cases can and will induce regulatory fatigue in the Company, the TRA, its Staff, and the Consumer Advocate.

Q. What is the solution to this prospect of serial rate cases to address pipeline integrity management investments the Company is being required to incur?

A. In my view, the solution is a rider mechanism that provides a bridge in between rate cases to address investments in integrity management projects. That bridge would essentially allow the Company to recover its costs associated with such investments on an intra-rate case basis. By doing so, it would alleviate the pressure to file repetitive rate cases and would allow the Company to operate on a normal regulatory basis in terms of pursuing overall rate relief.

Q. Would the Company be kept entirely whole by this mechanism in between rate cases?

A. No, the mechanism we propose simply allows Piedmont to recover the costs of its capital investment in integrity management projects – such as depreciation, taxes and return – but would not provide for the recovery of any operations and maintenance or other expenses associated with such projects. Also, the mechanism will only apply to capital investments that are made in compliance with federal safety and integrity management laws or regulations.

Q. Have you drafted a proposed rider that would accomplish the goals you have identified?

A. Yes. A proposed Integrity Management Rider was included as an exhibit to our petition in this proceeding and a copy is also attached hereto as Exhibit__(DRC-1).

Q. Can you describe how that mechanism would work?

A. Yes. The Company would file monthly reports with the TRA detailing the amount of gross plant, not otherwise included in the Company's rate base, resulting from capital expenditures incurred in compliance with prevailing federal safety and integrity requirements and those amounts would be recorded in a deferred account. Once a year, the Company would file a request with the TRA to update rates in order to recover the costs of its capital investment in federal pipeline safety and integrity management projects. This recovery would include return, depreciation and taxes, consistent with the cost of service treatment authorized in Piedmont's last rate case. The recovery of these costs would be allocated to our customer classes based upon the revenue allocations in Piedmont's last general rate proceeding. The increment within each customer group would be applied to the customer's volumetric usage rates relying on annual determinants established in the most recent rate proceeding. At the time of the next general rate proceeding, all integrity costs would be included in Piedmont's overall cost of service and the Integrity Management Rider mechanism would be reset to zero.

Q. How would Piedmont determine which costs are included under the Rider?

A. Piedmont would utilize its capitalization policy attached hereto as Exhibit__(DRC-2) in making those determinations in order to ensure consistency and propriety in its capitalization of TIMP and DIMP costs.

Q. Do similar mechanisms exist in other states to address requirements to upgrade transmission and distribution facilities of natural gas local distribution companies in accordance with federal law and prevailing best practices in the industry?

A. Yes. There are many such mechanisms in effect in various States throughout the United States, many of which are similar in form to what we are proposing in this docket. Other approved mechanisms designed to facilitate the same end include integrity surcharges, deferral of integrity costs, and rate stabilization mechanisms. A list identifying such mechanisms in effect in the United States produced by the American Gas Foundation in 2012 is attached hereto as Exhibit__(DRC-3). In addition, Piedmont recently reached a settlement with intervenors in North Carolina Docket No. G-9, Sub 631, which includes an Integrity Management Rider similar to the one filed in this docket.

Q. What is the legal basis for the Company's proposal?

A. The legal basis for this proposal is T.C.A. § 65-5-103(d), which authorizes the Authority to implement alternative regulation mechanisms, outside the context of a general rate case, allowing public utilities to recover costs associated with (1) safety requirements imposed by state or federal authorities, and (2) insuring the reliability of public utility plant in service, if the Authority finds such mechanisms to be in the public interest.

Q. Can you summarize your position on Piedmont's proposed Integrity Management Rider mechanism?

A. Yes, in my view our proposed rider mechanism has the following attributes to support it: (1) it is expressly authorized by Tennessee law, (2) it is consistent with mechanisms adopted in other States to deal with the extraordinary capital investments in pipeline safety and integrity required under prevailing federal law, (3) it is an efficient, targeted, and limited mechanism to deal with extraordinary intra-rate case costs that might otherwise generate repeated rate case filings, (4) it will benefit Piedmont, its customers, the TRA and Staff by reducing expense and administrative burden associated with serial and otherwise unnecessary general rate case proceedings, and (5) it will promote public safety.

Q. Can you provide the Authority with an explanation of how the mechanism would function?

A. Yes. Exhibit__(DRC-4) illustrates the practical functioning of the proposed IMR mechanism.

Q. What are you asking the Authority to do in this proceeding?

A. I am asking the Authority to approve Piedmont's proposed IMR mechanism with an effective date of October 1, 2013.

Q. Does this conclude your testimony?

A. Yes.

EXHIBIT__(DRC-1)

SERVICE SCHEDULE 317
Integrity Management Rider

1. Provision for Adjustment

The base rates per therm (100,000 Btu) for gas service set forth in Rate Schedules 301, 302, 303, 304, 313, 314, and 352 ("Applicable Rate Schedules") of Piedmont Natural Gas Company ("Company") shall be adjusted by an amount hereinafter described which amount is referred to as the "Integrity Management Adjustment." The Integrity Management Adjustment shall be calculated as an increment and applied to Applicable Rate Schedules to recover the balance in the "Integrity Management Deferred Account." The Integrity Management Deferred Account shall be established by a monthly adjustment hereinafter described, which monthly adjustment is referred to as the "Integrity Management Deferred Account Adjustment."

2. Definitions

For the purposes of this Rider:

"Authority" means the Tennessee Regulatory Authority.

"Relevant Rate Order" means the final order of the Authority in the most recent rate case of the Company fixing the rates of the Company or the most recent final order of the Authority specifically prescribing or fixing the factors and procedures to be used in the application of this Rider.

"Integrity Management Investment Amount" means the capital investment of the Company resulting from prevailing state and federal standards for pipeline integrity and safety and not otherwise included in current base rates. At the time of the Company's next general rate case proceeding, all prudently incurred Integrity Management Investment Amounts associated with this Rider shall be included in base rates.

3. Computation of Integrity Management Revenue Requirement

The total amount to be recovered will be calculated as follows:

Integrity Management Investment Amount	$X,XXX,XXX
Less: Accumulated Depreciation	XXX,XXX
Less: Accumulated Deferred Income Taxes	XXX,XXX
Net Investment	$X,XXX,XXX
Pre-Tax ROR set forth in the Relevant Rate Order	X.XX%
Allowed Pre-Tax Return	$X,XXX,XXX
Plus: Depreciation Expense	XXX,XXX
Plus: Property Taxes	XXX,XXX
Total	$X,XXX,XXX

4. Computation of Integrity Management Deferred Account Adjustment

The Integrity Management Deferred Account Adjustment shall be computed monthly based on the monthly allocation of revenues from the Company's last general rate proceeding.

5. Computation of Integrity Management Adjustment

Effective for the first day of January's Bill Cycle Month the Integrity Management Adjustment to refund or recover the balance in the Integrity Management Deferred Account, shall be calculated for each customer class to the nearest one-thousandth cent per therm by the following formula:

Customer Class Integrity Management Adjustment =	Allocated portion of the Integrity Management Deferred Account Balance / Customer Class Annual Therms

Where:

Integrity Management Deferred Account Balance =	Balance at October 31
Allocated portion of the Integrity Management Deferred Account Balance =	Integrity Management Deferred Account Balance x (customer class allocated revenue responsibility from Relevant Rate Order/total Company revenue requirement established by Relevant Rate Order)
Customer Class Annual Therms =	Normalized volumes assigned to the respective customer class in the Relevant Rate Order

6. Interest

Interest will be applied to the Integrity Management Deferred Account at the Company's authorized overall rate of return.

7. Monthly Filing with Authority

The Company will file monthly as directed by the Authority (a) detail of the current month's Integrity Management Investment Amount, (b) the cumulative Integrity Management Investment subject to this Rider, and (c) a schedule detailing the Integrity Management Adjustment recorded for the month. Such reports will be filed within 45 days after the end of the month for which the report is being filed.

8. Filing with Authority

The Company will file revised tariffs for Authority approval upon 14 days notice to implement a decrement or an increment each January. With the filing the Company will include a copy of the computation of the Integrity Management Adjustment.

EXHIBIT__(DRC-2)

GUIDELINES FOR SYSTEM INTEGRITY PROJECTS

Purpose is to ensure a safe and reliable steel infrastructure that meets regulations set by the US Department of Transportation.

OPERATIONS & MAINTENANCE (O&M) EXPENSE:

O&M is basically defined as any work done on an asset that deals with a component that is less than a retirement unit. All routine maintenance should be expensed as incurred. Piedmont further defines O&M System Integrity as follows:

- Cathodic Protection (CP) technicians monitor and maintain the CP system
  - CP readings at testing stations and casings
  - Troubleshoot interference issues
  - AC Mitigation results
- Rectifier monitoring and troubleshooting
- Transmission Integrity Management Program (TIMP) support
  - Annual High Consequence Areas (HCA) field verification
  - Engineering overall
  - Bell hole examinations in support of the following work:
    - External Corrosion Direct Assessment (ECDA)
    - Internal Corrosion Direct Assessment (ICDA)
    - Confirmatory Direct Assessment (CDA)
    - Inline Inspection (ILI)
      - Pig runs including equipment and labor
      - Labor & equipment for chemical cleaning, foam pigs
      - Survey Above Ground Marker (AGM) locations
      - Inspection support
      - Contractor support – during tool run only
      - Engineering support interpreting data
      - Engineering, survey, digs, assessment
      - Mowing for Close Interval Pipe-To-Soil Survey (CIS)
      - CIS for those transmission lines being pigged
      - Pipe-to-soil
      - Soil resistivity
      - Depth of cover
      - Ultrasonic thickness (UT)
      - External pit depth measurements
      - TCAT
      - Soil pH
      - Coating inspections
      - Defect analysis and remediation determining defect classification and repair method

CAPITAL EXPENDITURE:
Capital Expenditures are major expenditures on assets that last longer than a year and improve or lengthen the expected useful life of the overall property from original expectations that are recoverable in utility rate base. As a general Company rule, items costing less than $1,500 are not capitalized (see section 3.0 of the Company's Corporate Accounting Manual). New additions consist of retirement unit installations that did not currently exist in the system. Replacements are the installation of retirement units where one existed before the new one was installed (see 40 ft rule for the Replacement of Mains under section 3.5 of the Company's Corporate Accounting Manual). In conjunction with a replacement, a retirement is required of the original retirement unit no longer useful. Piedmont further defines Capital Expenditures for System Integrity projects into the following subgroups:

- Remediation of CIS findings
- Regulator station upgrade projects Distribution Integrity Management Program (DIMP)
- Linear anode installations
- AC mitigation projects
- Conventional ground bed installation
- TIMP remediation
    - Labor, equipment & material for cutouts of >= 40ft
    - Survey
    - X-ray

DEFINITIONS:
Retirement Unit – A Retirement Unit is the smallest distinct component of property that is identified and costed individually in the plant records.

Property Unit - A Property Unit is an item or group of items that constitutes the minimum division of plant that is continuously associated with its cost in the plant records. It may include one or more retirement units and associated minor items. It is capitalized when placed in service and retired when no longer "used and useful".

EXHIBIT__(DRC-3)

Appendix B

Infrastructure Replacement Cost Recovery Mechanisms

State	Year Approved	Utility	Eligible Investment Costs	Recovery Mechanism	Docket Reference
AL	1995	Mobile Gas Service	▪ Replacement of cast iron mains	Cost tracker	Docket No. 24794
AR	1988	CenterPoint Energy	▪ Replacement of cast iron and steel facilities	Cost tracker	Docket No. 06-161-U
AZ	2012	Southwest Gas Corporation	▪ Replacement of customer-owned yard lines	Base rate surcharge	Docket No. G-01551A-10-0458
CO	2011	Public Service Co. of Colorado	▪ Replacement of mains and services ▪ Other infrastructure improvements	Cost tracker	Docket No. 10AL-963G
GA	1998	Atlanta Gas Light	▪ Replacement of cast iron and steel facilities ▪ Other infrastructure improvements	Cost tracker	Docket No. 8516-U
GA	2000	Atmos Energy	▪ Replacement of cast iron and steel facilities	Base rate surcharge	Docket No. 12509-U
IN	2008	Vectren North Indiana Gas	▪ Infrastructure replacement projects	Deferred regulatory asset	Case No. 43298
IN	2007	Vectren South SIGECO	▪ Replacement of cast iron and steel facilities	Deferred regulatory asset	Case No. 43112
KS	2009	Atmos Energy	▪ Replacement infrastructure	Base rate surcharge	Docket No. 10-ATMG-133-TAR

Appendix B

Infrastructure Replacement Cost Recovery Mechanisms

State	Year Approved	Utility	Eligible Investment Costs	Recovery Mechanism	Docket Reference
KS	2008	Black Hills	▪ Replacement infrastructure	Base rate surcharge	Docket No. 05-AQ-367-RTS
KS	2009	Kansas Gas Service	▪ Replacement infrastructure	Base rate surcharge	Docket No. 07-AQLL-431-RTS
KY	2010	Atmos Energy	▪ Replacement of steel facilities	Cost tracker	Case No. 2009-00354
KY	2009	Columbia Gas of Kentucky	▪ Replacement of cast iron and steel facilities	Cost tracker	Case No. 2009-00141
KY	2010	Delta Natural Gas	▪ Replacement infrastructure ▪ Other safety investments	Cost tracker	Case No. 2010-00116
KY	2001	Duke Energy Kentucky	▪ Replacement infrastructure	Cost tracker	Case No. 2001-00092
ME	2010	Northern Utilities	▪ Replacement of cast iron facilities	Base rate surcharge	Docket No. 2008-151
MA	2009	Columbia Gas of Massachusetts	▪ Replacement of steel facilities	Cost tracker	D.P.U. 09-30
MA	2010	National Grid Massachusetts	▪ Replacement infrastructure	Cost tracker	D.P.U. 09-30
MA	2011	New England Gas	▪ System reinforcement and safety infrastructure	Cost tracker	D.P.U. 10-114
MI	2011	SEMCO Energy	▪ Replacement of cast iron and steel facilities	Base rate surcharge	Docket No. U-16169

Appendix B

Infrastructure Replacement Cost Recovery Mechanisms

State	Year Approved	Utility	Eligible Investment Costs	Recovery Mechanism	Docket Reference
MO	2007	Ameren Missouri	▪ Replacement infrastructure	Base rate surcharge	Docket No. GT-2009-0413
MO	2008	Atmos Energy	▪ Replacement infrastructure	Base rate surcharge	Docket No. GO-2009-0046
MO	2004	Laclede Gas	▪ Replacement infrastructure	Base rate surcharge	Docket No. GR-2007-0208
MO	2010	Missouri Gas Energy	▪ Replacement infrastructure	Base rate surcharge	Docket No. GR-2009-0355
NV	2011	Southwest Gas Corporation	▪ Replacement of early-vintage plastic pipe	Deferred regulatory asset	Docket No. 11-03029
NH	2007	National Grid - EnergyNorth.	▪ Replacement of cast iron and steel facilities	Base rate surcharge	Docket DG 06-107
NJ	2009	New Jersey Natural Gas	▪ Specific infrastructure projects	Base rate surcharge	Docket No. GO09010052
NJ	2006	NUI Elizabethtown Gas	▪ Replacement of cast iron facilities ▪ Specific infrastructure projects	Base rate surcharge	Docket No. GO09010053
NJ	2009	Public Service Electric and Gas	▪ Specific infrastructure projects	Cost tracker	Docket No. GO09010050
NJ	2009	South Jersey Gas	▪ Specific infrastructure projects	Cost tracker	Docket No. GO09010051

Appendix B

Infrastructure Replacement Cost Recovery Mechanisms

State	Year Approved	Utility	Eligible Investment Costs	Recovery Mechanism	Docket Reference
NY	2006	Corning Natural Gas	▪ Replacement infrastructure	Base rate surcharge	Docket No. 08-G-1137
NY	2008	National Grid Long Island	▪ Replacement infrastructure to accommodate municipal work	Cost tracker	Docket 06-M-0878
NY	2008	National Grid – NYC	▪ Replacement infrastructure to accommodate municipal work	Cost tracker	Docket 06-M-0878
NY	2008	National Grid – Niagara Mohawk	▪ Replacement infrastructure	Deferred regulatory asset	Case No. 06-M-0878
OH	2008	Columbia Gas of Ohio	▪ Replacement of cast iron and steel	Cost tracker	Case No. 08-72-GA-AIR
OH	2008	Dominion East Ohio Gas	▪ Replacement infrastructure ▪ Other infrastructure investments	Base rate surcharge	Case No. 09-458-GA-RDR
OH	2000	Duke Energy Ohio	▪ Replacement infrastructure	Cost tracker	Case No. 01-1228-GA-AIR
OH	2009	Vectren Ohio	▪ Replacement of cast iron and steel facilities	Cost tracker	Case No. 07-1080-GA-AIR
OR	2011	Avista Corp.	▪ Specific infrastructure projects	Deferred regulatory asset and step adjustment	Docket No. UG-201
OR	2009	Northwest Natural Gas	▪ Replacement of steel facilities	Cost tracker	Case No. UG-177
RI	2009	National Grid Narragansett Gas	▪ Replacement infrastructure	Base rate surcharge	Docket No. 4034

Appendix B

Infrastructure Replacement Cost Recovery Mechanisms

State	Year Approved	Utility	Eligible Investment Costs	Recovery Mechanism	Docket Reference
TX	2004	Atmos Energy	▪ Replacement infrastructure ▪ Other infrastructure investments	Cost tracker	Docket 9560
TX	2010	Atmos Energy	▪ Replacement of steel services	Cost tracker	Per City Ordinances
TX	2010	CenterPoint Energy	▪ Replacement infrastructure ▪ Other infrastructure investments	Cost tracker	RRC GUD10067
TX	2003	Texas Gas Service	▪ Replacement infrastructure ▪ Other infrastructure investments	Cost tracker	Per Texas Utilities Code Section 104.301
UT	2010	Questar Gas	▪ Replacement infrastructure	Cost tracker	Docket No. 09-057-16
VA	2011	Columbia Gas of Virginia	▪ Replacement of steel and cast iron mains, steel services, first generation plastic pipe and certain risers	Cost Tracker	Case No. PUE-2011-00049
VA	2011	Washington Gas Light	▪ Replacement of steel mains and services and certain pipe couplings	Cost Tracker	Case No. PUE-2010-00087

Sources: American Gas Association Periodic Update on Infrastructure Cost Recovery Mechanisms, June 2012 and Utility Filings.

EXHIBIT__(DRC-4)

Piedmont Natural Gas Company, Inc.
Integrity Management Rider
State of Tennessee

Illustration of the Spread of Revenue Requirement Across Rate Schedules

Rider Rate Period	Residential (301)	Commercial (302,352,342)	Large General Service Firm (303,313,310)	Large General Service Interruptible (304,314)	Total
Rate Case throughput (dts)	11,130,214	6,664,958	2,378,880	8,098,027	28,272,079
Jan 1 2014 -Dec 31 2014					
Apportionment Percent	59.6439%	31.2006%	4.9463%	4.2091%	100.0000%
Dollars	6,252,813	3,270,937	518,553	441,268	10,483,571
Dekatherms	11,130,214	6,664,958	2,378,880	8,098,027	28,272,079
Rate per dekatherm	$0.5618	$0.4908	$0.2180	$0.0545	
Jan 1 2015 -Dec 31 2015					
Apportionment Percent	59.6439%	31.2006%	4.9463%	4.2091%	100.0000%
Dollars	9,214,043	4,820,000	764,131	650,246	15,448,420
Dekatherms	11,130,214	6,664,958	2,378,880	8,098,027	28,272,079
Rate per dekatherm	$0.8278	$0.7232	$0.3212	$0.0803	
Jan 1 2016 -Dec 31 2016					
Apportionment Percent	59.6439%	31.2006%	4.9463%	4.2091%	100.0000%
Dollars	9,315,366	4,873,004	772,534	657,396	15,618,299
Dekatherms	11,130,214	6,664,958	2,378,880	8,098,027	28,272,079
Rate per dekatherm	$0.8369	$0.7311	$0.3247	$0.0812	
Jan 1 2017 -Dec 31 2017					
Apportionment Percent	59.6439%	31.2006%	4.9463%	4.2091%	100.0000%
Dollars	9,270,864	4,849,724	768,843	654,255	15,543,687
Dekatherms	11,130,214	6,664,958	2,378,880	8,098,027	28,272,079
Rate per dekatherm	$0.8329	$0.7276	$0.3232	$0.0808	

Piedmont Natural Gas Company, Inc.
Integrity Management Rider
State of Tennessee

Margin and Throughput from the Relevant Rate Case Order (Docket 11-00144)

Margin	Annual Total	Allocation %
Residential (301)	$ 62,049,925	59.64%
Commercial (302, 352, 342)	32,459,219	31.20%
Large General Service - Firm (303, 313, 310)	5,145,869	4.95%
Large General Service - Interruptible (304, 314)	4,378,934	4.21%
Total	$ 104,033,947	100.00%

Throughput (DTs)	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Total
Residential (301)	973,336	1,730,608	2,359,111	2,385,891	1,619,952	916,259	373,476	147,666	108,017	107,902	110,242	297,754	11,130,214
Commercial (302, 352, 342)	584,122	941,038	1,236,854	1,246,332	886,901	542,351	290,661	185,427	166,853	166,553	166,151	251,717	6,664,958
Large General Service - Firm (303, 313, 310)	215,868	357,459	373,276	272,366	238,238	161,907	152,836	108,789	110,733	112,060	121,273	154,075	2,378,880
Large General Service - Interruptible (304, 314)	682,506	880,548	899,370	728,423	753,173	640,120	614,296	571,617	558,058	564,523	554,369	651,023	8,098,027
Total	2,455,831	3,909,653	4,868,611	4,633,012	3,498,264	2,260,637	1,431,269	1,013,499	943,661	951,038	952,034	1,354,569	28,272,079
Throughput Apportionment	8.69%	13.83%	17.22%	16.39%	12.37%	8.00%	5.06%	3.58%	3.34%	3.36%	3.37%	4.79%	100.00%

Piedmont Natural Gas Company, Inc.
Integrity Management Rider
State of Tennessee
Illustration of Annual Revenue Requirement Computation

Rate Period	Jan 1 2014 - Dec 31 2014	Jan 1 2015 - Dec 31 2015	Jan 1 2016 - Dec 31 2016	Jan 1 2017 - Dec 31 2017	Jan 1 2018 - Dec 31 2018	Jan 1 2019 - Dec 31 2019
Vintage 1	10,483,571	10,082,607	9,713,548	9,373,240	9,058,089	8,759,364
Vintage 2		5,365,813	5,160,587	4,971,692	4,797,511	4,636,207
Vintage 3			744,164	715,702	689,505	665,348
Vintage 4				483,054	464,578	447,573
Vintage 5					587,498	565,028
Vintage 6						848,608
Total	10,483,571	15,448,420	15,618,299	15,543,687	15,009,683	14,508,492
Net Amount Collectible Through Rider	**$ 10,483,571**	**$ 15,448,420**	**$ 15,618,299**	**$ 15,543,687**	**$ 15,009,683**	**$ 14,508,492**

(in $ millions)	Projected Integrity Management Investment Amt	Incremental Integrity Management Revenue Req'ment	Total Net Amount Collectible Through IMR
Year 1	80.3*	10.5	10.5
Year 2	41.1	5.4	15.4
Year 3	5.7	0.7	15.6
Year 4	3.7	0.5	15.5
Year 5	4.5	0.6	15.0
Year 6	6.5	0.8	14.5

* The $80.3 million reflects the current projected Integrity Management Investment Amount of $113.3 million at October 31, 2013 less the $33 million included in the 2011 rate case.

Piedmont Natural Gas Company, Inc.
Integrity Management Rider
State of Tennessee

Illustration of Annual Revenue Requirement Computation

Rider Rate Period: January 1, 2014 - December 31, 2014
Vintage Year 1 - Fiscal year October 31, 2013

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Plant	80,300,000	80,300,000	80,300,000	80,300,000	80,300,000	80,300,000	80,300,000
Accumulated depreciation	(780,115)	(1,944,465)	(3,108,815)	(4,273,165)	(5,437,515)	(6,601,865)	(7,766,215)
Net plant	79,519,886	78,355,536	77,191,186	76,026,836	74,862,486	73,698,136	72,533,786
ADIT	(3,248,276)	(5,586,034)	(7,645,131)	(9,453,114)	(11,041,368)	(12,486,151)	(13,888,065)
Net investment	76,271,609	72,769,502	69,546,054	66,573,722	63,821,117	61,211,985	58,645,720
Pre-tax ROR%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%
Pre-tax rate of return	8,729,802	8,328,962	7,960,016	7,619,813	7,304,759	7,006,126	6,712,399
Depreciation expense	1,164,350	1,164,350	1,164,350	1,164,350	1,164,350	1,164,350	1,164,350
Property Tax expense	586,190	586,190	586,190	586,190	586,190	586,190	586,190
Total, excluding uncollectibles	10,480,342	10,079,502	9,710,556	9,370,353	9,055,299	8,756,666	8,462,939
Uncollectibles gross-up factor	1.000308	1.000308	1.000308	1.000308	1.000308	1.000308	1.000308
Total revenue requirement	10,483,571	10,082,607	9,713,548	9,373,240	9,058,089	8,759,364	8,465,547

Assumptions and calculations:
Rider computed each year.
Normal depreciation and AFUDC practices apply, AFUDC ends and depreciation begins when plant goes into service.

Net of tax rate of return		6.96%	6.96%	6.96%	6.96%	6.96%	6.96%	6.96%

Plant amount	80,300,000	
Book depreciation rate	1.45%	
Property Tax Rate	0.73%	
Tax depreciation	MACRS 15	assumed no bonus depreciation
Plant in service date	31-Oct-13	
Rider effective date	1-Jan-14	
Fiscal year end	31-Oct-13	

SIT rate	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%

FIT rate		35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
Composite income tax rate		39.23%	39.23%	39.23%	39.23%	39.23%	39.23%	39.23%
Uncollectibles rate		0.0308%	0.0308%	0.0308%	0.0308%	0.0308%	0.0308%	0.0308%
Revenue requirement gross-up factor		1.000308	1.000308	1.000308	1.000308	1.000308	1.000308	1.000308
Capital structure assumptions (rate case):								
LTD	41.42%							
STD	5.87%							
Common equity	52.71%							
Capital cost rate assumptions (rate case):								
LTD	6.05%							
STD	1.59%							
Common equity	10.20%							
Overall and pre-tax RORs								
	Overall	Pre-tax RORs						
LTD	2.506%	2.506%	2.506%	2.506%	2.506%	2.506%	2.506%	2.506%
STD	0.093%	0.093%	0.093%	0.093%	0.093%	0.093%	0.093%	0.093%
Common equity	5.376%	8.846%	8.846%	8.846%	8.846%	8.846%	8.846%	8.846%
Total	7.976%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%

MACRS 15 tax depreciation schedule

	Rate	Yearly	Cumulative
Tax year 1	5.00%	4,015,000	
Tax year 2	9.50%	7,628,500	11,643,500
Tax year 3	8.55%	6,865,650	18,509,150
Tax year 4	7.70%	6,183,100	24,692,250
Tax year 5	6.93%	5,564,790	30,257,040
Tax year 6	6.23%	5,002,690	35,259,730
Tax year 7	5.90%	4,737,700	39,997,430
Tax year 8	5.90%	4,737,700	44,735,130
Tax year 9	5.91%	4,745,730	49,480,860
Tax year 10	5.90%	4,737,700	54,218,560
Tax year 11	5.91%	4,745,730	58,964,290
Tax year 12	5.90%	4,737,700	63,701,990
Tax year 13	5.91%	4,745,730	68,447,720
Tax year 14	5.90%	4,737,700	73,185,420
Tax year 15	5.91%	4,745,730	77,931,150
Tax year 16	2.95%	2,368,850	80,300,000

Total	100.00%	80,300,000						
Accumulated depreciation								
Portion of year in sevice before rider	17%							
Pre-rider amount of depreciation	197,940							
Rider year BOY amount		197,940	1,362,290	2,526,640	3,690,990	4,855,340	6,019,690	7,184,040
Depreciation expense		1,164,350	1,164,350	1,164,350	1,164,350	1,164,350	1,164,350	1,164,350
Rider year EOY amount		1,362,290	2,526,640	3,690,990	4,855,340	6,019,690	7,184,040	8,348,390
Average accumulated depreciation		780,115	1,944,465	3,108,815	4,273,165	5,437,515	6,601,865	7,766,215
Tax depreciation reserve								
FY of completion tax depreciation	4,015,000							
Post FY tax depreciation to rider date	17%							
Tax year 2 tax depreciation	7,628,500							
Tax year 2 pre-rider tax depr	1,296,845							
Rider year BOY amount		5,311,845	12,810,661	19,560,277	25,638,264	31,107,497	36,065,139	40,802,839
Tax period A tax depreciaion		6,331,655	5,698,490	5,131,973	4,618,776	4,152,233	3,932,291	3,932,291
Tax period B tax depreciation		1,167,161	1,051,127	946,014	850,457	805,409	805,409	806,774
Rider year EOY amount		12,810,661	19,560,277	25,638,264	31,107,497	36,065,139	40,802,839	45,541,904
Average tax depreciation reserve		9,061,253	16,185,469	22,599,271	28,372,881	33,586,318	38,433,989	43,172,372

Note - gap between fiscal year and rider year addressed by tax period A and tax period B.

Accumulated deferred taxes							
Average tax depreciation reserve	9,061,253	16,185,469	22,599,271	28,372,881	33,586,318	38,433,989	43,172,372
Average book depreciation reserve	780,115	1,944,465	3,108,815	4,273,165	5,437,515	6,601,865	7,766,215
Difference	8,281,138	14,241,004	19,490,456	24,099,716	28,148,804	31,832,125	35,406,157
Composite tax rate	39.23%	39.23%	39.23%	39.23%	39.23%	39.23%	39.23%
Average ADIT	3,248,276	5,586,034	7,645,131	9,453,114	11,041,368	12,486,151	13,888,065

Note - composite tax rate ignores excess deferred tax flowback

Piedmont Natural Gas Company, Inc.
Integrity Management Rider
State of Tennessee

Illustration of Annual Revenue Requirement Computation

Rider Rate Period: January 1, 2015 - December 31, 2015
Vintage Year 2 - Fiscal year October 31, 2014

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Plant	41,100,000	41,100,000	41,100,000	41,100,000	41,100,000	41,100,000	41,100,000
Accumulated depreciation	(399,287)	(995,237)	(1,591,187)	(2,187,137)	(2,783,087)	(3,379,037)	(3,974,987)
Net plant	40,700,714	40,104,764	39,508,814	38,912,864	38,316,914	37,720,964	37,125,014
ADIT	(1,662,567)	(2,859,103)	(3,913,012)	(4,838,393)	(5,651,311)	(6,390,795)	(7,108,337)
Net investment	39,038,146	37,245,660	35,595,801	34,074,470	32,665,603	31,330,169	30,016,676
Pre-tax ROR%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%
Pre-tax rate of return	4,468,180	4,263,018	4,074,180	3,900,054	3,738,799	3,585,950	3,435,612
Depreciation expense	595,950	595,950	595,950	595,950	595,950	595,950	595,950
Property Tax expense	300,030	300,030	300,030	300,030	300,030	300,030	300,030
Total, excluding uncollectibles	5,364,160	5,158,998	4,970,160	4,796,034	4,634,779	4,481,930	4,331,592
Uncollectibles gross-up factor	1.000308	1.000308	1.000308	1.000308	1.000308	1.000308	1.000308
Total revenue requirement	5,365,813	5,160,587	4,971,692	4,797,511	4,636,207	4,483,311	4,332,926

Assumptions and calculations:
Rider computed each year.
Normal depreciation and AFUDC practices apply, AFUDC ends and depreciation begins when plant goes into service.

Plant amount	41,100,000	
Book depreciation rate	1.45%	
Property Tax Rate	0.73%	
Tax depreciation	MACRS 15	assumed no bonus depreciation
Plant in service date	31-Oct-14	
Rider effective date	1-Jan-15	
Fiscal year end	31-Oct-14	

SIT rate		6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
FIT rate		35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
Composite income tax rate		39.23%	39.23%	39.23%	39.23%	39.23%	39.23%	39.23%
Uncollectibles rate		0.0308%	0.0308%	0.0308%	0.0308%	0.0308%	0.0308%	0.0308%
Revenue requirement gross-up factor		1.000308	1.000308	1.000308	1.000308	1.000308	1.000308	1.000308
Capital structure assumptions (rate case):								
LTD	41.42%							
STD	5.87%							
Common equity	52.71%							
Capital cost rate assumptions (rate case):								
LTD	6.05%							
STD	1.59%							
Common equity	10.20%							
Overall and pre-tax RORs								
	Overall	Pre-tax RORs						
LTD	2.506%	2.506%	2.506%	2.506%	2.506%	2.506%	2.506%	2.506%
STD	0.093%	0.093%	0.093%	0.093%	0.093%	0.093%	0.093%	0.093%
Common equity	5.376%	8.846%	8.846%	8.846%	8.846%	8.846%	8.846%	8.846%
Total	7.976%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%

MACRS 15 tax depreciation schedule

	Rate	Yearly	Cumulative
Tax year 1	5.00%	2,055,000	
Tax year 2	9.50%	3,904,500	5,959,500
Tax year 3	8.55%	3,514,050	9,473,550
Tax year 4	7.70%	3,164,700	12,638,250
Tax year 5	6.93%	2,848,230	15,486,480
Tax year 6	6.23%	2,560,530	18,047,010
Tax year 7	5.90%	2,424,900	20,471,910
Tax year 8	5.90%	2,424,900	22,896,810
Tax year 9	5.91%	2,429,010	25,325,820
Tax year 10	5.90%	2,424,900	27,750,720
Tax year 11	5.91%	2,429,010	30,179,730
Tax year 12	5.90%	2,424,900	32,604,630
Tax year 13	5.91%	2,429,010	35,033,640
Tax year 14	5.90%	2,424,900	37,458,540
Tax year 15	5.91%	2,429,010	39,887,550

Tax year 16	2.95%	1,212,450	41,100,000
Total	100.00%	41,100,000	

Accumulated depreciation								
Portion of year in sevice before rider	17%							
Pre-rider amount of depreciation	101,312							
Rider year BOY amount		101,312	697,262	1,293,212	1,889,162	2,485,112	3,081,062	3,677,012
Depreciation expense		595,950	595,950	595,950	595,950	595,950	595,950	595,950
Rider year EOY amount		697,262	1,293,212	1,889,162	2,485,112	3,081,062	3,677,012	4,272,962
Average accumulated depreciation		399,287	995,237	1,591,187	2,187,137	2,783,087	3,379,037	3,974,987

Tax depreciation reserve								
FY of completion tax depreciation	2,055,000							
Post FY tax depreciation to rider date	17%							
Tax year 2 tax depreciation	3,904,500							
Tax year 2 pre-rider tax depr	663,765							
Rider year BOY amount		2,718,765	6,556,889	10,011,549	13,122,449	15,921,770	18,459,243	20,884,143
Tax period A tax depreciaion		3,240,735	2,916,662	2,626,701	2,364,031	2,125,240	2,012,667	2,012,667
Tax period B tax depreciation		597,389	537,999	484,199	435,290	412,233	412,233	412,932
Rider year EOY amount		6,556,889	10,011,549	13,122,449	15,921,770	18,459,243	20,884,143	23,309,742
Average tax depreciation reserve		4,637,827	8,284,219	11,566,999	14,522,110	17,190,507	19,671,693	22,096,942

Note - gap between fiscal year and rider year addressed by tax period A and tax period B.

Accumulated deferred taxes							
Average tax depreciation reserve	4,637,827	8,284,219	11,566,999	14,522,110	17,190,507	19,671,693	22,096,942
Average book depreciation reserve	399,287	995,237	1,591,187	2,187,137	2,783,087	3,379,037	3,974,987
Difference	4,238,540	7,288,982	9,975,813	12,334,973	14,407,420	16,292,657	18,121,956
Composite tax rate	39.23%	39.23%	39.23%	39.23%	39.23%	39.23%	39.23%
Average ADIT	1,662,567	2,859,103	3,913,012	4,838,393	5,651,311	6,390,795	7,108,337

Note - composite tax rate ignores excess deferred tax flowback

Piedmont Natural Gas Company, Inc.
Integrity Management Rider
State of Tennessee

Illustration of Annual Revenue Requirement Computation

Rider Rate Period: January 1, 2016 - December 31, 2016
Vintage Year 3 - Fiscal year October 31, 2015

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Plant	5,700,000	5,700,000	5,700,000	5,700,000	5,700,000	5,700,000	5,700,000
Accumulated depreciation	(55,376)	(138,026)	(220,676)	(303,326)	(385,976)	(468,626)	(551,276)
Net plant	5,644,625	5,561,975	5,479,325	5,396,675	5,314,025	5,231,375	5,148,725
ADIT	(230,575)	(396,518)	(542,681)	(671,018)	(783,758)	(886,315)	(985,828)
Net investment	5,414,049	5,165,457	4,936,644	4,725,656	4,530,266	4,345,060	4,162,897
Pre-tax ROR%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%
Pre-tax rate of return	619,675	591,221	565,032	540,883	518,520	497,322	476,472
Depreciation expense	82,650	82,650	82,650	82,650	82,650	82,650	82,650
Property Tax expense	41,610	41,610	41,610	41,610	41,610	41,610	41,610
Total, excluding uncollectibles	743,935	715,481	689,292	665,143	642,780	621,582	600,732
Uncollectibles gross-up factor	1.000308	1.000308	1.000308	1.000308	1.000308	1.000308	1.000308
Total revenue requirement	744,164	715,702	689,505	665,348	642,978	621,773	600,917

Assumptions and calculations:
Rider computed each year.
Normal depreciation and AFUDC practices apply, AFUDC ends and depreciation begins when plant goes into service.

Plant amount	5,700,000							
Book depreciation rate	1.45%							
Property Tax Rate	0.73%							
Tax depreciation	MACRS 15	assumed no bonus depreciation						
Plant in service date	31-Oct-15							
Rider effective date	1-Jan-16							
Fiscal year end	31-Oct-15							
SIT rate		6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
FIT rate		35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
Composite income tax rate		39.23%	39.23%	39.23%	39.23%	39.23%	39.23%	39.23%
Uncollectibles rate		0.0308%	0.0308%	0.0308%	0.0308%	0.0308%	0.0308%	0.0308%
Revenue requirement gross-up factor		1.000308	1.000308	1.000308	1.000308	1.000308	1.000308	1.000308
Capital structure assumptions (rate case):								
LTD	41.42%							
STD	5.87%							
Common equity	52.71%							
Capital cost rate assumptions (rate case):								
LTD	6.05%							
STD	1.59%							
Common equity	10.20%							
Overall and pre-tax RORs								
	Overall	Pre-tax RORs						
LTD	2.506%	2.506%	2.506%	2.506%	2.506%	2.506%	2.506%	2.506%
STD	0.093%	0.093%	0.093%	0.093%	0.093%	0.093%	0.093%	0.093%
Common equity	5.376%	8.846%	8.846%	8.846%	8.846%	8.846%	8.846%	8.846%
Total	7.976%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%

MACRS 15 tax depreciation schedule

	Rate	Yearly	Cumulative
Tax year 1	5.00%	285,000	
Tax year 2	9.50%	541,500	826,500
Tax year 3	8.55%	487,350	1,313,850
Tax year 4	7.70%	438,900	1,752,750
Tax year 5	6.93%	395,010	2,147,760
Tax year 6	6.23%	355,110	2,502,870
Tax year 7	5.90%	336,300	2,839,170
Tax year 8	5.90%	336,300	3,175,470
Tax year 9	5.91%	336,870	3,512,340
Tax year 10	5.90%	336,300	3,848,640
Tax year 11	5.91%	336,870	4,185,510
Tax year 12	5.90%	336,300	4,521,810
Tax year 13	5.91%	336,870	4,858,680
Tax year 14	5.90%	336,300	5,194,980
Tax year 15	5.91%	336,870	5,531,850
Tax year 16	2.95%	168,150	5,700,000
Total	100.00%	5,700,000	

Accumulated depreciation								
Portion of year in sevice before rider	17%							
Pre-rider amount of depreciation	14,051							
Rider year BOY amount		14,051	96,701	179,351	262,001	344,651	427,301	509,951
Depreciation expense		82,650	82,650	82,650	82,650	82,650	82,650	82,650
Rider year EOY amount		96,701	179,351	262,001	344,651	427,301	509,951	592,601
Average accumulated depreciation		55,376	138,026	220,676	303,326	385,976	468,626	551,276

Tax depreciation reserve								
FY of completion tax depreciation	285,000							
Post FY tax depreciation to rider date	17%							
Tax year 2 tax depreciation	541,500							
Tax year 2 pre-rider tax depr	92,055							
Rider year BOY amount		377,055	909,350	1,388,463	1,819,902	2,208,129	2,560,041	2,896,341
Tax period A tax depreciaion		449,445	404,501	364,287	327,858	294,741	279,129	279,129
Tax period B tax depreciation		82,850	74,613	67,152	60,369	57,171	57,171	57,268
Rider year EOY amount		909,350	1,388,463	1,819,902	2,208,129	2,560,041	2,896,341	3,232,738
Average tax depreciation reserve		643,202	1,148,906	1,604,182	2,014,015	2,384,085	2,728,191	3,064,539

Note - gap between fiscal year and rider year addressed by tax period A and tax period B.

Accumulated deferred taxes							
Average tax depreciation reserve	643,202	1,148,906	1,604,182	2,014,015	2,384,085	2,728,191	3,064,539
Average book depreciation reserve	55,376	138,026	220,676	303,326	385,976	468,626	551,276
Difference	587,827	1,010,881	1,383,507	1,710,690	1,998,109	2,259,566	2,513,264
Composite tax rate	39.23%	39.23%	39.23%	39.23%	39.23%	39.23%	39.23%
Average ADIT	230,575	396,518	542,681	671,018	783,758	886,315	985,828

Note - composite tax rate ignores excess deferred tax flowback

Piedmont Natural Gas Company, Inc.
Integrity Management Rider
State of Tennessee

Illustration of Annual Revenue Requirement Computation

Rider Rate Period: January 1, 2017 - December 31, 2017
Vintage Year 4 - Fiscal year October 31, 2016

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Plant	3,700,000	3,700,000	3,700,000	3,700,000	3,700,000	3,700,000	3,700,000
Accumulated depreciation	(35,946)	(89,596)	(143,246)	(196,896)	(250,546)	(304,196)	(357,846)
Net plant	3,664,055	3,610,405	3,556,755	3,503,105	3,449,455	3,395,805	3,342,155
ADIT	(149,672)	(257,389)	(352,266)	(435,573)	(508,755)	(575,327)	(639,923)
Net investment	3,514,383	3,353,016	3,204,488	3,067,531	2,940,699	2,820,478	2,702,231
Pre-tax ROR%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%
Pre-tax rate of return	402,245	383,775	366,775	351,100	336,583	322,823	309,289
Depreciation expense	53,650	53,650	53,650	53,650	53,650	53,650	53,650
Property Tax expense	27,010	27,010	27,010	27,010	27,010	27,010	27,010
Total, excluding uncollectibles	482,905	464,435	447,435	431,760	417,243	403,483	389,949
Uncollectibles gross-up factor	1.000308	1.000308	1.000308	1.000308	1.000308	1.000308	1.000308
Total revenue requirement	483,054	464,578	447,573	431,893	417,371	403,607	390,069

Assumptions and calculations:
Rider computed each year.
Normal depreciation and AFUDC practices apply, AFUDC ends and depreciation begins when plant goes into service.

Plant amount	3,700,000	
Book depreciation rate	1.45%	
Property Tax Rate	0.73%	
Tax depreciation	MACRS 15	assumed no bonus depreciation
Plant in service date	31-Oct-16	
Rider effective date	1-Jan-17	

Fiscal year end	31-Oct-16							
SIT rate		6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
FIT rate		35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
Composite income tax rate		39.23%	39.23%	39.23%	39.23%	39.23%	39.23%	39.23%
Uncollectibles rate		0.0308%	0.0308%	0.0308%	0.0308%	0.0308%	0.0308%	0.0308%
Revenue requirement gross-up factor		1.000308	1.000308	1.000308	1.000308	1.000308	1.000308	1.000308
Capital structure assumptions (rate case):								
LTD	41.42%							
STD	5.87%							
Common equity	52.71%							
Capital cost rate assumptions (rate case):								
LTD	6.05%							
STD	1.59%							
Common equity	10.20%							
Overall and pre-tax RORs								
	Overall	Pre-tax RORs						
LTD	2.506%	2.506%	2.506%	2.506%	2.506%	2.506%	2.506%	2.506%
STD	0.093%	0.093%	0.093%	0.093%	0.093%	0.093%	0.093%	0.093%
Common equity	5.376%	8.846%	8.846%	8.846%	8.846%	8.846%	8.846%	8.846%
Total	7.976%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%

MACRS 15 tax depreciation schedule

	Rate	Yearly	Cumulative
Tax year 1	5.00%	185,000	
Tax year 2	9.50%	351,500	536,500
Tax year 3	8.55%	316,350	852,850
Tax year 4	7.70%	284,900	1,137,750
Tax year 5	6.93%	256,410	1,394,160
Tax year 6	6.23%	230,510	1,624,670
Tax year 7	5.90%	218,300	1,842,970
Tax year 8	5.90%	218,300	2,061,270
Tax year 9	5.91%	218,670	2,279,940
Tax year 10	5.90%	218,300	2,498,240
Tax year 11	5.91%	218,670	2,716,910
Tax year 12	5.90%	218,300	2,935,210

Tax year 13	5.91%	218,670	3,153,880
Tax year 14	5.90%	218,300	3,372,180
Tax year 15	5.91%	218,670	3,590,850
Tax year 16	2.95%	109,150	3,700,000
Total	100.00%	3,700,000	

Accumulated depreciation								
Portion of year in sevice before rider	17%							
Pre-rider amount of depreciation	9,121							
Rider year BOY amount		9,121	62,771	116,421	170,071	223,721	277,371	331,021
Depreciation expense		53,650	53,650	53,650	53,650	53,650	53,650	53,650
Rider year EOY amount		62,771	116,421	170,071	223,721	277,371	331,021	384,671
Average accumulated depreciation		35,946	89,596	143,246	196,896	250,546	304,196	357,846

Tax depreciation reserve								
FY of completion tax depreciation	185,000							
Post FY tax depreciation to rider date	17%							
Tax year 2 tax depreciation	351,500							
Tax year 2 pre-rider tax depr	59,755							
Rider year BOY amount		244,755	590,280	901,283	1,181,340	1,433,347	1,661,781	1,880,081
Tax period A tax depreciaion		291,745	262,571	236,467	212,820	191,323	181,189	181,189
Tax period B tax depreciation		53,780	48,433	43,590	39,187	37,111	37,111	37,173.90
Rider year EOY amount		590,280	901,283	1,181,340	1,433,347	1,661,781	1,880,081	2,098,444
Average tax depreciation reserve		417,517	745,781	1,041,311	1,307,343	1,547,564	1,770,931	1,989,262

Note - gap between fiscal year and rider year addressed by tax period A and tax period B.

Accumulated deferred taxes							
Average tax depreciation reserve	417,517	745,781	1,041,311	1,307,343	1,547,564	1,770,931	1,989,262
Average book depreciation reserve	35,946	89,596	143,246	196,896	250,546	304,196	357,846
Difference	381,572	656,186	898,066	1,110,448	1,297,018	1,466,736	1,631,417
Composite tax rate	39.23%	39.23%	39.23%	39.23%	39.23%	39.23%	39.23%
Average ADIT	149,672	257,389	352,266	435,573	508,755	575,327	639,923

Note - composite tax rate ignores excess deferred tax flowback

Piedmont Natural Gas Company, Inc.
Integrity Management Rider
State of Tennessee

Illustration of Annual Revenue Requirement Computation

Rider Rate Period: January 1, 2018 - December 31, 2018
Vintage Year 5 - Fiscal year October 31, 2017

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Plant	4,500,000	4,500,000	4,500,000	4,500,000	4,500,000	4,500,000	4,500,000
Accumulated depreciation	(43,718)	(108,968)	(174,218)	(239,468)	(304,718)	(369,968)	(435,218)
Net plant	4,456,283	4,391,033	4,325,783	4,260,533	4,195,283	4,130,033	4,064,783
ADIT	(182,033)	(313,041)	(428,432)	(529,751)	(618,757)	(699,722)	(778,285)
Net investment	4,274,250	4,077,992	3,897,350	3,730,781	3,576,526	3,430,310	3,286,497
Pre-tax ROR%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%
Pre-tax rate of return	489,217	466,754	446,078	427,013	409,358	392,622	376,162
Depreciation expense	65,250	65,250	65,250	65,250	65,250	65,250	65,250
Property Tax expense	32,850	32,850	32,850	32,850	32,850	32,850	32,850
Total, excluding uncollectibles	587,317	564,854	544,178	525,113	507,458	490,722	474,262
Uncollectibles gross-up factor	1.000308	1.000308	1.000308	1.000308	1.000308	1.000308	1.000308
Total revenue requirement	587,498	565,028	544,346	525,275	507,614	490,873	474,408

Assumptions and calculations:
Rider computed each year.
Normal depreciation and AFUDC practices apply, AFUDC ends and depreciation begins when plant goes into service.

Plant amount	4,500,000	
Book depreciation rate	1.45%	
Property Tax Rate	0.73%	
Tax depreciation	MACRS 15	assumed no bonus depreciation
Plant in service date	31-Oct-17	
Rider effective date	1-Jan-18	

Fiscal year end	31-Oct-17							
SIT rate		6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
FIT rate		35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
Composite income tax rate		39.23%	39.23%	39.23%	39.23%	39.23%	39.23%	39.23%
Uncollectibles rate		0.0308%	0.0308%	0.0308%	0.0308%	0.0308%	0.0308%	0.0308%
Revenue requirement gross-up factor		1.000308	1.000308	1.000308	1.000308	1.000308	1.000308	1.000308
Capital structure assumptions (rate case):								
LTD	41.42%							
STD	5.87%							
Common equity	52.71%							
Capital cost rate assumptions (rate case):								
LTD	6.05%							
STD	1.59%							
Common equity	10.20%							
Overall and pre-tax RORs								
	Overall	Pre-tax RORs						
LTD	2.506%	2.506%	2.506%	2.506%	2.506%	2.506%	2.506%	2.506%
STD	0.093%	0.093%	0.093%	0.093%	0.093%	0.093%	0.093%	0.093%
Common equity	5.376%	8.846%	8.846%	8.846%	8.846%	8.846%	8.846%	8.846%
Total	7.976%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%

MACRS 15 tax depreciation schedule

	Rate	Yearly	Cumulative
Tax year 1	5.00%	225,000	
Tax year 2	9.50%	427,500	652,500
Tax year 3	8.55%	384,750	1,037,250
Tax year 4	7.70%	346,500	1,383,750
Tax year 5	6.93%	311,850	1,695,600
Tax year 6	6.23%	280,350	1,975,950
Tax year 7	5.90%	265,500	2,241,450
Tax year 8	5.90%	265,500	2,506,950
Tax year 9	5.91%	265,950	2,772,900
Tax year 10	5.90%	265,500	3,038,400
Tax year 11	5.91%	265,950	3,304,350
Tax year 12	5.90%	265,500	3,569,850

Tax year 13	5.91%	265,950	3,835,800
Tax year 14	5.90%	265,500	4,101,300
Tax year 15	5.91%	265,950	4,367,250
Tax year 16	2.95%	132,750	4,500,000
Total	100.00%	4,500,000	

Accumulated depreciation								
Portion of year in sevice before rider	17%							
Pre-rider amount of depreciation	11,093							
Rider year BOY amount		11,093	76,343	141,593	206,843	272,093	337,343	402,593
Depreciation expense		65,250	65,250	65,250	65,250	65,250	65,250	65,250
Rider year EOY amount		76,343	141,593	206,843	272,093	337,343	402,593	467,843
Average accumulated depreciation		43,718	108,968	174,218	239,468	304,718	369,968	435,218

Tax depreciation reserve								
FY of completion tax depreciation	225,000							
Post FY tax depreciation to rider date	17%							
Tax year 2 tax depreciation	427,500							
Tax year 2 pre-rider tax depr	72,675							
Rider year BOY amount		297,675	717,908	1,096,155	1,436,765	1,743,260	2,021,085	2,286,585
Tax period A tax depreciaion		354,825	319,343	287,595	258,836	232,691	220,365	220,365
Tax period B tax depreciation		65,408	58,905	53,015	47,660	45,135	45,135	45,211.50
Rider year EOY amount		717,908	1,096,155	1,436,765	1,743,260	2,021,085	2,286,585	2,552,162
Average tax depreciation reserve		507,791	907,031	1,266,460	1,590,012	1,882,172	2,153,835	2,419,373

Note - gap between fiscal year and rider year addressed by tax period A and tax period B.

Accumulated deferred taxes							
Average tax depreciation reserve	507,791	907,031	1,266,460	1,590,012	1,882,172	2,153,835	2,419,373
Average book depreciation reserve	43,718	108,968	174,218	239,468	304,718	369,968	435,218
Difference	464,074	798,064	1,092,242	1,350,545	1,577,455	1,783,868	1,984,156
Composite tax rate	39.23%	39.23%	39.23%	39.23%	39.23%	39.23%	39.23%
Average ADIT	182,033	313,041	428,432	529,751	618,757	699,722	778,285

Note - composite tax rate ignores excess deferred tax flowback

Piedmont Natural Gas Company, Inc.
Integrity Management Rider
State of Tennessee

Illustration of Annual Revenue Requirement Computation

Rider Rate Period: January 1, 2019 - December 31, 2019
Vintage Year 6 - Fiscal year October 31, 2018

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Plant	6,500,000	6,500,000	6,500,000	6,500,000	6,500,000	6,500,000	6,500,000
Accumulated depreciation	(63,148)	(157,398)	(251,648)	(345,898)	(440,148)	(534,398)	(628,648)
Net plant	6,436,853	6,342,603	6,248,353	6,154,103	6,059,853	5,965,603	5,871,353
ADIT	(262,936)	(452,170)	(618,846)	(765,196)	(893,760)	(1,010,710)	(1,124,190)
Net investment	6,173,916	5,890,433	5,629,506	5,388,906	5,166,093	4,954,893	4,747,163
Pre-tax ROR%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%
Pre-tax rate of return	706,646	674,200	644,335	616,797	591,294	567,121	543,345
Depreciation expense	94,250	94,250	94,250	94,250	94,250	94,250	94,250
Property Tax expense	47,450	47,450	47,450	47,450	47,450	47,450	47,450
Total, excluding uncollectibles	848,346	815,900	786,035	758,497	732,994	708,821	685,045
Uncollectibles gross-up factor	1.000308	1.000308	1.000308	1.000308	1.000308	1.000308	1.000308
Total revenue requirement	848,608	816,151	786,277	758,730	733,220	709,039	685,256

Assumptions and calculations:
Rider computed each year.
Normal depreciation and AFUDC practices apply, AFUDC ends and depreciation begins when plant goes into service.

Plant amount	6,500,000	
Book depreciation rate	1.45%	
Property Tax Rate	0.73%	
Tax depreciation	MACRS 15	assumed no bonus depreciation
Plant in service date	31-Oct-18	
Rider effective date	1-Jan-19	

Fiscal year end	31-Oct-18							
SIT rate		6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
FIT rate		35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%
Composite income tax rate		39.23%	39.23%	39.23%	39.23%	39.23%	39.23%	39.23%
Uncollectibles rate		0.0308%	0.0308%	0.0308%	0.0308%	0.0308%	0.0308%	0.0308%
Revenue requirement gross-up factor		1.000308	1.000308	1.000308	1.000308	1.000308	1.000308	1.000308
Capital structure assumptions (rate case):								
LTD	41.42%							
STD	5.87%							
Common equity	52.71%							
Capital cost rate assumptions (rate case):								
LTD	6.05%							
STD	1.59%							
Common equity	10.20%							
Overall and pre-tax RORs								
	Overall	Pre-tax RORs						
LTD	2.506%	2.506%	2.506%	2.506%	2.506%	2.506%	2.506%	2.506%
STD	0.093%	0.093%	0.093%	0.093%	0.093%	0.093%	0.093%	0.093%
Common equity	5.376%	8.846%	8.846%	8.846%	8.846%	8.846%	8.846%	8.846%
Total	7.976%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%	11.446%

MACRS 15 tax depreciation schedule

	Rate	Yearly	Cumulative
Tax year 1	5.00%	325,000	
Tax year 2	9.50%	617,500	942,500
Tax year 3	8.55%	555,750	1,498,250
Tax year 4	7.70%	500,500	1,998,750
Tax year 5	6.93%	450,450	2,449,200
Tax year 6	6.23%	404,950	2,854,150
Tax year 7	5.90%	383,500	3,237,650
Tax year 8	5.90%	383,500	3,621,150
Tax year 9	5.91%	384,150	4,005,300
Tax year 10	5.90%	383,500	4,388,800
Tax year 11	5.91%	384,150	4,772,950
Tax year 12	5.90%	383,500	5,156,450

Tax year 13	5.91%	384,150	5,540,600
Tax year 14	5.90%	383,500	5,924,100
Tax year 15	5.91%	384,150	6,308,250
Tax year 16	2.95%	191,750	6,500,000
Total	100.00%	6,500,000	

Accumulated depreciation								
Portion of year in sevice before rider	17%							
Pre-rider amount of depreciation	16,023							
Rider year BOY amount		16,023	110,273	204,523	298,773	393,023	487,273	581,523
Depreciation expense		94,250	94,250	94,250	94,250	94,250	94,250	94,250
Rider year EOY amount		110,273	204,523	298,773	393,023	487,273	581,523	675,773
Average accumulated depreciation		63,148	157,398	251,648	345,898	440,148	534,398	628,648

Tax depreciation reserve								
FY of completion tax depreciation	325,000							
Post FY tax depreciation to rider date	17%							
Tax year 2 tax depreciation	617,500							
Tax year 2 pre-rider tax depr	104,975							
Rider year BOY amount		429,975	1,036,978	1,583,335	2,075,327	2,518,042	2,919,345	3,302,845
Tax period A tax depreciaion		512,525	461,273	415,415	373,874	336,109	318,305	318,305
Tax period B tax depreciation		94,478	85,085	76,577	68,842	65,195	65,195	65,305.50
Rider year EOY amount		1,036,978	1,583,335	2,075,327	2,518,042	2,919,345	3,302,845	3,686,456
Average tax depreciation reserve		733,476	1,310,156	1,829,331	2,296,684	2,718,693	3,111,095	3,494,650

Note - gap between fiscal year and rider year addressed by tax period A and tax period B.

Accumulated deferred taxes							
Average tax depreciation reserve	733,476	1,310,156	1,829,331	2,296,684	2,718,693	3,111,095	3,494,650
Average book depreciation reserve	63,148	157,398	251,648	345,898	440,148	534,398	628,648
Difference	670,329	1,152,759	1,577,683	1,950,787	2,278,546	2,576,698	2,866,003
Composite tax rate	39.23%	39.23%	39.23%	39.23%	39.23%	39.23%	39.23%
Average ADIT	262,936	452,170	618,846	765,196	893,760	1,010,710	1,124,190

Note - composite tax rate ignores excess deferred tax flowback

Piedmont Natural Gas Company, Inc.
TRA Docket #11-00144
Proposed Rates and Revenues by Rate Schedule

Settlement Attachment B
Schedule 1

(dekatherms) Rate Schedule	Attrition Period Billing Determinants (1)	"Clean" Billing Rates (2)	Proposed Revenues (3)	Proposed Margin Rates (4)	Proposed Margin (5)	Proposed PGA Demand Rates (6)	Proposed PGA Demand (7)	Current PGA Commodity Rates (8)	Current PGA Commodity (9)
Residential - 301									
Bills - winter (Nov - Mar)	760,041	17.45	$13,262,715	17.45	$13,262,715				
Bills - summer (Apr - Oct)	1,055,850	13.45	$14,201,183	13.45	$14,201,183				
Winter (Nov - Mar)	9,068,898	8.29400	$75,217,440	3.20000	$29,020,474	0.32800	$2,974,599	4.76600	$43,222,368
Summer (Apr - Oct)	2,061,316	7.79400	$16,065,897	2.70000	$5,565,553	0.32800	$676,112	4.76600	$9,824,232
Total	11,130,214		$118,747,235		$62,049,925		$3,650,711		$53,046,600
Total Residential									
Bills	**1,815,891**		**$27,463,898**		**$27,463,898**		**$0**		**$0**
DTs	**11,130,214**		**$91,283,337**		**$34,586,027**		**$3,650,711**		**$53,046,600**
Small General - 302									
Bills	198,023	44.00	$8,713,012	44.00	$8,713,012				
Winter (Nov - Mar)	3,744,501	8.63400	$32,330,022	3.54000	$13,255,534	0.32800	$1,228,196	4.76600	$17,846,292
Summer (Apr - Oct)	1,353,699	8.09400	$10,956,840	3.00000	$4,061,097	0.32800	$444,013	4.76600	$6,451,729
Total	5,098,200		$51,999,874		$26,029,643		$1,672,209		$24,298,021
Medium General - 352									
Bills	4,924	225.00	$1,107,900	225.00	$1,107,900				
Winter (Nov - Mar)	1,150,745	8.63400	$9,935,532	3.54000	$4,073,637	0.32800	$377,444	4.76600	$5,484,451
Summer (Apr - Oct)	416,013	8.09400	$3,367,209	3.00000	$1,248,039	0.32800	$136,452	4.76600	$1,982,718
Total	1,566,758		$14,410,641		$6,429,576		$513,896		$7,467,169
Total Commercial									
Bills	**202,947**		**$9,820,912**		**$9,820,912**		**$0**		**$0**
DTs	**6,664,958**		**$66,410,515**		**$32,459,219**		**$2,186,105**		**$31,765,190**
Large General Sales Service - 303									
Bills	475	800.00	$380,000	800.00	$380,000				
Demand dt	61,947	12.92520	$800,679	8.0000	$495,577	4.92520	$305,102	0.00000	$0
First 1,500 dt	373,595	5.73420	$2,142,268	0.9682	$361,715		$0	4.76600	$1,780,554
Next 2,500 dt	136,761	5.66130	$774,245	0.8953	$122,442		$0	4.76600	$651,803
Next 5,000 dt	43,004	5.41100	$232,695	0.6450	$27,738		$0	4.76600	$204,957
Over 9,000 dt	9,488	5.04240	$47,842	0.2764	$2,622		$0	4.76600	$45,220
Total	562,848		$4,377,729		$1,390,094		$305,102		$2,682,534
Interruptible Sales Service - 304									
Bills	15	800.00	$12,000	800.00	$12,000				
First 1,500 dt	1,928	5.73420	$11,056	0.9682	$1,867		$0	4.76600	$9,189
Next 2,500 dt	0	5.66130	$0	0.8953	$0		$0	4.76600	$0
Next 5,000 dt	0	5.41100	$0	0.6450	$0		$0	4.76600	$0
Over 9,000 dt	0	5.04240	$0	0.2764	$0		$0	4.76600	$0
Total	1,928		$23,056		$13,867		$0		$9,189
Firm Transportation Service - 313									
Bills	1,021	800.00	$816,800	800.00	$816,800				
Demand dt	157,725	12.92520	$2,038,623	8.0000	$1,261,798	4.92520	$776,826	0.00000	$0
First 1,500 dt	1,080,164	0.96820	$1,045,815	0.9682	$1,045,815		$0	0.00000	$0
Next 2,500 dt	548,397	0.89530	$490,980	0.8953	$490,980		$0	0.00000	$0
Next 5,000 dt	170,738	0.64500	$110,126	0.6450	$110,126		$0	0.00000	$0
Over 9,000 dt	6,421	0.27640	$1,775	0.2764	$1,775		$0	0.00000	$0
Total	1,805,720		$4,504,119		$3,727,294		$776,826		$0

(dekatherms) Rate Schedule	Attrition Period Billing Determinants (1)	"Clean" Billing Rates (2)	Proposed Revenues (3)	Proposed Margin Rates (4)	Proposed Margin (5)	Proposed PGA Demand Rates (6)	Proposed PGA Demand (7)	Current PGA Commodity Rates (8)	Current PGA Commodity (9)
Interruptible Transportation Service - 314									
Bills	653	800.00	$522,400	800.00	$522,400				
First 1,500 dt	863,471	0.96820	$836,013	0.9682	$836,013		$0	0.00000	$0
Next 2,500 dt	973,339	0.89530	$871,430	0.8953	$871,430		$0	0.00000	$0
Next 5,000 dt	1,099,176	0.64500	$708,969	0.6450	$708,969		$0	0.00000	$0
Over 9,000 dt	5,160,113	0.27640	$1,426,255	0.2764	$1,426,255		$0	0.00000	$0
Total	8,096,099		$4,365,067		$4,365,067		$0		$0
Total Large Volume									
Bills	**2,164**		**$1,731,200**		**$1,731,200**		**$0**		**$0**
Demand	**219,672**		**$2,839,302**		**$1,757,375**		**$1,081,928**		**$0**
DTs	**10,466,595**		**$13,269,971**		**$9,496,322**		**$1,081,928**		**$2,691,723**
Resale Service - 310									
Bills	31								
Demand	2,400	12.92520	$31,020	8.00000	$19,200	4.92520	$11,820	0.00000	$0
Commodity	10,312	5.66600	$58,428	0.9000	$9,281		$0	4.76600	$49,147
Special Contracts (1)	544,713		$607,737		$489,532		$118,205		
Bills									
TOTAL THROUGHPUT - SALES CUSTOMERS	**18,370,260**		**$189,647,983**		**$95,941,586**		**$6,153,738**		**$87,552,660**
TOTAL THROUGHPUT - TRANSPORTATION CUSTOMERS	**9,901,819**		**$8,869,186**		**$8,092,361**		**$776,826**		**$0**
TOTAL THROUGHPUT - SPECIAL CONTRACTS	**544,713**		**$607,737**		**$489,532**		**$118,205**		**$0**
TOTAL	**28,816,792**		**$199,124,906**		**$104,523,479**		**$7,048,769**		**$87,552,660**
OTHER REVENUES			**$1,980,666**		**$1,980,666**				
GRAND TOTAL OPERATING REVENUES			**$201,105,572**		**$106,504,145**				
PROFORMA OPERATING REVENUES PER WILLIAM H. NOVAK (2)			**$189,205,584**		**$94,603,962**				
REVENUE ADJUSTMENT			**$11,899,988**		**$11,900,183**				

(1) Includes only the two Tennessee Regulatory Authority ("Authority") approved special contracts currently in place, which are Bridgestone and DuPont. These special contracts were approved by the Authority, respectively, in Docket Nos. 10-00015 and 10-00142.

(2) Attrition Period Revenue per William H. Novak Direct Testimony, Attachment WHN-4, Schedule 1, Line 14.