Comments by Friends of the Central Shenandoah re:

Atlantic Coast Pipeline and Supply Header Project Draft Environmental Impact Statement

Atlantic Coast Pipeline, LLC
Dominion Transmission, Inc.

Docket Nos. CP15-554-000, CP15-554-001, and CP15-555-000 FERC/EIS-0274D

General Comments

Do What the Law Requires

The Federal Energy Regulatory Commission (Commission) has authority under Section 7 of the Natural Gas Act to regulate Interstate Natural Gas Pipelines and Storage Facilities. Under Part (e) the Commission has the authority to issue a certificate that authorizes the construction and operation of a project that "is or will be required by the present or future public convenience and necessity; otherwise such application shall be denied."[1]

As part of its review process, the Commission prepares environmental documents, and in this case, a Draft Environmental Impact Statement (DEIS) was prepared and released on December 30, 2016.[2] The Council on Environmental Quality has issued guidelines to federal agencies about how to prepare environmental statements for projects under their jurisdiction that will conform to requirements of the National Environmental Policy Act (NEPA). In §1502.14 Alternatives including the proposed action, the NEPA guidelines state that "This section is the heart of the environmental impact statement."[3] The NEPA instructions identify that the environmental impacts of the proposal and the alternatives must be presented in a comparative form, "thus

[1] Natural Gas Act of 1938, Section 7 (15 USC §717f)
[2] Atlantic Coast Pipeline and Supply Header Project, Draft Environmental Impact Statement, Federal Energy Regulatory Commission, Docket Nos. CP15-554-000, CP15-554-001, and CP15-555-000, FERC/EIS-0274D, December 2016
[3] Department of Energy, National Environmental Policy Act Guidelines, http://energy.gov/sites/prod/files/NEPA-40CFR1500_1508.pdf

sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public." The NEPA requirements specify that agencies preparing Environmental Impact Statements shall:[4]

a. Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
b. Devote substantial treatment to each alternative, including the proposed action so that reviewers may evaluate their comparative merits.
c. Include reasonable alternatives, not within the jurisdiction of the lead agency.
d. Include the no action alternative.
e. Identify the agency's preferred alternative or alternatives.
f. Include appropriate mitigation measures not already included in the proposed action or alternatives.

The DEIS for the ACP claims that it was prepared in compliance with the requirements of NEPA, but that is not the case. There is no evidence of market demand included in the DEIS. Only precedence agreements with subscribers who are affiliates of the owners of the pipeline have been included. The Commission's own guidelines show that this is not an adequate indication of market demand for a project. In guidelines prepared in 1999, the Commission stated, "Rather than relying only on one test for need, the Commission will consider all relevant factors reflecting on the need for the project. These might include, but would not be limited to, precedent agreements, demand projections, potential cost savings to consumers, or a comparison of projected demand with the amount of capacity currently serving the market."[5] In their Policy Statement issued in 2000, the Commission explained: "that as the natural gas marketplace has changed, the Commission's traditional factors for establishing the need for a project, such as contracts and precedent agreements, may no longer be a sufficient indicator that a project is in the public convenience and necessity."[6]

[4] Ibid.
[5] United States of America 88 FERC ¶ 61,227, Federal Energy Regulatory, Issued September 15, 1999
[6] Order Clarifying Statement of Policy, 90 FERC ¶ 61, 128 (2000); Certification of New Interstate Natural Gas Pipeline Facilities, Docket No. PL99-3-001, Issued February 9, 2000

We ask that the Commission follow its own directives and provide information in the DEIS that identifies demand projections, potential cost savings to consumers, and a comparison of projected demand with the amount of capacity currently serving the market, so that the public can understand the reasoning that the proposed action is considered to be in the public's interest (not just in the applicant's interest).

NEPA also requires that the DEIS include a discussion of related issues and alternatives not within the jurisdiction of the lead agency. The DEIS includes no mention of the higher cost to ratepayers to use new pipelines when adequate capacity is available in less expensive existing pipelines; no mention is made of the societal costs of accelerated climate change due to methane leaks along the natural gas supply chain; no mention has been made of the possibility and the existing occurrence of lower electricity demand, energy efficiency and lower cost renewables undercutting the cost of energy from new gas-fired power plants leading to stranded costs; and investments in the accelerated development of natural gas infrastructure foreclosing investments in cleaner, lower-cost generation options. These are issues that should be considered when determining whether this project serves the public convenience and necessity and should be included in the DEIS which supports that determination.

Once the required information is provided, the case law on the agency's requirement to revise an environmental document is clear. An EIS that fails to provide the public a meaningful opportunity to review and understand the agency's proposal, methodology and analysis of the need for a project and its potential environmental impacts violate NEPA. See e.g., California ex rel. Lockyer v. U.S. Forest Service, 465 F. Supp. 2d 942, 948-50 (N.D. Cal. 2006); see also Idaho ex rel. Kempthorne v. U.S. Forest Service, 142 F.Supp.2d 1248, 1261 (D. Idaho 2001) ("NEPA requires full disclosure of all relevant information before there is meaningful public debate and oversight.").

Friends of the Central Shenandoah believes that the mandate for a full analysis of the "public convenience and necessity" for pipelines involves more than a professed, but unsubstantiated, need for more pipeline capacity.

In this matter, the Commission must take a "hard look" at the new information, review it in

the context of the application and current public comments, and then revise the DEIS to incorporate the new information. At the same time, the Commission should rescind the DEIS and hold the public comment period in abeyance until it issues the revised DEIS. Lastly, the Commission should require the ACP to file all additional information that is vital to the NEPA review before proceeding further.

Alternatively, FERC must issue a supplement to the DEIS that addresses all new information. FERC must not issue a certificate until the supplement fully incorporates all necessary information to justify that the project provides for the public convenience and necessity and is finalized following public notice and comment.

Proper Statement of Project Purpose

In its initial application to the Commission filed September 18, 2015, the purpose of the ACP was described as: "to provide firm natural gas transportation service of up to 1.5 million Dekatherms per day (MMDt/day) through a new interstate pipeline system extending from Harrison County, West Virginia, southeast to Greensville County, Virginia, and then from this point south into eastern North Carolina and east to the City of Chesapeake, Virginia."[7]

The DEIS has a more accurate description of the purpose of the project:

1.1 PROJECT PURPOSE AND NEED

Atlantic's and DTI's stated purpose for ACP and SHP are, in summary:[8]

- to serve the growing energy needs of multiple public utilities and local distribution companies in Virginia and North Carolina by using the natural gas to generate electricity for industrial, commercial, and residential uses;

[7] Abbreviated Application for a Certificate of Public Convenience and Necessity and Blanket Certificates, Atlantic Coast Pipeline, LLC, Docket No. CP15- ___ -000, September 18, 2015

[8] Atlantic Coast Pipeline and Supply Header Project, Draft Environmental Impact Statement, Federal Energy Regulatory Commission, Docket Nos. CP15-554-000, CP15-554-001, and CP15-555-000, FERC/EIS-0274D, December 2016

- to provide natural gas for direct residential, commercial, and industrial uses;

- to increase the reliability and security of natural gas supplies in Virginia and North Carolina;

- to provide access to a low-cost supply hub[9] with a large volume of transactions characterized by multiple buyers and sellers willing to trade natural gas on a daily basis and into the futures market (liquidity).

This is closer to an appropriate test as to whether the proposed project best fulfills the public convenience and necessity. However, in the DEIS, alternatives to the proposed project were dismissed because, as stated in the DEIS, the purpose of the project "is to transport price-competitive natural gas from West Virginia to electric generation, distribution, and end-use markets in West Virginia, Virginia, and North Carolina" and those alternatives did not accomplish that. By cleverly stating that the purpose of a project is to build a pipeline from Supply Zone A to Market Zone B, pipeline developers rule out any options that are not pipelines that serve precisely those locations. Limiting the discussion of alternatives to that specific set of circumstances does not conform to NEPA nor does it allow for discovering the alternative that best fulfills the public convenience and necessity.

The option that best meets the public's interest is the one which provides adequate energy to satisfy the comfort and economic well-being of the inhabitants of the region at the lowest cost and with the least environmental impacts. This does not limit the alternatives only to those that involve natural gas. We understand the Commission's interest in limiting the discussion to natural gas-related issues and we will concentrate our attention there, but not exclusively.

[9] A hub is a location where two or more pipeline systems interconnect and that offers administrative services that facilitate the movement and/or transfer of gas.

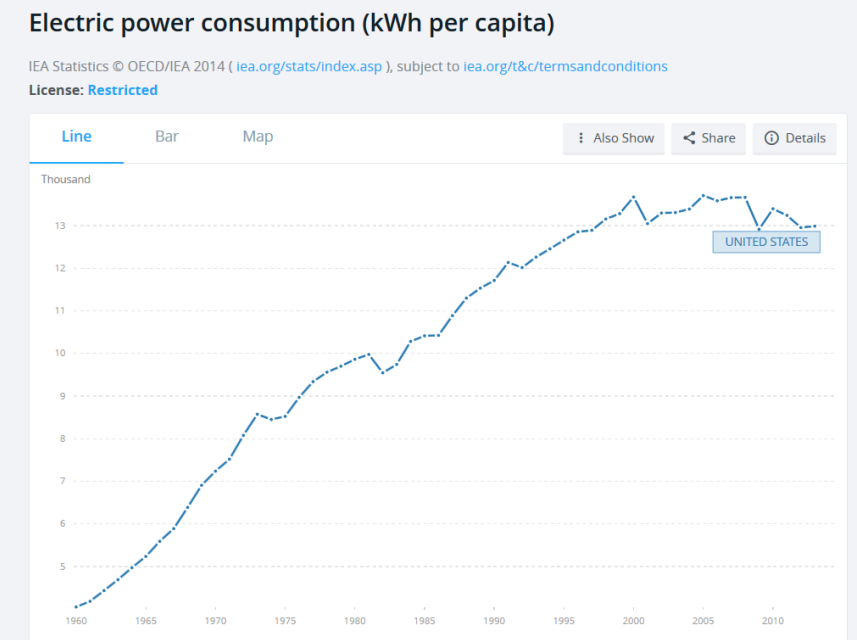
Specific Comments

1.1.1 Atlantic Coast Project

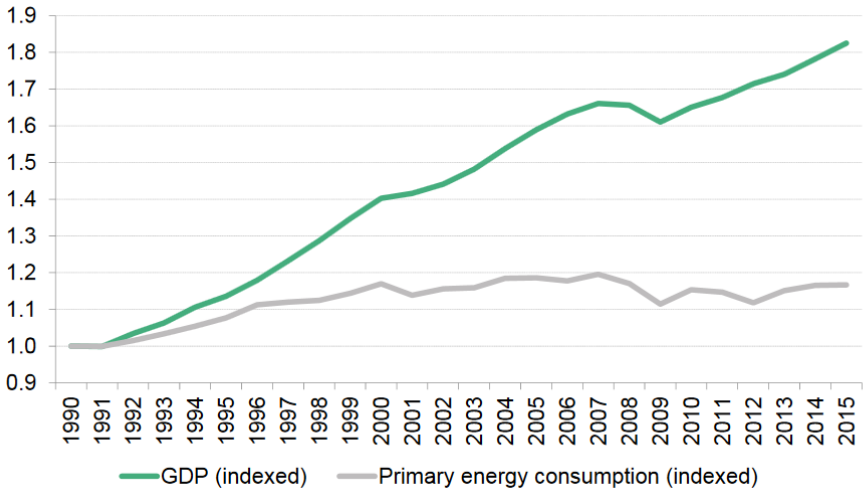
The ACP states that the need for the pipeline is to provide adequate gas supplies to a number of proposed gas-fired power plants in Virginia and North Carolina. Nearly 80% of the pipeline capacity is allocated for this purpose. Of the thirteen power plants that are proposed to receive some gas supplies from the ACP, only one is currently operating (Brunswick) and only one more (Greensville) will be operating before the pipeline is proposed to be in operation. None of the remaining eleven power plants have been approved for construction by the appropriate state agencies. Obviously, utility projects require long-term planning and arranging for adequate fuel supplies is part of that planning. However, year after year, the utilities in Virginia and North Carolina who are creating this demand for more natural gas have revised their load forecasts downwards. Even these revised forecasts have been questioned by many, including the regulators, as being overly optimistic.

The Commission is being asked to give permission to build a pipeline on speculation. It is like building a pipeline to provide gas service to a building site that does not exist to serve a house that has not received a building permit. If the need ultimately occurs, there are better and less expensive ways to serve the demand that does not require such a speculative investment.

Numerous pipeline projects are being promoted by developers who want to make money building a pipeline or by natural gas producers eager to find customers for their surplus gas. Early in the 21st century, electricity demand stabilized or declined. It is no longer growing in lockstep with population and economic activity.

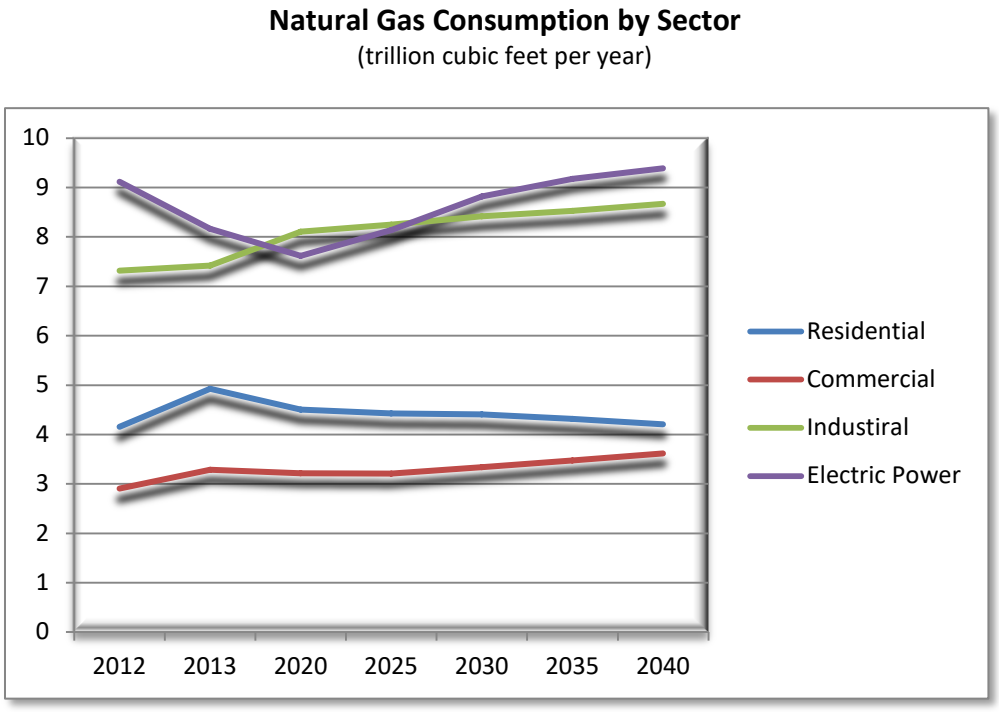


Energy Consumption and Growth in GDP



Source: Bloomberg New Energy Finance

The remaining 20 percent of the reserved capacity would go to the traditional uses of natural gas. The EIA forecasts that residential use of natural gas will decline by 0.6% per year between now and 2040. Commercial and industrial uses will increase 0.4% and 0.6%, respectively. Industrial consumption will be especially sensitive to the price of gas. Use of natural gas for electricity generation will grow at a rate of 0.5% per year.



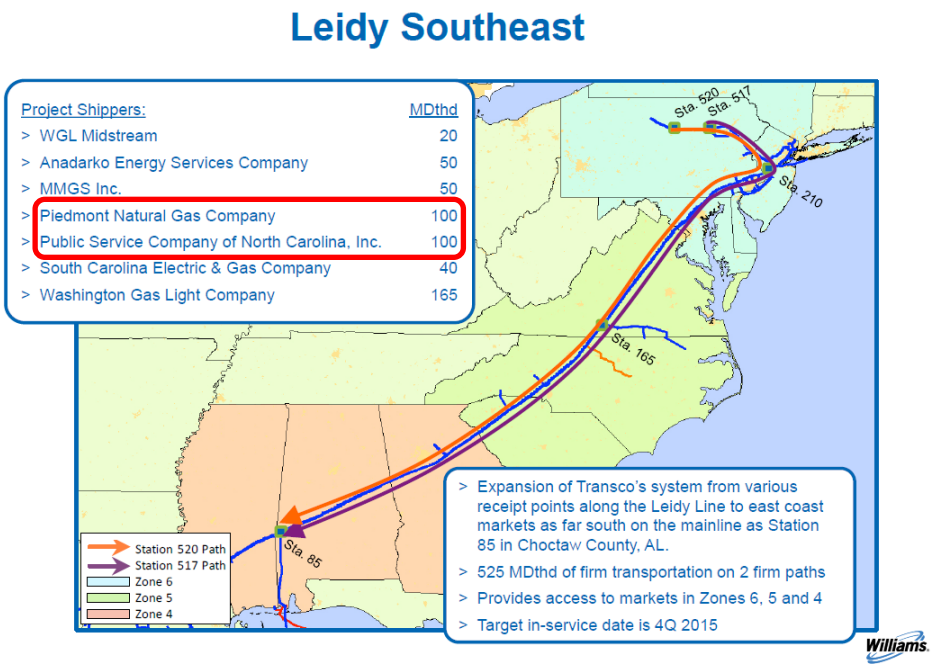
Source: Energy Information Administration[10]

The Local Distribution Companies (LDCs) in North Carolina, Piedmont Natural Gas and Public Service Company of North Carolina, have historically received their supplies via the Transco Pipeline and have recently committed to receiving additional supplies from that source. The abundant capacity in the Transco corridor (to be discussed later) could continue to supply any future needs of the North Carolina LDCs at a significantly lower transportation cost than provided by the ACP.

To protect the public's interest the question must be answered, "What is the best way to assure adequate supplies of natural gas for use in power plants in Virginia and North Carolina in a way that accommodates uncertainty in the amount of gas required and avoids stranded costs if the proposed demand for more natural gas does not materialize?"

[10] Annual Energy Outlook 2015, U.S. Energy Information Administration, April 2015, DOE/EIA-0383(2015)

North Carolina LDCs Obtain Marcellus Gas via Transco



The DEIS references the open season and the RFPs in 2014 as evidence that there is no other available source of natural gas to this region. There are several reasons why this is a misleading assumption. Suppose you are responding to an RFP and you ask the organization requesting the proposal "where do you want us to deliver the gas?" and they respond "we don't know, the sites have not been selected and the plants have not been approved". Are you confident that you can provide a reasonable response? Takeaway pipelines are now available moving volumes of gas into the gas transmission network greater than the amount proposed by the ACP that were not available in 2014. The question to be answered is what is the best method available today to provide adequate gas supplies to Virginia and North Carolina?

The Complications of Self-Dealing

Throughout the DEIS the Commission refers to existing precedent agreements for 96% of the proposed capacity of the project as clear evidence that the project is needed. No other evidence of market demand for the project is provided. This is especially troublesome since over 93% of the subscribed capacity is reserved by affiliates of the owners of the pipeline. The commission has recognized that "using contracts as the primary indicator of market support for the proposed

pipeline project also raises additional issues when the contracts are held by pipeline affiliates."[11] The extent of the self-dealing involved with the ACP is shown below:

Atlantic Coast Pipeline Ownership

Organization	Parent Company	Ownership
Dominion Atlantic Coast Pipeline LLC	Dominion Resources	48%
Duke Energy ACP	Duke Energy	47%
Piedmont ACP Co. LLC	Duke Energy	included in Duke
Maple Enterprise Holdings, Inc.	AGL/Southern Co.	5%

Customers	Parent Company	Volume Dekatherms	Percent of Capacity
Virginia Power Services	Dominion Resources	300,000	20.0%
Duke Energy Progress	Duke Energy	452,750	30.2%
Duke Energy Carolinas	Duke Energy	272,250	18.2%
Piedmont Natural Gas	Duke Energy	160,000	10.7%
Public Service of NC	SCANA Corp.	100,000	6.7%
VA Natural Gas/AGL	Southern Co.	155,000	10.3%

This severely distorts an unbiased evaluation of whether a project is necessary. The ACP customers are not independent or negotiating at arm's length. FERC Order 497 notes that:

"The Commission agrees with commenters who state that the potential for abuse of the pipeline-affiliate relationship exists whether the gas being transported is owned, brokered, or sold by a pipeline's affiliate. The Commission is concerned with a transaction conducted on a pipeline that benefits the pipeline or the corporate group of which it is a part. In such a transaction, there is an economic incentive for the pipeline to favor the transaction. Any affiliate of a pipeline can conduct a transaction which benefits the pipeline or the corporate group of which it is a part."[12]

[11] Order Clarifying Statement of Policy, 90 FERC ¶ 61, 128 (2000); Certification of New Interstate Natural Gas Pipeline Facilities, Docket No. PL99-3-001, Issued February 9, 2000, p16

[12] FERC Order 497, June 1, 1988

The Supreme Court View of a Parent/Subsidiary Relationship

In the Supreme Court ruling on the Copperweld Case, the Court ruled that a subsidiary and its parent are "in reality, one unit". [13]

For the ACP, Dominion Transmission, Inc. (DTI), a subsidiary of Dominion Resources, is both the lead developer and operator of the pipeline. The organization with the largest ownership share is Dominion Atlantic Coast Pipeline, LLC, also a subsidiary of Dominion Resources. A customer for the gas, another Dominion subsidiary, Virginia Power Services Energy, will sell the gas to yet another subsidiary of Dominion Resources, Dominion Virginia Power (DVP). A similar relationship exists between the other major owner, Duke Energy, as the pipeline owner selling gas to its electric utility subsidiaries and to its newly acquired subsidiary, Piedmont Natural Gas, another owner of the ACP. The Supreme Court tells us to regard these affiliated companies as "one unit". This is not an indication of a free market choosing the best option for transporting the gas. If free to choose, what might an unfettered subsidiary select?

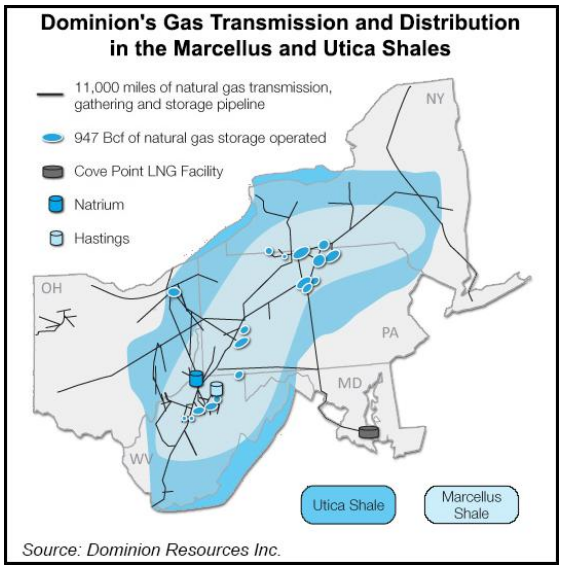
In the case of Dominion Virginia Power, they have established a 20-year Long-Term Service Agreement with Transco to build a pipeline, completed in September 2015, using the low-cost, underutilized capacity of the Transco corridor to serve two new power plants in Southside Virginia.

Electric Utility Customers Subsidize the ACP

It is understandable that the utility holding company owners of the ACP want to make the most of their existing assets. Using Dominion Transmission's extensive gathering pipelines and natural gas storage facilities in the western Marcellus makes business sense as does use of their own pipeline rather than someone else's. However, according to the Natural Gas Act, to receive

[13] Copperweld Corp. v. Independence Tube Corp., 467 U.S. 752, 104 S.Ct. 2731 (1984). p4, http://www.felj.org/sites/default/files/elj/Energy%20Journals/Vol14_No2_1993_Expanding%20_FERC_Jurisdiction.pdf

a certificate the project must fulfill the public's convenience and necessity, not the pipeline developer's.



In order for the owners of the ACP to receive the benefits of locating a pipeline in their preferred supply zone, the ratepayers of their captive electric utility subsidiaries must subsidize the higher cost of the ACP compared to their lower-cost existing options for gas supply.

The Commission disqualifies projects that are "subsidized by existing customers" [14] The specific policy applies only to existing pipeline customers. As a new pipeline, the ACP has no existing customers. But the captive utility shippers of the ACP have existing customers and the Commission should be sensitive to the idea that customers, in general, should not subsidize a project solely for the benefit of its developers.

It is well known in the industry that it is less expensive to transport natural gas using existing pipelines compared to new pipelines. The saving occurs because the cost of existing pipelines has been mostly paid for by previous users. New pipelines are far more expensive since the full construction cost plus a rate of return must be recovered from shippers over the first 40 years or

[14] Order Clarifying Statement of Policy, 90 FERC ¶ 61, 128 (2000); Certification of New Interstate Natural Gas Pipeline Facilities, Docket No. PL99-3-001, Issued February 9, 2000

so of pipeline operation. Dominion has elected to connect its two newest natural gas-fired plants to the Transco corridor. The Brunswick plant began commercial operation in June 2016. The Greensville facility is expected to be available in late 2018. The Virginia State Corporation Commission (SCC) has approved the Transco connection for the 40+ years of operation of these two new power plants.

We have an excellent opportunity to compare the cost to Dominion customers of being forced to use the ACP compared to using existing pipelines. The new Dominion power plants will be served by the main Transco corridor via 98 miles of 24" pipeline, all but 7 miles of which is built on existing right-of-way. This new lateral was completed in September 2015. An additional 4 miles of pipeline will provide gas to the Greensville plant when that power plant is constructed. By connecting to the Transco mainline, the power plants can access natural gas supplies from the Gulf Coast production areas as well as the intended source of supply in the Marcellus.

Although Dominion committed to a 20-year Long-Term Supply Agreement with Transco to supply 250,000 Dekatherms per day to each power plant, they intend to connect these same plants to the ACP. Dominion has recently agreed to a negotiated rate with Transco which is not part of the public record, but we can use the rate identified in the application for a Certificate of Public Convenience and Necessity for the Transco Southside Expansion Project II for this example.[15] This rate combines the costs of service to the Brunswick and Greensville plants to create a single tariff for both plants.

The expected tariff for the Atlantic Coast Pipeline is identified in Dominion's amendment to its application filed March 11, 2016.[16] For a fair comparison, even though both pipelines might

[15] Application for Certificate of Public Convenience and Necessity, Virginia Southside Expansion Project II, Filed March 23, 2015, Exhibit P

[16] Amendment to Application for a Certificate of Public Convenience and Necessity and Blanket Certificates, Atlantic Coast Pipeline, Docket No. CP15-554-001, Volume I Public, March 11, 2016, Exhibit P

ultimately have lower negotiated rates for both pipelines, we identify only the published rates for the ACP and Transco.

The rate of return used for the ACP assumes a debt structure of 50% equity and 50% debt. The FERC authorized rate of return on equity for the ACP is 14%. The proposed debt rate is 6.8%.

Cost of Natural Gas Transportation Services to the Brunswick and Greensville Plants

Item	Transco	ACP
Total Rate Base	$ 0.461 billion	$ 4.986 billion
Pre-tax Rate of Return	15.34%	15.00%
Depreciation Rate	2.61%	2.50%
Daily Contract Demand	500,000 Dekatherms/day	500,000 Dth/d
Daily Reservation (Recourse) Rate	$ 0.52785 per Dekatherm	$ 1.7249 per Dth
Total Annual Transportation Cost	$ 96.3 million	$ 314.8 million

This yields a higher cost to ratepayers of $218.5 million in the first year to transport gas via the Atlantic Coast Pipeline compared to using existing pipelines. This extra cost can be automatically passed through to customers without their consent as part of the fuel charge on utility bills. The extra cost paid to the ACP is not paid to other providers of the same service; therefore it is a subsidy by existing customers of the captive Dominion utility to its affiliate, the largest owner of the ACP.

This is the only opportunity to make a direct comparison between the costs of transport service using the ACP compared to existing pipelines. However, connecting new power plants in Virginia and North Carolina to existing pipelines rather than the ACP will require fewer miles of new pipeline to be constructed. Since the transport rate is correlated to the expense of new pipeline required, the ultimate cost of electricity to customers will be less using existing

pipelines compared to using the Atlantic Coast Pipeline. The transportation cost for using the Atlantic Coast Pipeline is almost equal to the current price of natural gas. What if you had to pay nearly $2 per gallon to use the pump every time you bought gasoline? As a customer, would you be happy about that? The primary purpose of the pipeline is to provide natural gas to new power plants. It is difficult to believe that the utility customers of these holding companies would agree that there is a market need for a pipeline that will increase their bills when other lower cost options are readily available.

Dominion has argued that it might be worth paying more for the ACP in order to access a lower cost source of natural gas. On its own, the ACP can access supply only from its western Marcellus Supply Header. Existing pipelines such as Transco and Columbia Gas can access supplies from multiple locations in both the Marcellus and the Gulf Coast supply zones. The ACP can access these other supply zones only by connecting to existing pipelines.

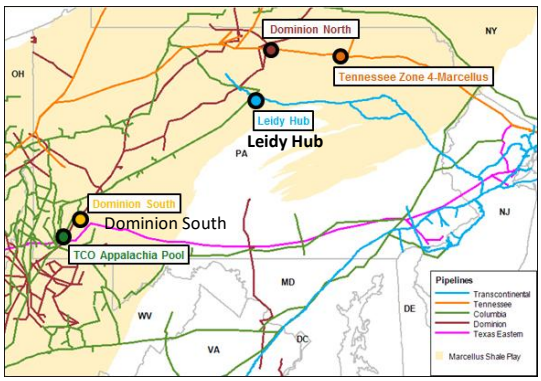
The ACP touted $377 million dollars of annual energy cost savings to customers as a result of the ACP accessing their western Marcellus source.[17] Unfortunately, they used a misleading comparison in order to support their argument. In public pronouncements and filings with the Commission, the ACP has always compared the cost of gas at the Dominion South Hub to the national price at Henry Hub in Louisiana (in 2014 when the differential was the highest). Because of the oversupply of natural gas in the Marcellus, the price at Dominion South has been lower. But many of the supply hubs in the Marcellus are also selling below the Henry Hub price.

The source of natural gas supplied by the Transco pipeline to Dominion's new power plants is taken from northeastern Pennsylvania. It is by far the most productive region in the Marcellus. Just three counties in this area supply 50% of all of the gas produced in the Marcellus.[18] The Leidy Hub is an example of the pricing in this region. Pricing for June 24, 2016, shows a price

[17] The Economic Impacts of the Atlantic Coast Pipeline, ICF International, February 9, 2015

[18] Marcellus Production Outlook, David Hughes April 28, 2015, http://www.postcarbon.org/marcellus-production-outlook/, http://www.postcarbon.org/publications/drillingdeeper/

of $1.90 for Dominion South representing the western Marcellus/Utica Zone.[19] On this same date, hubs in the highest productivity area in the northern Marcellus were showing lower prices. A price of $1.40 /mcf at Leidy was available on the connector pipeline to the Transco transmission system.[20] Obviously, gas prices are a moving target, but if the current price differential ($0.50/mcf) existed for an entire year, Dominion's electric ratepayers would pay an additional $91 million for natural gas as a result of Dominion trying to "save" them money by building their own pipeline.



No cost advantage will accrue to the primary users of the ACP, natural gas power plants. On the contrary, for just the two power plants used in this example, existing electric customers will pay nearly $310 million more a year if they are forced to utilize the ACP rather than existing pipelines. Ratepayers will pay hundreds of millions more each time a power plant is connected to the ACP rather than lower cost existing pipelines. The advantage exists purely for the benefit of the developers of the pipeline. In the first year, the ACP will earn nearly $135 million in income after taxes.

The ultimate customers, the utility ratepayers of Virginia and North Carolina, if given a choice, would not elect to pay a premium for service they can obtain for a lower price by other means. Once this unwilling subsidy is removed, the project, which exists solely for the financial gain of

[19] Natural Gas Intel, accessed June 24, 2016, natural gasintel.com http://www.naturalgasintel.com/data/data_products/daily?region_id=northeast&location_id=NEALEIDY
[20] Ibid.

the developers, would no longer have a market. Thus, issuance of a Certificate of Public Convenience and Necessity for the ACP would not be justified.

Who speaks for the ratepayers? The state utility commissions believe their ability to protect ratepayer interests is superseded by the Commission's federal authority. State attorneys general and other consumer advocates also do not have the influence they normally exert in state proceedings. The Commission is the only authority that can protect ratepayer interests. Developers propose projects that make sense for them. That is understandable. It is the Commission's duty to determine if the project also serves the public's interest. The Commissioners are the only ones to whom the public can voice their concerns. Are you listening?

1.2.1 Federal Energy Regulatory Commission

The Commission claims that the DEIS "was prepared in compliance with the requirements of NEPA." We do not believe that NEPA requirements were met because no proof of actual market need for the project has been provided, other than precedence agreements executed with affiliates of the owners of the pipeline (which even the Commission's guidelines deem to be an inadequate proof of need). This issue, along with the non-NEPA conforming methods used to rule out alternatives to the proposed project, was discussed in greater detail in the General Comments at the beginning of this document.

Commission Policies Distort Decision-Making about Natural Gas Infrastructure

According to the Commission, "Sending the wrong price signals to the market can lead to inefficient investment and contracting decisions which can cause pipelines to build capacity for which there is not a demonstrated market need. Such overbuilding, in turn, can exacerbate adverse environmental impacts, distort competition between pipelines for new customers, and financially penalize existing customers of expanding pipelines and customers of the pipelines affected by the expansion."[21]

[21] Order Clarifying Statement of Policy, 90 FERC ¶ 61, 128 (2000); Certification of New Interstate Natural Gas Pipeline Facilities, Docket No. PL99-3-001, Issued February 9, 2000, p4

Rates of return for pipelines are much higher than the returns the Commission authorizes for interstate electric transmission lines. On November 12, 2013, a complaint was filed with the Commission alleging that the current base ROE for the Midcontinent Independent System Operator, Inc. (MISO) was unjust and unreasonable. The approved ROE for MISO at that time was 12.38 percent. The Commission's Presiding Administrative Law Judge determined that the ROE should be "equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties."[22] The Presiding Judge continued, stating that the return "should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties."[23] That is, the return should be "sufficient to assure confidence in the financial integrity of the enterprise so as to maintain its credit and to attract capital."[24]

In Opinion No. 551, issued September 28, 2016, the Federal Energy Regulatory Commission (FERC) determined that a ROE that "authorized a utility to collect more than is necessary to satisfy the requirements of *Hope* and *Bluefield* would exploit consumers and, therefore, would be unjust and unreasonable." As a result, the Commission reduced MISO's ROE to 10.32 percent.[25] The Presiding Judge explained that the 10.32 percent base ROE represents the midpoint of the upper half of the zone of reasonableness (upper midpoint) of 7.23 percent to 11.35 percent.[26]

In Order 531-A, the Commission determined that gross domestic product (GDP) was the appropriate rate to use in determining the return for the New England Transmission Owners (NETO), the same rate that is supposed to be used in ROE cases for gas pipelines.[27] The Commission set the base ROE rate for NETO at 10.57 percent, assuming that "4.39% is the

[22] Bluefield, 262 U.S. at 693
[23] Ibid.
[24] Hope, 320 U.S. at 603
[25] 156 FERC ¶ 61,234, UNITED STATES OF AMERICA, FEDERAL ENERGY REGULATORY COMMISSION, Docket No. EL14-12-002, September 28, 2016
[26] Initial Decision, 153 FERC ¶ 63,027 at P 110
[27] Breaking down FERC's recent, and pending, ROE decisions, Robert Walton, Utility Dive, November 17, 2014, http://www.utilitydive.com/news/breaking-down-fercs-recent-and-pending-roe-decisions/334107/

appropriate projection of long-term GDP growth." FERC also required NETO to make refunds to customers, plus interest.

The Virginia State Corporation Commission (SCC) approved the ROE for Dominion's Greensville County Power Station at 9.6 percent, rather than the 10.5 percent requested by Dominion Virginia Power, when the SCC authorized the construction of the project on March 29, 2016.[28] The Commission found this rate to be "fair and reasonable to the Company" in that it "permits the attraction of capital on reasonable terms, fairly compensates investors for the risks assumed, enables the Company to maintain its financial integrity, and satisfies all applicable statutory and constitutional standards."[29]

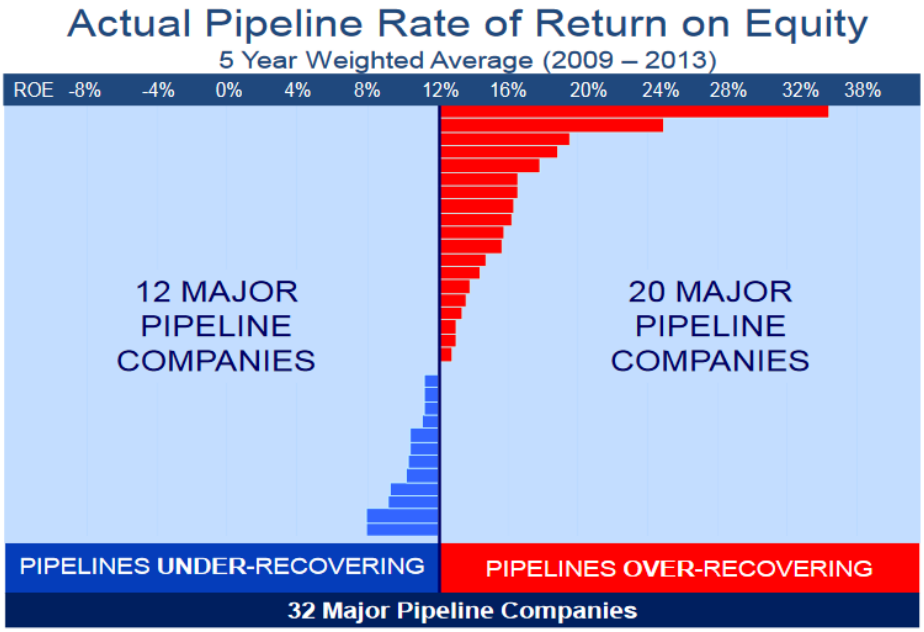
Moody's reported that the North Carolina Utility Commission authorized a ROE of 10.2 percent for Duke Progress in May 2013 and the same ROE of 10.2 percent was awarded to Duke Carolinas in July 2013.[30]

Because the revenues from electricity generation are stabilizing, utility holding companies are seeking new ways of gaining more revenues. The Commission awards up to 50% higher returns for natural gas pipelines compared to the returns deemed to be "fair and reasonable" by other regulators (including the Commission's own rulings) for other similar utility projects such as power plants and transmission lines. The exorbitantly high returns in an era of low single digit interest rates distort investment decisions. A dozen utility holding companies have entered the pipeline building business in search of higher revenues. No justification for these high rates has been provided in any of the Commission's previously issued certificates. The Commission must provide such a justification on the record, or better yet, lower the returns to be in line with other similar types of projects.

[28] Final Order, Virginia State Corporation Commission, Case No. PUE-2015-00075, March 29, 2016
[29] Ibid.
[30] "Moody's upgrades Duke Energy and five subsidiaries; outlooks stable", Moody's Global Credit Research, January 31, 2014, https://www.moodys.com/research/Moodys-upgrades-Duke-Energy-and-five-subsidiaries-outlooks-stable--PR_291348

Virginia Utility Commission (SCC) Power Plant Return	9.6 %
North Carolina Utility Commission Overall Utility Return	10.2 %
FERC Interstate Transmission Lines	10.3 %
FERC ACP Return on Equity	14.0 %
FERC ACP Overall Project Return	15.0 %

The Commission's lax oversight allows pipeline companies to receive returns far above their authorized returns. The Natural Gas Supply Association (NGSA) has asked that the Commission requires natural gas pipeline companies to pay refunds when a pipeline has been found to be charging rates that are too high. To support their request, the NGSA studied 32 pipelines and found that over a five-year period, 20 pipelines earned above 12% ROE and nine pipelines earned above 16%. These excessive earnings cost customers $5 billion over that five-year period.



Source: NGSA Pipeline Cost Recovery Report 2009-2013[31]

[31] "Excessive Pipeline Rates Cost Customers Billions of Dollars", NGSA Pipeline Cost Recovery Report 2009-2013, summary, http://www.ngsa.org/download/issues/Section%205%20Reform%201-pager_final%2008312015.pdf

Commission Policies Cause Overbuilding Pipeline Capacity

In its 1999 Policy Statement the Commission said, "In considering the impact of new construction projects on existing pipelines, the Commission's goal is to appropriately consider the enhancement of competitive transportation alternatives, the possibility of overbuilding, the avoidance of unnecessary disruption of the environment, and the unneeded exercise of eminent domain."[32]

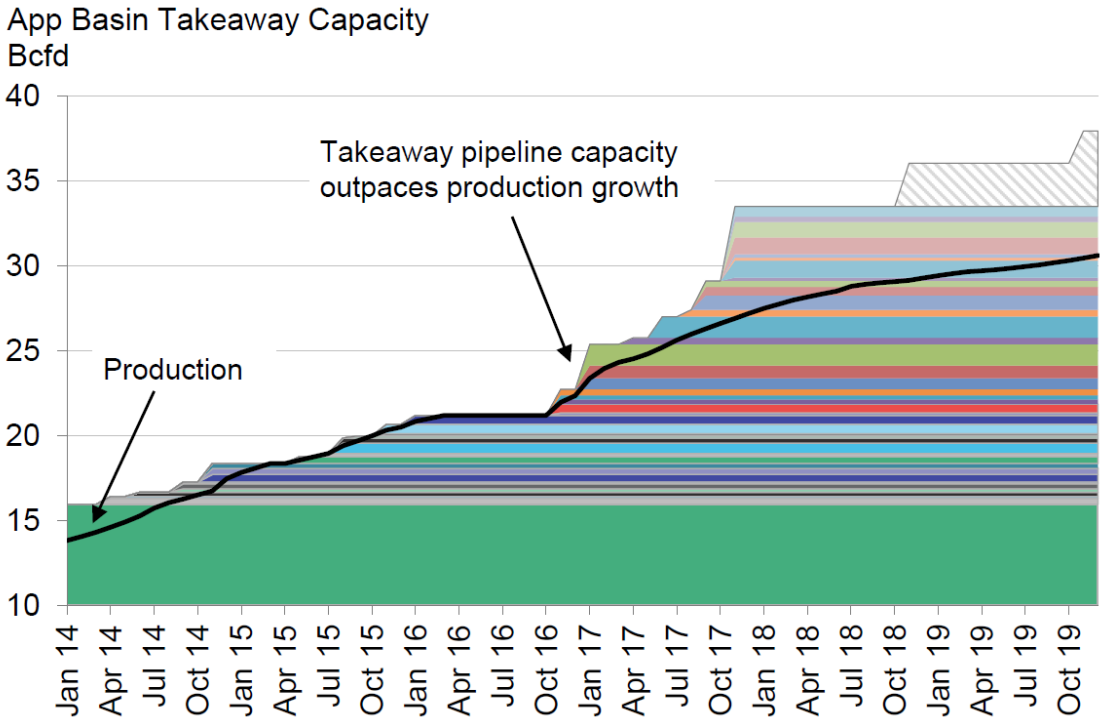
The great shale gas boom of the last 10 years is the result of a financial bubble. Wall Street money left the mortgage securities market and was invested with oil and gas developers. Drillers put to use the technologies of fracking and directional drilling that had recently become economic because of record high prices for oil and gas. Plentiful cheap money caused a rush of land leasing and drilling to tap the lucrative shale formations. These non-conventional wells declined in production far faster than the conventional wells the industry was accustomed to developing. Gas producers constantly drilled new wells to replace declining production from legacy wells and to pay the interest on their loans. They could not cut back production or they would become bankrupt. Supply increased far faster than demand. The initial lack of sufficient takeaway pipelines stranded the gas in the Marcellus and it began to sell at a significant discount to the national price.

Wall Street investors sought ways to recover their failing investments by increasing gas prices. Strategies included policies to encourage building more gas-fired power plants (the Clean Power Plan?) and to build as many pipelines as possible to make money and get the gas to market. Despite numerous new pipelines built between 2007 and 2013, the Commission's high rate of return prompted applications for more pipelines from the Marcellus. Traditional pipeline developers pushed back against the utility holding companies infringing on their turf. All of the players wanted their own pipeline. The numerous applications to build more new pipelines caused concern among industry observers about the overbuilding of natural gas infrastructure. Meanwhile, the Commission approved each application before it.

[32] United States of America 88 FERC ¶ 61,227, Federal Energy Regulatory, Issued September 15, 1999, p2

Bloomberg

Bloomberg New Energy Finance tracks project details of all Appalachian Basin pipeline projects, including FERC filings, approval progress, in-service dates, company presentations and other information related to the development of natural gas pipelines in this important production area. The Bloomberg pipeline database reveals that pipeline capacity will begin to outstrip production in the Appalachian Basin in early 2017 leading to an excess of pipeline capacity of about 7 billion cubic feet per day (Bcf/d) by the end of 2019.[33]



Source: Bloomberg New Energy Finance

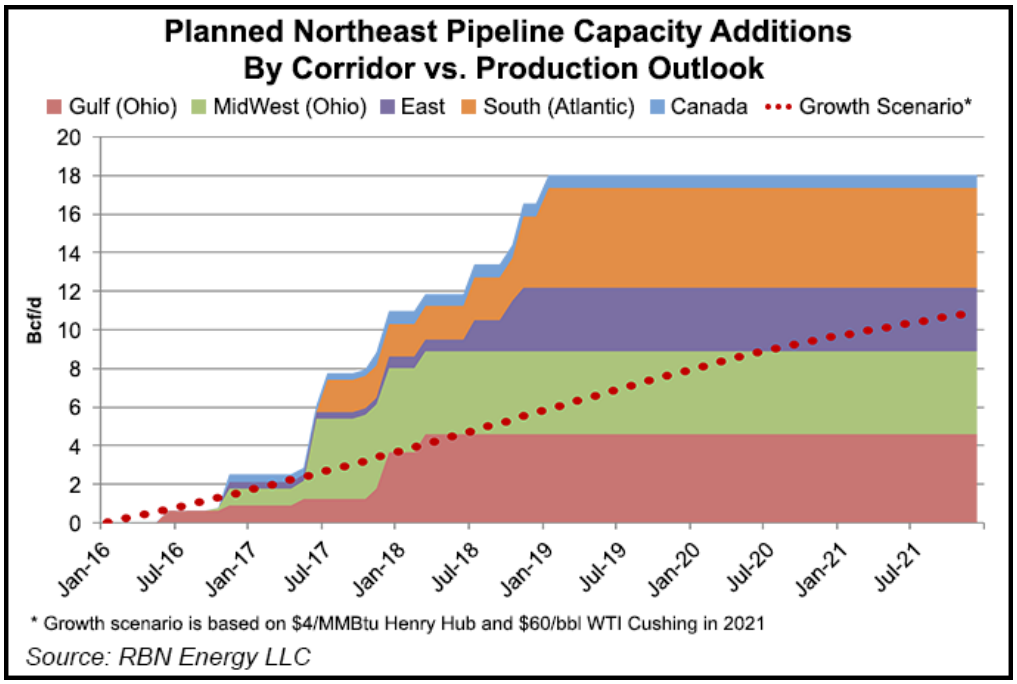
RBN Energy

RBN Energy LLC President Rusty Braziel also believes that pipeline capacity could become overbuilt. He noted that too many pipelines are planned to relieve the existing capacity constraints in the northeast production zone. "Is it possible that we could build too much takeaway capacity out of the Marcellus and Utica?" "It's certainly happened in about every

[33] US Gas Insight: Midstream Madness, Joanna Wu, Bloomberg New Energy Finance, March 8, 2016

other segment of the energy business over the last few years," Braziel said.[34] He continued, "If you're looking at this from the standpoint of a company committing or considering commitments to any pipelines, firm pipeline capacity, 20-year deals, you just might want to think long and hard about whether [an overbuild] could happen."

Because of bankruptcies and lower rig counts, production is down in the Marcellus/Utica region. Many wells have been drilled but not connected to pipelines, waiting for an increase in natural gas prices. Drillers might not return to many of the areas. Only the most productive counties are likely to see an increase in activity once the price improves, he said. His comparison of planned pipeline capacity additions with estimated gas production is shown below.

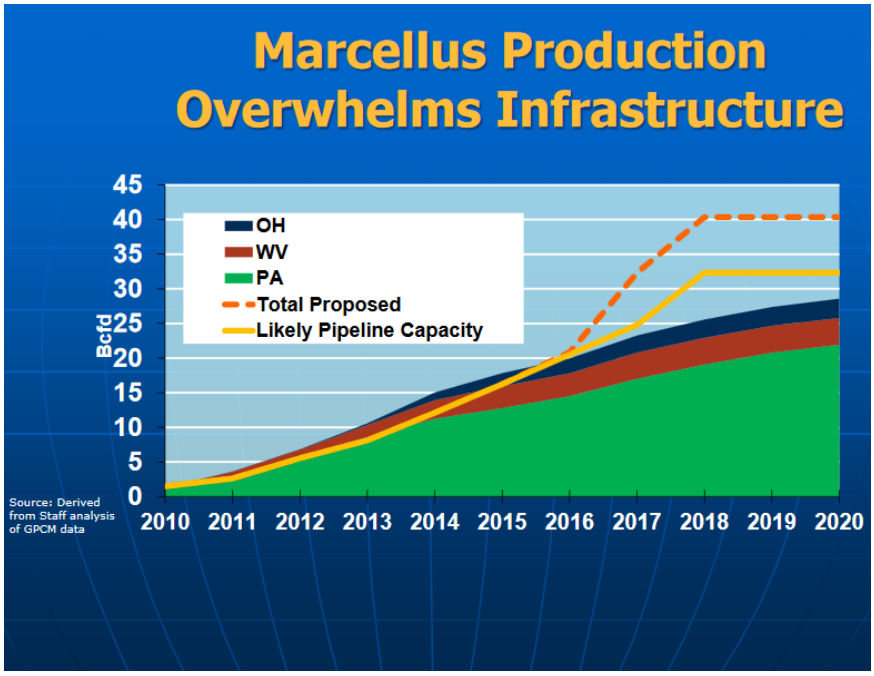


FERC Staff

Concern about overbuilding pipelines is not limited to industry observers. In a presentation to Commissioners on March 19, 2015, FERC staff identified a more than 40% potential overbuild

[34] Marcellus/Utica On Pace for Pipeline Overbuild, Says Braziel, Jeremiah Shelor, NGI's Daily Gas Price Index, June, 8 2016

in the capacity of proposed takeaway pipelines compared to the output of the Marcellus.[35] This is indicated by the dashed line in the chart created by FERC staff shown below. The title speaks to the insufficient infrastructure in 2014. In 2017, the title of the slide would be "Pipeline Capacity Overwhelms Marcellus Output."



Industry Insiders

Dominion is aware of likely excess capacity too. In January 2016, several industry insiders commented on this fact at the Seventh Annual Marcellus-Utica Midstream Conference & Exhibition (MUM)[36]. At the conference, Dominion Transmission Senior Vice President, Don Raikes, told his audience that from 2015 to 2018, 21 billion cubic feet per day (Bcf/d) of new pipeline capacity was planned to take gas away from this production zone.

Elie G. Atme, Vice President, Marketing and Midstream Operations, for independent producer Range Resources, told the MUM attendees, "We believe the Appalachian Basin's takeaway

[35] 2014 State of the Markets, Item No. A-3, March 19, 2015, presented by the Office of Enforcement's Division of Energy Market Oversight to the Commissioners, Slide 8, http://www.ferc.gov/CalendarFiles/20150319162231-A-3.pdf

[36] Marcellus-Utica Could Soon be "Overpiped", February 1, 2016, Kallanish Energy, http://www.kallanishenergy.com/2016/02/01/marcellus-utica-could-soon-be-overpiped/

capacity will be largely overbuilt by the 2016-2017 timeframe," noting that production growth in Northeast Pennsylvania, the most productive region in the Marcellus, had stopped, and growth in Southwest Pennsylvania, where both Marcellus and Utica drilling is underway, "is slowing". This information is not coming from pipeline organizations that question the need for more development, but from industry insiders.

This seems to be the nature of the business. Every developer thinks that their proposal has merit. In his second quarter 2015 earnings report to industry analysts, Chairman and Chief Executive Officer, Kelcy L. Warren, of Energy Transfer Partners, a pipeline developer, said, "The pipeline business will overbuild until the end of time. I mean that's what competitive people do. We've done it. Others have done it around us." [37]

Department of Energy Studies

The Department of Energy (DOE) agrees that we have enough pipeline capacity in Virginia and North Carolina after undertaking extensive studies of the need for more pipelines to supply the new gas-fired power plants that are replacing coal units in the electric power sector. One study concluded that increased demand for natural gas to generate electricity, "does not lead to larger increases in pipeline capacity because . . . available existing pipeline capacity is projected to be used before expanding existing pipelines or building new capacity. Given the cost of building new pipelines, finding alternative routes that utilize available existing pipeline capacity is often less costly than expanding pipeline capacity." [38]

This is supported by information reported by the DOE's Quadrennial Energy Review Analysis. [39] The DOE notes that "In cases where new production must travel via interstate pipelines to reach

[37] Second quarter 2015 earnings call to industry analysts, Kelcy L. Warren - Chairman & Chief Executive Officer Energy Transfer Partners, http://seekingalpha.com/article/3409276-energy-transfer-partners-lp-etp-kelcy-l-warren-on-q2-2015-results-earnings-call-transcript?page=10

[38] Natural Gas Infrastructure Implications of Increased Demand from the Electric Power Sector, U.S. Department of Energy, February 2015, http://energy.gov/sites/prod/files/2015/02/f19/DOE%20Report%20Natural%20Gas%20Infrastructure%20V_02-02.pdf

[39] Quadrennial Energy Review Analysis: Department of Energy, Office of Energy Policy and Systems Analysis. "Natural Gas Infrastructure Implications of Increased Demand from the Electric Sector." February 2015. Appendix B: Natural Gas, http://energy.gov/sites/prod/files/2015/06/f22/Appendix%20B-%20Natural%20Gas_1.pdf

demand centers, the most inexpensive way to transport it is by using available existing infrastructure." This is aided by re-orienting the existing natural gas transmission pipeline network that "will require reversing flows on pipelines to flow Marcellus and Utica gas to the southeastern Atlantic region".

The Department of Energy study says that "The existing natural gas pipeline network possesses latent capacity, reducing the need to build new pipelines. This is the case even in high natural gas demand projections that indicate only moderate incremental new pipeline infrastructure would be needed." The government's projections show that "only about 5 percent of additional capacity will be needed to serve the Southeast, especially to create more deliverability to Georgia." The DOE goes on to say, "the pipeline network in the Southeast is already designed to handle large natural gas flows to distant parts of the country and needs little expansion to handle new flows within a more constricted region."[40]

The DOE confirms other observers' concerns about overbuilding by stating, "In the mid to long-term, incremental outbound capacity from Pennsylvania and Ohio is expected to exceed Marcellus production (i.e., pipeline constraints in Marcellus are a short-term phenomenon), assuming expected pipeline expansions go in service on time."[41]

We ask that the Commission rely on the in-depth studies of the federal agency charged with being the government's expert in these matters. The need for more pipeline capacity cannot be justified by using only precedence agreements with captive affiliates.

Choosing to build an unnecessary new pipeline when existing pipelines can provide the same or greater capacity adversely affects the interests of those existing pipelines, costs electric utility

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[40] Ibid.
[41] Ibid.

ratepayers many millions more per year, severely disrupts sensitive environmental areas, and infringes on personal property rights without a valid reason.

3.0 Alternatives

The DEIS says that the evaluation of alternatives is "based on project-specific information provided by Atlantic and DTI, affected landowners, and other concerned parties . . ." The hand of the ACP and Dominion is apparent in the DEIS material but there is no evidence that input from intervenors and other concerned parties has been addressed. On numerous occasions, we have submitted questions to the applicants and filed motions and comments with the Commission in order to see the rigorous and objective information required by NEPA that proves the need for the project. The applicant responded by basically saying, "of course it is needed, we have precedent agreements", but no data to justify the market demand for the project has been provided. The last hope was that the Commission would conform to NEPA and provide the required information in the DEIS since this is the last opportunity for the public to review and comment on the information that will be the foundation of the Commission's decision about whether to issue a certificate for the project.

If the project has merit, why is there no information in the application or the DEIS that proves it is needed? The only justification given is that affiliates of the owners of the pipeline have signed long-term agreements to reserve pipeline capacity. This does not prove that this project is the best and least-expensive means to provide an adequate supply of natural gas to the region. It only proves that the parent companies can coerce their subsidiaries to obey even if they must harm the interests of their utility customers (gas and electric) by charging them millions more to transport the natural gas.

It is appropriate that alternatives to the project be technically and economically feasible and we should compare the economic, environmental, and other features to the proposed action. However, it is the third option that the DEIS evaluation of alternatives fails to conform to NEPA.

The DEIS says that the alternatives to the project must provide a supply of natural gas to the project's delivery points in a similar timeframe as the proposed project. The Commission then redefines the purpose of the project in order to dismiss the various alternatives. That is not an appropriate method to dismiss options. Specific examples will be given as each alternative is reviewed.

3.1 No-Action Alternative

The Commission entirely misses the point in their response to this section. The DEIS states, "if the no-action alternative is selected, the stated purpose of projects would not be met." This conclusion is based on an incorrect definition of the project's purpose. To summarize, Section 1.1 of the DEIS defines the project purpose as:

- have an adequate supply of natural gas to support the proposed new gas-fired electric generation in Virginia and North Carolina
- have an adequate supply of natural gas to support the growth in traditional uses of natural gas in Virginia and North Carolina (delivered by LDCs)
- to increase the reliability and security of natural gas supplies in Virginia and North Carolina (presumably by having access to gas supplies from more than one location)
- to provide access to a large volume, low-cost supply hub

In Section 3.0, the DEIS incorrectly states the project purpose (in just the way the project developer would) as being "to transport price-competitive natural gas from West Virginia to electric generation, distribution, and end-use markets in West Virginia, Virginia, and North Carolina." The entire reason to have a discussion of alternatives is to determine if the purpose as stated in Section 1.1 (the items summarized above) can be accomplished by some means other than the proposed project. If such alternatives exist, we can compare their costs and benefits.

Section 3.1 exists to determine if the purpose of the project can be accomplished with a non-pipeline alternative. The other pipeline options are considered in Section 3.2 System

Alternatives. By improperly narrowing the definition of the project purpose, the Commission fails to perform its duty under NEPA by saying:

> The Commission also received numerous comments suggesting that the electricity and power generated from natural gas could be generated and supplied by renewable energy sources such as solar and wind power and that the use of these energy sources as well as gains realized from increased energy efficiency and conservation should be considered as alternatives to the projects.
>
> The generation of electricity from renewable energy sources is a reasonable alternative for a review of power generating facilities. Authorizations related to how the project area would meet demands for electricity are not part of the application before the Commission and their consideration is outside the scope of this EIS. Therefore, because the purpose of ACP and SHP is to transport natural gas, and the generation of electricity from renewable energy sources or the gains realized from increased energy efficiency and conservation are not transportation alternatives, they cannot function as a substitute for ACP and SHP and are not considered or evaluated further in this analysis.

Issues such as this are not "outside the scope of this EIS". NEPA specifically requires lead federal agencies to "include reasonable alternatives, not within the jurisdiction of the lead agency".

The purpose of the ACP might be "to transport natural gas", but that is not the purpose of the project. As stated in Section 1.1, the purpose of the project is to assure an adequate supply of natural gas in Virginia and North Carolina to supply possible new gas-fired electricity generation and to meet increases in the traditional uses of natural gas in the region.

The DEIS refers to past growth in natural gas consumption in the region but includes only vague references to future growth in demand. No specific footnotes or a bibliography were included in the DEIS so it is difficult to determine which EIA reports were being referenced. We have provided specific references that show energy use is no longer coupled to increases in population or economic activity. EIA projections show natural gas use in the residential sector is declining. Commercial, industrial and use for electricity generation are expected to increase about 0.5% per year between now and 2040. If this occurs (the EIA is an excellent reporter of what has happened

but a notoriously bad forecaster of what will happen) there are numerous ways to deal with it other than a new pipeline. That is what the Alternatives section is supposed to investigate.

Claims of Supply Constraints Disproved by Independent Studies

The DEIS also refers to "existing supply constraints in the proposed delivery areas" but no evidence is provided to support the statement. Curtailments associated with the Polar Vortex have been shown by numerous studies to be related to shortcomings in the human system (differences in the gas and electricity dispatch day and other factors) not, in nearly all cases, a lack of gas supply or pipeline capacity.[42]

The only rigorous evaluation of pipeline capacity and natural gas demand in the region was performed by Synapse Energy Economics, a highly regarded independent consultant.[43] Synapse examined forecasts for peak natural gas usage in the region from Local Distribution Companies (LDC's) and the demand increase attributed to the new gas-fired power plants proposed through 2030. For the first time, an analysis of the growth in natural gas demand was compared to the capacity of existing pipelines in the region to determine if existing pipelines could adequately supply the increase in demand from the new power plants and traditional uses of natural gas.

Researchers assessed the "peak hour" demand in the expected gas usage scenario and also evaluated a "high gas use" scenario that assumed less-than-expected use of renewable energy, and greater than anticipated coal-fired power plant retirements.

Synapse reviewed the capacity of major natural gas transmission pipelines in the region belonging to nine different companies. Natural gas storage facilities in the region added to the supply capacity.

[42] Analysis of Operational Events and Market Impacts During the January 2014 Cold Weather Events, PJM Interconnection, May 8, 2014

[43] Are the Atlantic Coast Pipeline and the Mountain Valley Pipeline Necessary?, Synapse Energy Economics, Inc., September 12, 2016, https://www.southernenvironment.org/uploads/words_docs/2016_09_12_Synapse_Report_-_Are_the_ACP_and_MVP_Necessary__FINAL.PDF

Expected capacity additions from the reversal of flow in the Transco corridor bringing large supplies of natural gas from the Marcellus to Virginia and the Carolinas and extra capacity that would remain in the region from the 1.3 Bcf/d expansion of the Columbia Gas Pipeline were considered as part of the regional capacity.

Synapse concluded that the upgrades and reversal of flow in existing pipelines could provide a supply of natural gas to the region that was significantly in excess of even the highest-demand scenario. The study revealed that no new pipelines are needed to assure an ample supply of natural gas to Virginia and the Carolinas. No equivalent information has been provided by the applicant or in the DEIS to show that the situation is any different than what Synapse has concluded.

Other alternatives discussed in this section include those that might substantially alter the growth in demand for natural gas. The Commission should also pay attention to the so far unconsidered consequences of a rapid build-out of natural gas. The Commission cannot argue that it is not their business to consider developments that might render a pipeline far less beneficial to the public interest a decade or so into the forty years required to pay for it.

A 21st Century Energy System

An outline of a plan for Virginia's energy system has been developed that meets our needs for comfort and energy through 2040 without the need for any new gas-fired generation beyond what has already been approved. No new gas-fired power plants, no need for a new pipeline. A similar path would apply to North Carolina.

The plan includes a number of components. Low-cost energy efficiency, renewables, storage, and demand response are the primary alternatives to the construction of new natural gas power plants. Baseload requirements are met for the next 15 years with existing conventional generating units. This plan relies on available technology. It provides thousands of more long-

term jobs and results in lower costs of energy to our families and businesses than the outcome resulting from more gas-fired power plants. Natural gas is an increasing-cost technology. Trends such as overbuilding pipeline capacity and increasing LNG exports will only accelerate the speed at which the cost of natural gas rises. The Commission might argue that this is just a plan, not a certainty. It should be remembered that the new power plants that are creating the need for a new pipeline are just a plan, not a certainty. These issues should be considered when determining the public convenience and necessity for a new pipeline.

The Commission has responded that these issues are not within their domain; that they cannot substitute for the ACP (based on what evidence?); and that they will not be considered further. The Commission has approved every application for a new pipeline that had precedence agreements for at least a portion of the project's capacity. No other evidence of market demand was required. No-Action or System Alternatives were not given the rigorous evaluation required by NEPA. The Commission believes it is responsible for developing natural gas infrastructure. This must be balanced with an objective evaluation of the public's interest. Otherwise, unintended consequences result. With such a one-sided view of what is needed, poor choices are made. When you only have a hammer, you treat everything like a nail.

The Risk of Stranded Assets from Overzealous Natural Gas Development

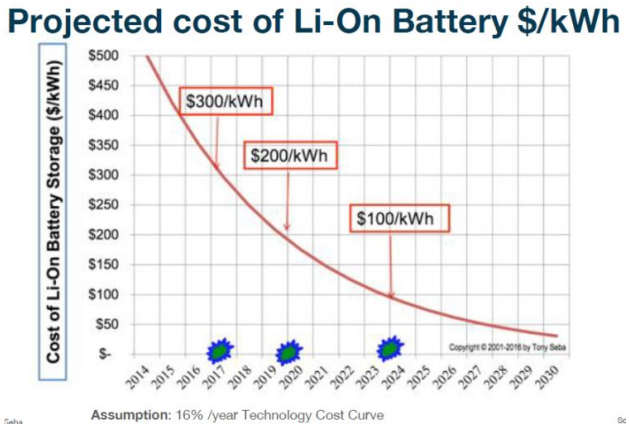
The appointment of new Commissioners and an even greater commitment to building new pipelines and LNG export facilities might not create the jobs and lower energy costs that are hoped for. The Commission encountered this in the 1990s and early 2000s with the rush to build new LNG import facilities. Money was spent and property was disrupted for a need that did not materialize as expected.

New conventional energy projects will not have the same economic benefits as they did in the 20th century. Our energy system and customer behaviors have changed. A consortium of top global companies (RE 100) has announced that their members will locate new facilities only in

those areas that have affordable, easy access to supplies of renewable energy.[44] There are bountiful opportunities for energy efficiency projects (especially in commercial and government buildings) at a cost of 2-3 cents/kWh. Using less energy to produce more economic activity is the new sign of progress as opposed to the higher per capita energy use of the 20th century.[45]

This is a wrenching and disruptive change for the nation's utility industry that has been built on the economic model of "Build More – Earn More". Real world experience is shifting long-held habits of energy planners. They are beginning to consider shifting demand to meet supply rather than the traditional approach of adding supply to meet demand. New options are being considered when we add to supply.[46] In 2016, solar was 39% of all new capacity additions, natural gas accounted for 29%, and wind contributed 26% of new generation.[47]

New technologies such as solar, wind, and storage are on a decreasing technology learning curve that is expected to last for decades. Prices for renewables and battery storage are expected to decline by 50% every 4-5 years, similar to the curve for batteries, shown below:



[44] Walmart, Nike, Starbucks commit to 100% clean energy, Fortune, Katie Fehrenbacher, September 23, 2015, http://fortune.com/2015/09/23/fortune-500-clean-energy/

[45] Electricity Demand Failing to Provide Spark for Natural Gas, BTU Analytics, Tony Scott, December 6, 2016, https://btuanalytics.com/electricity-demand-natural-gas/

[46] Wind and Solar are Crushing Fossil Fuels, Bloomberg, Tom Randall, April 6, 2016, http://www.bloomberg.com/news/articles/2016-04-06/wind-and-solar-are-crushing-fossil-fuels

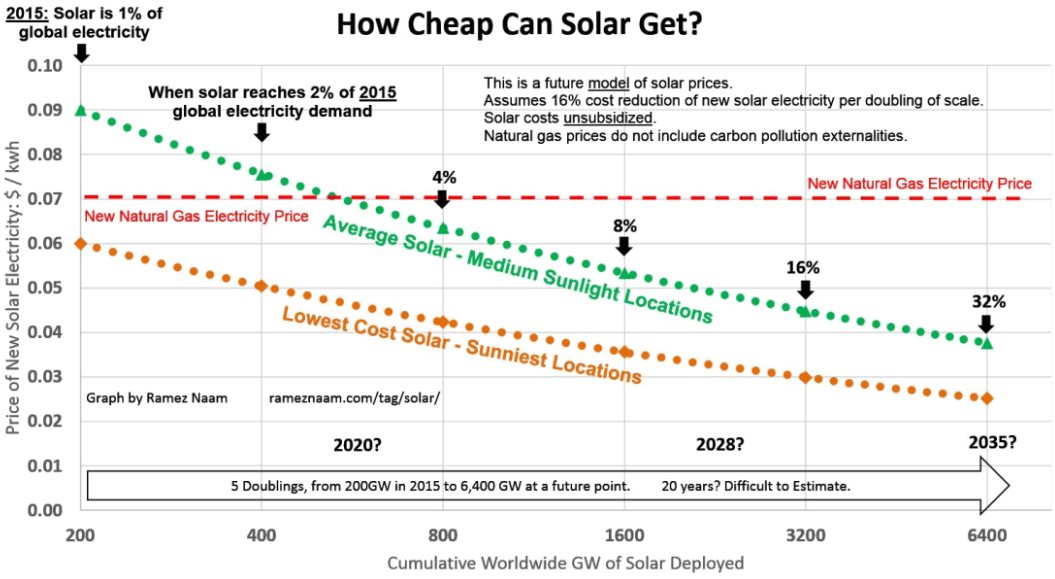
[47] U.S. Solar Market Grows 95% in 2016, Smashes Records, GreenTech Media, Mike Munsell, February 15, 2017

This cost trend is in stark opposition to that of natural gas. The extraordinarily low cost of natural gas the past few years is not likely to be repeated. It was due to several factors:

- Cheap easy money from Wall Street created a stampede by drillers to extract natural gas from shale plays during the worldwide peak in natural gas prices
- The unconventional shale wells reached peak production and declined within a few years
- Drillers could not afford to cut back production to balance with demand or they would be bankrupt
- Supply continued to increase far faster than demand and prices fell to record low levels
- Drillers cut costs by:
    - Improving technology (20% of the cost reduction and likely to continue)
    - Paying drilling service companies less (40% - will only go up from here)
    - Drilling the sweet spots first (35% - new wells will be less productive)

Building 40 percent more pipeline capacity than the maximum output of the Marcellus and LNG exports speeding the decline of the most productive wells will increase natural gas prices. Forecasting future energy prices is always a risk, but the major long-term trends are in the direction of higher gas prices. We will have natural gas available, but it will be more expensive.

The increasing cost of energy from natural gas-fired plants will soon by undercut by the rapidly declining costs of renewables as shown below:



This is happening in California now. The abundant supplies of low-cost solar are keeping recently built gas-fired combined cycle plants from being dispatched often enough to cover their costs on an annual basis.[48] If a power plant is in the rate base, ratepayers must pay for it until the end of its economic life (36-40 years) regardless of whether the power plant provides any economic value to them. It has become a stranded asset.

In Ontario, they have replaced all of their coal plants with gas-fired power plants. With stable load growth and inroads being made by energy efficiency and renewables, the new combined cycle plants operate just 10% of the time. They need to run at a capacity factor of 60% to break even. The gas-fired peaking plants are dispatched 1% of the time on average. Ratepayers are paying a huge penalty for this error in judgment by their energy planners and regulators.[49]

Dominion projects that the cost of its natural gas supplies will increase from under $2, where it has been for the past several years, to $6-$8 in the next 10-15 years.[50] Fuel costs increasing 3-4 times will double the costs of energy from the new combined cycle plants (all recoverable in customers' utility bills via the fuel adjustment factor). What happens if some of the proposed new gas-fired power plants get built and are then undercut in price by new energy technologies so that they are used far less than was anticipated when they were approved? They will use less gas. That is clear. If that gas is delivered by the ACP the pipeline owners are guaranteed the income from the 20-year contracts signed by their sister companies. Who pays that bill? The ratepayers of course! In some cases, the Commission has allowed pipeline owners to increase rates in order to cover the costs of an underutilized pipeline. Again, the ratepayers will get stuck with the bill.

Bloomberg New Energy Finance expects that U.S. use of natural gas, coal, and oil will peak about 2025. Bloomberg analyses show that "even rock bottom prices won't be enough to derail

[48] California Merchant Generator, Lamenting Market Forces, Files for Bankruptcy, Power Magazine, Dec. 8, 2016
[49] Ontario Planning Outlook, IESO, September 2016
[50] Integrated Resource Plan, Dominion Virginia Power, Case No. PUE-2016-00049, April 29, 2016, p 73

a rapid global transition toward renewable energy".[51] The cheap natural gas that has scuttled the U.S. coal industry does not look like it will become the "bridge fuel" on the road to renewables that energy executives have been promoting for years. Less load growth and declines in renewable prices will require just a small step to embrace a cleaner, lower cost energy future. No "bridge" will be needed according to the experts. Billions are projected to be invested in pipelines between 2015 and 2020. Just 5 to 10 years into their 100-year useful lives these projects could encounter a substantial decline in their usage. Any increase in the price of natural gas will increase the price of natural gas-generated electricity putting it at a further price disadvantage to renewables and accelerating the downward spiral of natural gas-fired power plant capacity factors.

"These utilities are taking a risk that these will be stranded assets that ultimately their shareholders will have to pay off," Jon B. Wellinghoff, a San Francisco attorney who served as chairman of the Federal Energy Regulatory Commission from 2009 to 2013, said by phone. "We will see regulators being more critical of these asset decisions as prices of renewables continue to go down."[52]

We must make strategic choices about our natural gas infrastructure. Many changes will occur in our energy system over the next forty years. The Commission cannot ignore the future effects on customers' bills caused by decisions about pipelines made today. The effects of new technology over the lifetime of a project and the risks of disruption of the use and payback for a project are an integral part of the consideration of public convenience and necessity. The Commission cannot avoid its duty to address No-Action alternatives just because they do not involve the construction of a new pipeline.

[51] The World Nears Peak Fossil Fuels for Electricity, Tom Randall, Bloomberg News, June 13, 2016, http://www.bloomberg.com/news/articles/2016-06-13/we-ve-almost-reached-peak-fossil-fuels-for-electricity

[52] "Utilities Buying Gas Pipelines Better Watch out for Batteries", Harry Weber and Tim Loh, Bloomberg News, November 11, 2015, http://www.bloomberg.com/news/articles/2015-11-11/utilities-buying-gas-pipelines-better-watch-out-for-batteries

Natural Gas and Climate Change

The DEIS claims that if "the no-action alternative were adopted, then air emissions could be increased if other sources of energy were used." Actually, the Commission has this one backward. Consideration of No-Action alternatives is especially important because methane leaks along the natural gas supply chain and emissions from gas-fired power plants will exceed U.S. climate goals all by themselves.[53] If there was no contribution from coal or oil, the planned expansion of natural gas production and use would make meeting U.S. climate goals impossible, even if we assume a 45 percent reduction in methane leakage. The preferred No-Action alternative of an energy system that uses zero emission choices such as energy efficiency, renewables, storage and other modern energy technologies instead of adding more gas-fired power plants is the only option that effectively deals with this issue.

The Defense Department is undertaking many measures to deal with the consequences of climate change. This is no small issue in Virginia. The largest naval base in the world is in southeast Virginia along with numerous other federal installations. The federal presence in this region is vital to our state's economy and to our national defense. Studies predict that sea level could rise by 6-8 feet in this area by the end of the century.[54] The Navy estimates it would take an investment of at least $460 million to replace piers already affected by sea level rise and millions more to protect other important facilities.[55] The City of Norfolk may require a total investment of $1 billion in the coming decades.

The unnecessary development of natural gas infrastructure might provide a short-term profit opportunity for some industry interests, but it has negative long-term consequences for Virginia. The CEQ directed the Commission to include an evaluation of greenhouse gasses in the consideration of new pipeline projects, but the directives were ignored. Such issues have important economic consequences in our region and should be factored into the consideration of the public convenience and necessity for this project.

[53] A Bridge Too Far: How Appalachian Basin Gas Pipeline Expansion will Undermine U.S. Climate Goals, OilChange International, July 2016
[54] The US Military on the Front Lines of Rising Seas, Union of Concerned Scientists, Fact Sheet, 2016
[55] Sea-Level Rise and its Impact on Virginia, World Resources Institute, Forbes Tompkins and Christina Deconcini

In the summary of this section, the Commission rejects any No-Action alternatives that use options other than natural gas to meet the energy needs of the region, without any rigorous or objective evaluation as required by NEPA. The National Environmental Policy Act guidelines require that the lead federal agency "devote substantial treatment to each alternative . . . so that reviewers may evaluate their comparative merits."[56] The Commission notes that although "the no-action alternative would avoid the environmental impacts of the proposed projects", it "would likely result in the need for an alternate energy means to satisfy the demand for natural gas and energy in the project area" such as "renewable energy". Without actually devoting "substantial treatment" to the costs and benefits of this option the Commission concludes "the no-action alternative is not preferable to ACP and/or SHP and we do not recommend it." The Commission is failing in its NEPA duty and showing a predisposition to reject any option that is not a pipeline, especially a pipeline from West Virginia to Virginia and North Carolina.

3.2 System Alternatives

System alternatives make use of existing, modified, or other proposed facilities to meet the purposes of the project. They should provide at least 1.44 Bcf/d of capacity to the delivery points specified for the ACP. Alternatives must be technically and economically practical and offer significant environmental advantages over the proposed project.

The Commission asks that the alternatives also be available within a reasonably similar timeframe as that proposed for the ACP. The current commercial operation date for the ACP is late 2019. We do not understand the rush for this project. The first power plants requiring gas supply are not scheduled for operation until 2022. As noted, it is quite possible that these units could be delayed or abandoned because of declining load growth. The LDCs in North Carolina have substantial supplies available using the existing connection to Transco. We are concerned the ACP is taking risks with the residents, communities and the environment along the pipeline route by continuing construction during the winter months in environmentally sensitive areas with unstable soils. However, the existing pipelines that are considered superior to the ACP should be available within the same timeframe as the proposed project.

[56] Department of Energy, National Environmental Policy Act Guidelines, http://energy.gov/sites/prod/files/NEPA-40CFR1500_1508.pdf

3.2.1 Existing Pipeline Systems

The Commission states that existing pipelines in the region "do not have the available capacity to transport the required volumes of natural gas to the delivery points proposed for ACP and SHP". This is another conclusion made without any evidence being provided in the DEIS. We have made several requests to the applicant and the Commission to provide the detailed information comparing the actual (not presumed) capacity of these existing pipelines to the requirements of the subscribers of the ACP. As previously noted, the only such analysis was performed by Synapse Energy Economics and their study concluded that sufficient capacity is present in existing systems to meet the requirements.[57] Without an equivalent accurate representation of the capacity and demand in our region in the DEIS, there is no foundation for the Commission to conclude that they do not consider "the use of existing pipeline systems as is, as feasible alternatives to the proposed projects."

3.2.2 Modifications to Existing Pipeline Systems

Existing pipelines in the project area do have the capacity necessary to meet the project's purpose and can be modified to supply ACP's subscribers at their designated points of delivery. A detailed description of the alternatives is provided below so that reviewers "may evaluate their comparative merits" with the proposed action, as required by NEPA.

3.3.3.1 Existing Transco Pipeline System

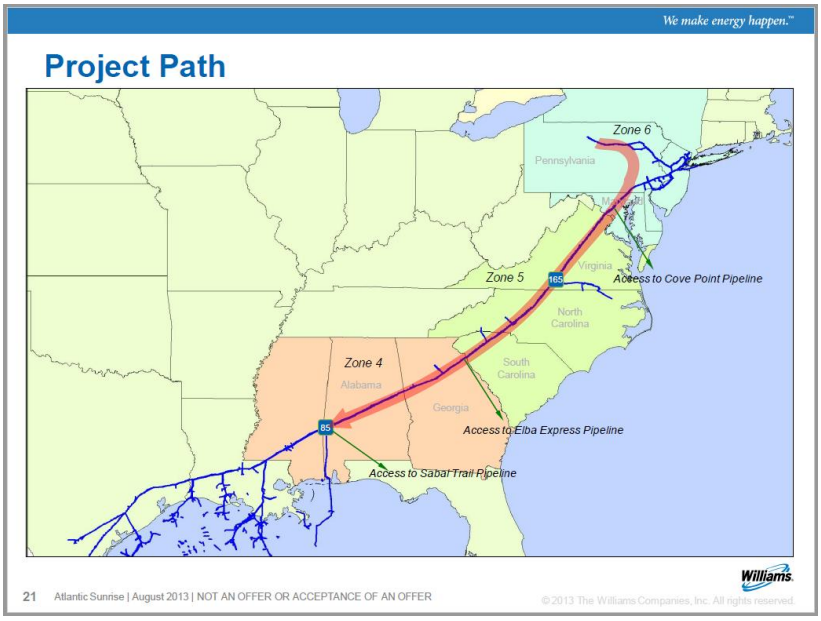
Adequate Capacity Exists to Supply ACP Subscribers

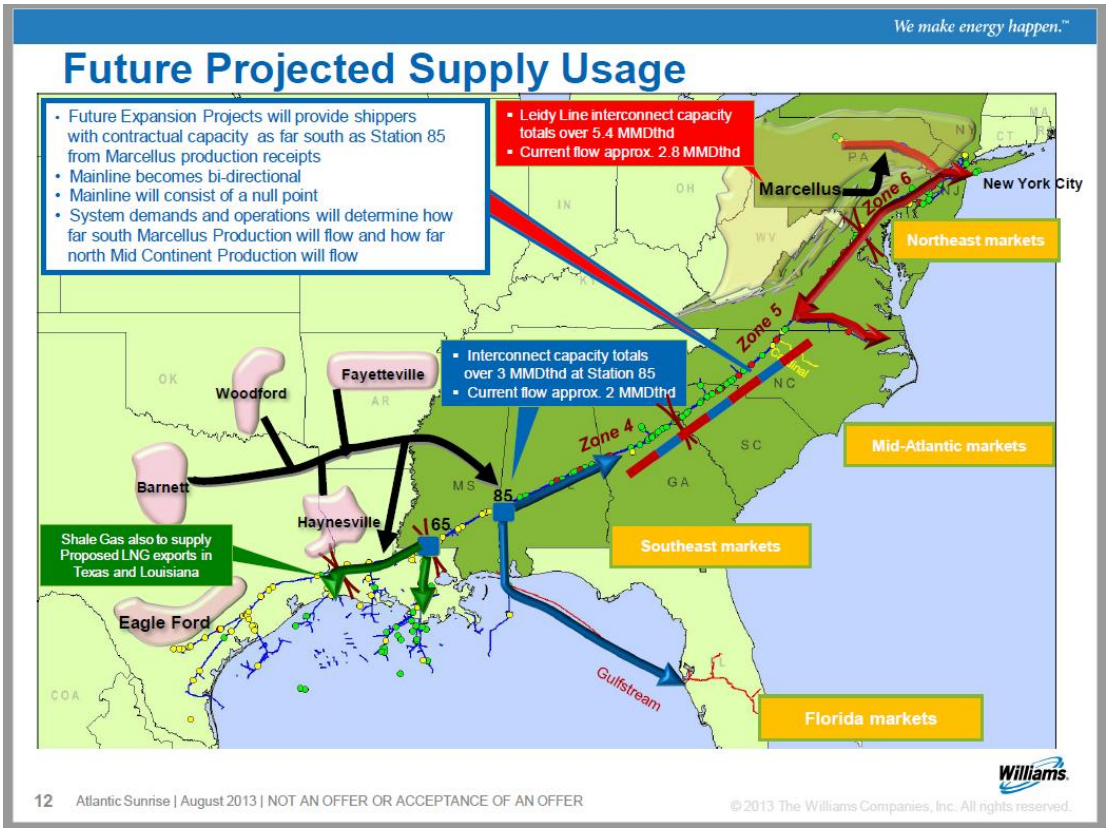
The 10,000-mile Transcontinental Pipeline, initially developed in the 1950's, runs from the Gulf Coast production zones in an 1800-mile corridor along the eastern seaboard to metropolitan demand centers in the northeast. Close to 10% of all U.S. natural gas is supplied via this pipeline.[58] Development of shale gas production in the Marcellus over the past 10 years has significantly altered the traditional movement of natural gas from south to north. As new

[57] Are the Atlantic Coast Pipeline and the Mountain Valley Pipeline Necessary?, Synapse Energy Economics, Inc., September 12, 2016, https://www.southernenvironment.org/uploads/words_docs/2016_09_12_Synapse_Report_-_Are_the_ACP_and_MVP_Necessary__FINAL.PDF

[58] WMB - Williams Companies Inc and Williams Partners LP Analyst Day, THOMSON REUTERS STREETEVENTS, MAY 13, 2015, http://edge.media-server.com/m/p/vzqm48js

takeaway pipelines are built to bring the production of the Marcellus into the national gas transmission system, much of the demand in the northeast can be served directly from the Marcellus. This frees up several of the pipelines in the Transco corridor to move natural gas from the Marcellus to markets in the Southeast as far as Alabama, as shown below.





The takeaway capacity that has been added in the Marcellus (5.446 million Dth/d currently with more to come) has been a major part of the expansion in overall Transco capacity from 10.8 Bcf/d in 2014 to 17.7 Bcf/d in 2017.[59] Supplying northeastern markets directly from the Marcellus frees up an equivalent amount of capacity in the four major gas transmission pipelines in the Transco corridor to move gas southbound for markets in the Southeast. This provides nearly four times the capacity offered by the ACP.

This is precisely the scheme referred to by the Department of Energy when they explained how existing pipelines can be utilized to serve higher demand in Virginia and North Carolina. "Flow reversal [of existing pipelines] is also projected southward out of the Marcellus to serve markets in the Southeast. Pipelines that currently bring natural gas from the Gulf region to the north are projected to reverse flow so that Marcellus production can serve the Virginia and Carolinas markets"[60]

Another Department of Energy study showed that "The existing natural gas pipeline network possesses latent capacity, reducing the need to build new pipelines. This is the case even in high natural gas demand projections that indicate only moderate incremental new pipeline infrastructure would be needed." The government's projections show that "only about 5 percent of additional capacity will be needed to serve the Southeast, especially to create more deliverability to Georgia." The DOE goes on to say, "the pipeline network in the Southeast is already designed to handle large natural gas flows to distant parts of the country and needs little expansion to handle new flows within a more constricted region."[61]

[59] Ibid.
[60] The U.S. Department of Energy, "Natural Gas Infrastructure Implications of Increased Demand from the Electric Power Sector", February 2015, http://energy.gov/sites/prod/files/2015/02/f19/DOE%20Report%20Natural%20Gas%20Infrastructure%20V_02-02.pdf
[61] Quadrennial Energy Review Analysis: Department of Energy, Office of Energy Policy and Systems Analysis. "Natural Gas Infrastructure Implications of Increased Demand from the Electric Sector." February 2015. Appendix B: Natural Gas, http://energy.gov/sites/prod/files/2015/06/f22/Appendix%20B-%20Natural%20Gas_1.pdf

A Williams Company (Transco) representative relayed the difficulty when dealing with accurate numbers about Transco capacity. They cannot refer to capacity in the system (even though it exists) unless it applies to a project that has subscribers. Many of the projects adding to the Transco capacity are owned by natural gas producers. Their marketing subsidiaries are the "customers". This leads to misunderstanding about the actual availability of natural gas and the pipeline capacity to transport it. Many misinterpret the "fully subscribed" nature of these projects as meaning that there is no natural gas or transport capacity available (the ACP and the DEIS make this error) when in fact, the projects are owned by gas producers eager to find customers, especially in the Southeast.

It makes sense to use existing pipelines before building something new. A pipeline project should be approved only if it offers substantial benefits compared to existing options. The opportunity to attract new customers to existing pipelines should not be diminished by a new competitor such as the ACP because it has captive customers that subsidize its operation who are not allowed to seek other lower cost means of supply.

Supplying the ACP Points of Delivery

The following points of delivery are identified in the application for the ACP:

Virginia

Columbia Gas Transmission, Randolph County WV

Dominion's subsidiary Virginia Power Services Energy Corp. (VPSE) has reserved 300,000 Dth/d for delivery at an intersection with the Columbia Gas line in West Virginia. It is not clear if this is intended for the Warren County plant, for general arbitrage throughout Columbia Gas's extensive system, or for delivery into Virginia to connect to future Dominion power plants at locations that have not yet been determined. In any case, the Columbia Gas pipeline will establish a connection with the Transco corridor in northern Virginia as part of the WB XPress project that will accomplish the same purpose.

Transco, Brunswick and Greensville Counties VA

VPSE has reserved 300,000 Dth/d for delivery to the Brunswick and/or Greensville power plants in Southside Virginia. The amount reserved by VPSE is not sufficient to supply both plants at full capacity, although some amount could be supplied to both of these units. The Brunswick plant is currently supplied by a connector to the Transco system completed in the fall of 2015 (Virginia Southside Expansion Project). A four-mile connector will supply the Greensville plant when it begins operation in 2018. Dominion paid Transco for modifications to pipes and compressor stations in New Jersey in order to make the southbound flow of gas from the Marcellus to Virginia possible for this project. Based on tariffs filed with the Commission, the cost to transport gas to these plants using the ACP is over 3 times more expensive (over $200 million more per year) than the cost to use the existing connection to Transco. The Transco alternative results in significant savings to ratepayers over the 40+ year life of these two plants.

Using the Transco system as the primary source of supply to Virginia and North Carolina would avoid the expense and great disruption associated with the construction and operation of a compressor station in Buckingham County, Virginia.

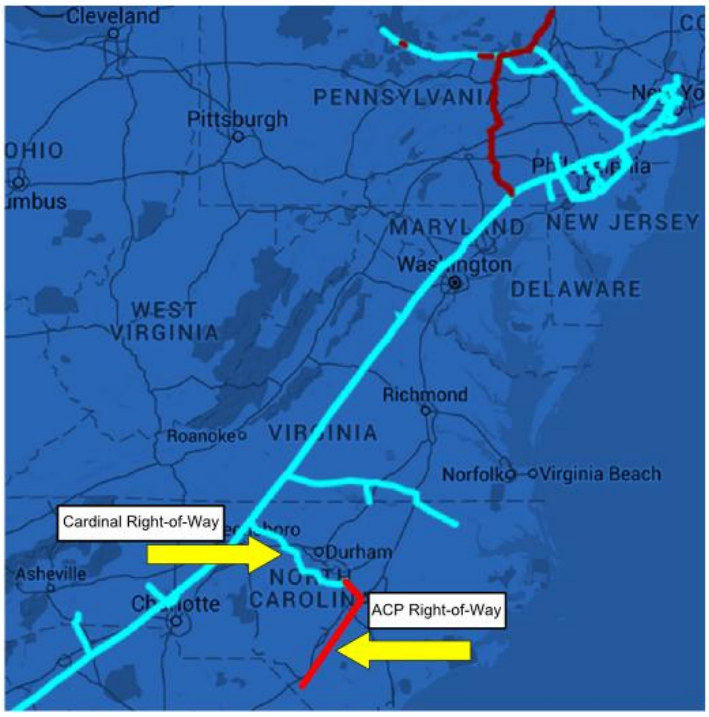
Service to Chesapeake, Virginia identified by VPSE and Virginia Natural Gas will be included in the discussion about the Columbia Gas Pipeline in the next section.

North Carolina

About two-thirds of the capacity of the ACP is bound for North Carolina. Hundreds of miles of 42" pipeline are proposed to be built by the ACP in very sensitive terrain in West Virginia and Virginia in order to transport gas to North Carolina. This is unnecessary, expensive for ratepayers, and destructive to the environment. Rather than 600 miles of pipeline proposed by the ACP, the same volume of gas can be delivered to North Carolina by just 200 miles of new pipeline (half on existing right-of-way). This is much less expensive and far less destructive than the ACP.

Without a compressor station in Buckingham County, VA there is no need for a supply point at that location. The connection to Transco will be made where the Cardinal Pipeline currently connects in Rockingham County, North Carolina. A compressor station would be required at this location, replacing the one in the northern part of the state (for the ACP). The Cardinal Pipeline is a 24-inch pipeline that runs 105 miles to a point southeast of Raleigh, NC. A 30" or 36"-inch pipeline (whatever is appropriate) would connect to Transco and run along the existing Cardinal right-of-way that is jointly owned by Transco, Piedmont Natural Gas, and Public Service Company of North Carolina. Outside of Raleigh, the pipeline would leave existing right-of-way and connect to the last 90 miles or so of the corridor that was identified by the ACP. This would

supply the points of delivery identified by the ACP with exactly the same volumes of natural gas in precisely the same locations as the ACP.



Transco plans to modify compressor stations along the main corridor as needed to support southbound flow. Necessary modifications would be made to maintain appropriate flow and specified pressure to assure reliable power plant operation.

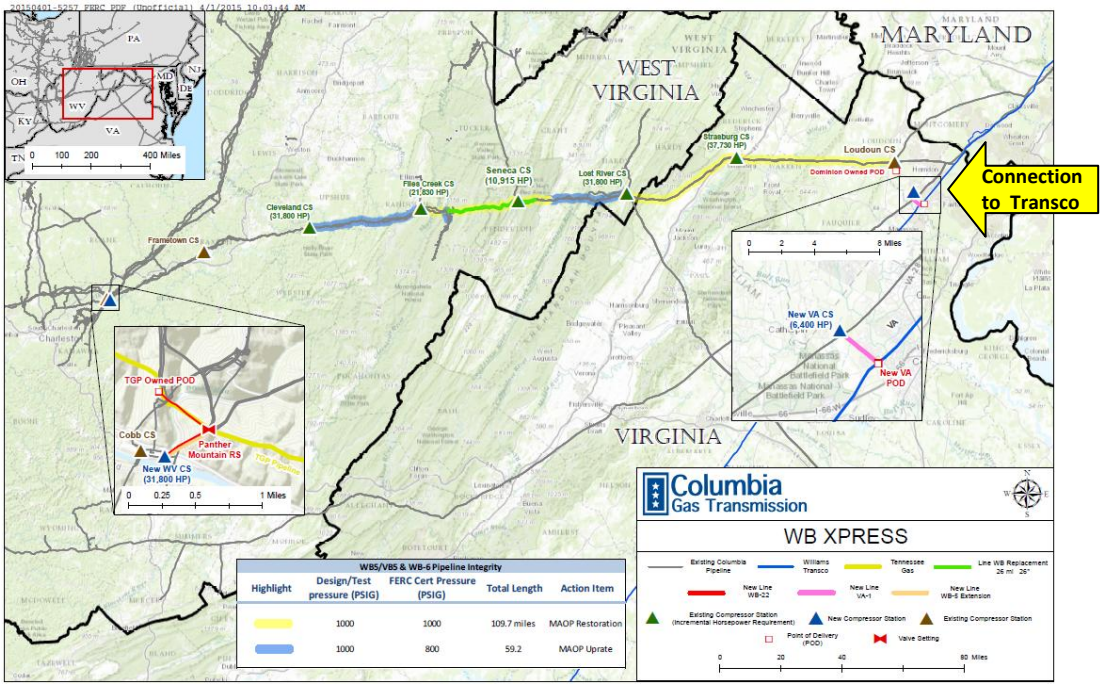
A comparison of the benefits and impacts of this alternative to the ACP will be made when the last supply point is covered in the next section about the Columbia Gas Pipeline.

3.2.2.2 Existing Columbia Gas Pipeline

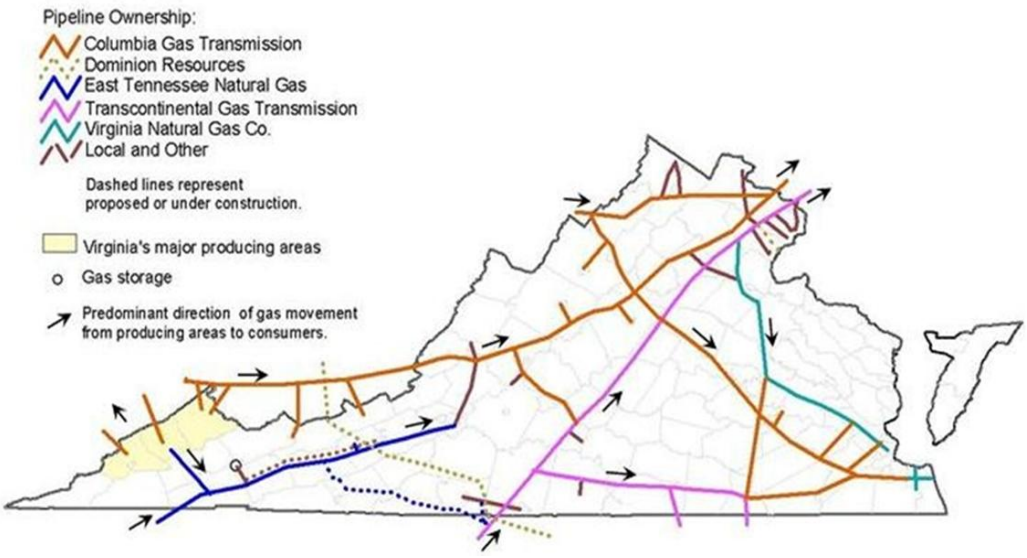
In the previous section, it was shown that abundant capacity on the Transco system could be used to supply all of the points of delivery specified for the ACP with 105 miles of new pipeline construction on existing right-of-way and about 95 miles of greenfield construction on the same right-of-way as that proposed for the ACP. The 150,000 Dth/d reserved by Virginia Power Services Energy and the 155,000 Dth/d reserved by Virginia Natural Gas for delivery at Southern Gate 1 Interconnect in Chesapeake, VA was not addressed. The ACP expects to serve this region with a 20-inch pipeline on 83 miles of new right-of-way from North Carolina to Chesapeake.

The Columbia Gas Pipeline currently has a capacity of 3.0 Bcf/d with an extensive network of pipelines in West Virginia and Virginia going up the east coast into New York. A 1.3 Bcf/d expansion to the system (WB XPress) is planned that will require just 3 miles of new pipeline, 26 miles of replacement pipeline, plus compressor additions and modifications.

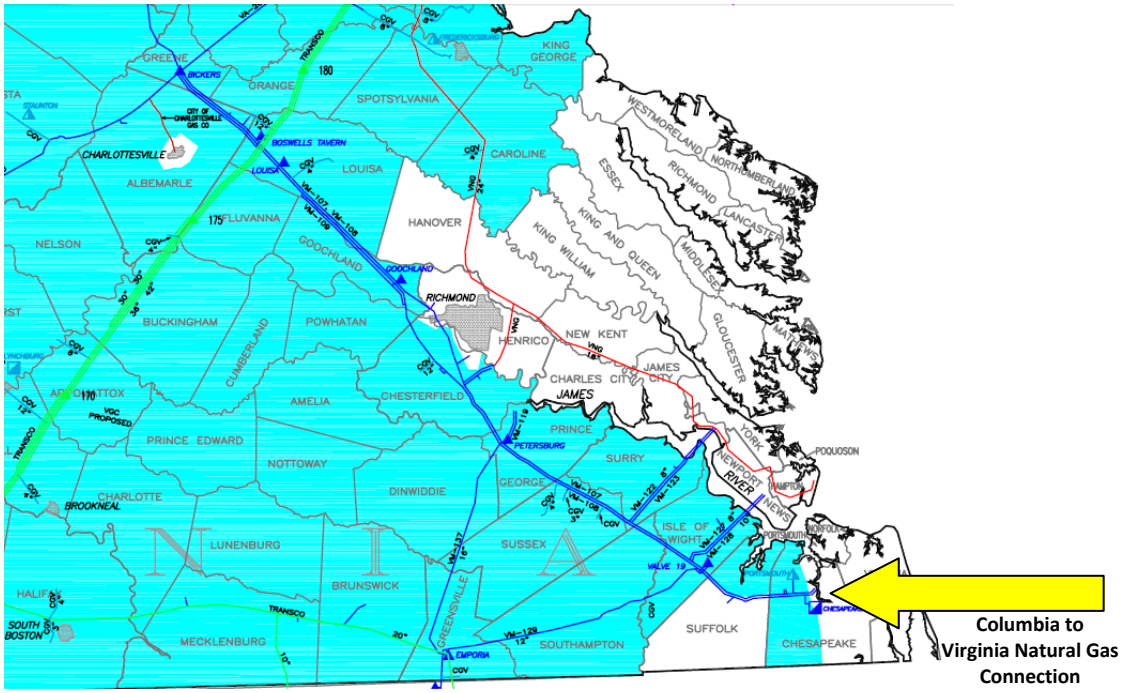
A connection to the Transco corridor will be made as part of the WB XPress project (shown as New VA Compressor Station and New VA Point of Delivery on the drawing).



This connection could tap low-cost Marcellus gas that could be made available throughout Virginia using the existing network of Columbia Gas and Transco pipelines. Siting new power plants, wherever they might be best located, would be far easier using this extensive network compared to the single corridor for the ACP. Using these existing pipelines to transport the gas would save ratepayers hundreds of millions per year in lower costs to transport the gas.



Columbia Gas has existing pipelines that connect to Virginia Natural Gas in the Chesapeake area. However, it is unlikely that they have 155,000 Dth/d of available capacity. Looping a new 20" pipeline on the existing right-of-way would probably be required to provide adequate capacity to the Chesapeake area. Columbia Gas did not respond to requests for information about their pipeline, so it is difficult to determine the distance and details of what might be required to implement this option. Even if the pipeline is longer than 83 miles, it would be constructed on existing right-of-way so the impacts would be far less than the pipeline to Chesapeake associated with the ACP. It would not be part of a 600-mile $5 billion pipeline so the gas transportation costs would be a small fraction of the charges required to transport gas to Chesapeake over the ACP.



Comparison of Transco/Columbia Gas to the ACP

NEPA requires that merits of each alternative be compared with the proposed action so that reviewers can readily see the differences between the alternatives. A table identifying many of the major points of comparison is shown below:

Comparison of ACP to Transco/Columbia Option

Category	ACP	Transco/Columbia
Capacity	1.5 Bcf/d	1.5+ Bcf/d
Pipeline		
42"	333 miles	0 miles
36" new ROW	186 miles	95 miles
36" existing ROW		105 miles
20" new ROW	83 miles	
20" existing ROW		100+? Miles
Compressors	3	1 + modifications
Construction Period	2+ years	1 year
All ACP delivery points	Yes	Yes
Economics		
Project Cost	$5 Billion	$1+ Billion
Ratepayer costs	High	Low
Jobs 8-10 months	Moderate	Low
Tax pmts to govts	Moderate	Low
Tax loss prop values	Moderate	Low
Flexibility of gas supply	W. Marcellus	Multi E. Marcellus
		Multi Gulf Coast
Damage to view/tourists	Significant	Little if any
Environmental Impacts		
Steep slopes/landslides	Significant	None
Karst	Significant	None
Erosion/sedimentation	Significant	Little or none
Stream crossings	Significant	Little or none
Unique habitats	Significant	None
Endangered species	Many	None
Drinking water quality	Significant risk	Little or none
Conservation easements	Significant	None
BR Pkwy - App Trail	Significant	None
Historic prop affected	Significant	None
Historic/cultural resources	Significant	None
Compressor sta. effects	Significant	Moderate

This comparison highlights the economic advantages of the Transco/Columbia option compared to the ACP. It will save ratepayers hundreds of millions per year, provide multiple sources of gas supply compared to just one for the ACP, resulting in pricing flexibility and security of supply. The ACP will create more jobs but the jobs will last just 8-10 months. Long-term job gains will be negligible. Losses to local communities from property value decline, local employment losses due to less tourism and view-shed deterioration will be minimal with the Transco/Columbia alternative.

Environmental impacts will be minimized with the Transco/Columbia option. Much of the construction will occur on moderate terrain over existing rights-of-way. The ACP poses significant risks in many important areas, as have been identified in other comments to the Commission. Although this is a summary analysis, it shows the substantial advantages that the Transco/Columbia alternative has over the proposed action. Perhaps the ACP's application and the DEIS were deficient in the proper NEPA comparison of alternatives in order to avoid this comparison. The Commission cannot in good conscience ignore this evidence. An objective review must be made prior to any final determination of the public convenience and necessity related to the proposed action. This option cannot be dismissed just because it is not a pipeline from West Virginia. The Transco/Columbia alternative meets all of the project criteria identified in Section 1.1 far better than does the proposed action.

3.2.3 Proposed Pipeline Projects

In addition to modifying existing pipelines, proposed projects in the region were considered as alternatives to the ACP. The WB XPress and the Mountain Valley Pipeline projects were considered as possible alternatives to the ACP.

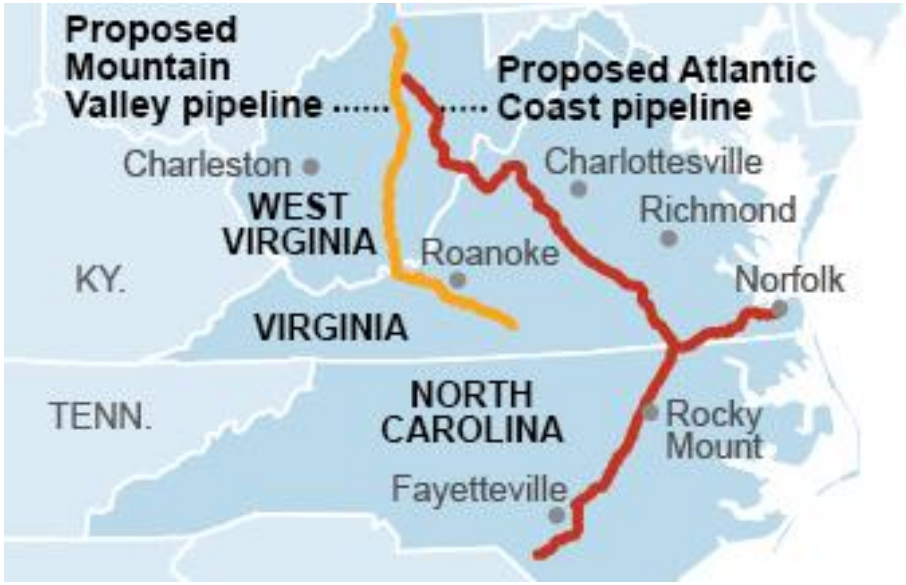
3.2.3.1 Proposed WB XPress Project

The WB XPress upgrade will add 1.3 Bcf/d of capacity to the Columbia Gas system. The subscribers of the capacity and the specific amounts allocated to them were not identified in the WB XPress application for competitive reasons. It is likely that much of this capacity will go to actual end-users, unlike many project proposals today. Some excess capacity probably remains to be used. Because of the connection to Transco occurring with this project we believe the WB XPress added capacity and the existing Columbia Gas pipelines can best be utilized to replace the 155,000 Dth/d provided by the ACP in Chesapeake, VA as described in the previous section regarding Columbia Gas.

3.2.3.2 Proposed Mountain Valley Pipeline

Mountain Valley Pipeline, LLC (MVP) proposes to construct and operate 301 miles of 42-inch-diameter pipeline from Wetzel County, West Virginia to connect to the existing Transco pipeline system in Pittsylvania County, Virginia. The Project capacity is 2.0 Bcf/d and is owned by various natural gas producers, midstream master limited partnerships, and natural gas marketers. The shippers are all affiliates of the owners. Only 0.5% of the capacity is reserved by an end user of natural gas (Roanoke Gas Company, a Local Distribution Company). There is no substantiated market demand for the project. The DEIS for the MVP said that it "could" supply Local Distribution Companies, industrial users, and power generation facilities in the Appalachian, Mid-Atlantic, and Southeast regions. The MVP documents have not identified any specific end-users other than Roanoke Gas Company to prove a market demand for the project.

The ACP DEIS mischaracterized the need for a merged MVP/ACP alternative. There is no need for a massive pipeline carrying 3.44 Bcf/d of capacity. The MVP is a project mostly owned by natural gas producers searching for customers and the ACP owners have utility subsidiaries looking for suppliers. There is at most a need for just one 1.5 – 2.0 Bcf/d pipeline. The ACP seeks to obtain a supply of natural gas from the western Marcellus in West Virginia that roughly corresponds to the supply zone for the MVP. The MVP intends to connect to the Transco pipeline in order to find a market. By using the Transco/Columbia connections described previously, the MVP could supply all of the ACP points of delivery.



The primary difference between the MVP option and the Transco option would be the extra 301 miles of 42" pipeline required by the MVP and the fact that the main source of supply is the Western Marcellus (preferred by the ACP) rather than the most productive zone in the Marcellus (northeastern PA) that is utilized by Transco.

The merged MVP/Transco option is superior to the ACP. It is cheaper to build, so it would have a lower cost to ratepayers.

Comparison of ACP to MVP/Transco and Transco/Columbia Options

Category	ACP	MVP/Transco	Transco/Columbia
Capacity	1.5 Bcf/d	1.5-2.0 Bcf/d	1.5+ Bcf/d
Pipeline			
42"	333 miles	301 miles	0 miles
36" new ROW	186 miles	95 miles	95 miles
36" existing ROW		105 miles	105 miles
20" new ROW	83 miles		
20" existing ROW		100+? Miles	100+? Miles
Compressors	3	3+1	1 + modifications
Construction Period	2+ years	1.5-2 years	1 year
All ACP delivery points	Yes	Yes	Yes
Economics			
Project Cost	$5 Billion	$4+ Billion	$1+ Billion
Ratepayer costs	High	High-but lower than ACP	Low
Jobs 8-10 months	Moderate	Moderate	Low
Tax pmts to govts	Moderate	Moderate	Low
Tax loss prop values	Moderate	Moderate	Low
Flexibility of gas supply	W. Marcellus	W. & E. Marcellus Multi Gulf Coast	Multi E. Marcellus Multi Gulf Coast
Damage to view/tourists	Significant	Significant<ACP	Little if any
Environmental Impacts			
Steep slopes/landslides	Significant	Significant<ACP	None
Karst	Significant	Significant<ACP	None
Erosion/sedimentation	Significant	Significant<ACP	Little or none
Stream crossings	Significant	Significant<ACP	Little or none
Unique habitats	Significant	Significant<ACP	None
Endangered species	Many	Uncertain	None
Drinking water quality	Significant risk	Significant<ACP	Little or none
Conservation easements	Significant	None	None
BR Pkwy - App Trail	Significant	Significant	None
Historic prop affected	Significant	Significant<ACP	None
Historic/cultural resources	Significant	Significant<ACP	None
Compressor sta. effects	Significant	Significant	Moderate

Summary

The supply source in the western Marcellus plus the many sources in the eastern Marcellus and Gulf Coast provided by the combination with Transco would be superior in price flexibility and security than the single source in the western Marcellus provided by the ACP. The environmental impacts associated with the MVP would be slightly less than those associated with the ACP because the mountains in Virginia disrupted by the ACP have more stream crossings and are steeper, higher, and contain more sensitive and unique habitat compared to the areas damaged by the MVP.

The comparison also unmistakably shows that the Transco/Columbia Gas alternative is superior to the MVP/Transco option and to the proposed action. There is no benefit of adding the MVP to the Transco/Columbia configuration in order to reach the ACP delivery points. The MVP adds 301 miles of 42-inch pipeline that substantially increases the price and adds significant environmental impacts. The change to a western Marcellus supply zone is not better than the abundant low-cost gas that is available from the eastern Marcellus via Transco.

The Transco/Columbia Gas alternative costs much less than the other choices leading to much lower costs to ratepayers. The multiple sources of supply are greater with the Transco option than any other choice resulting in more flexibility in sourcing lower cost seasonal supplies and greater security. Making a majority of the necessary modifications on existing rights-of-way in moderate terrain avoids the major impacts in the sensitive steep elevations encountered by the ACP and MVP.

Using existing pipelines also provides a hedge against stranded costs. Investments in new pipelines to the points of delivery would be made when it is clear that new power plants would be approved that need additional natural gas service. The main gas transmission pipelines in the Transco corridor have value for many purposes throughout the east coast that are not dependent on the approval or continued operation of new gas-fired power plants. The ACP puts the burden of possible stranded assets squarely on the ratepayers of the captive utility subsidiaries of the utility holding companies that are the ultimate owners of the ACP.

The only drawback to the applicant is that the Transco option does not result in the utility holding companies owning and operating their own pipeline. A significant issue to them, but a great relief to the ratepayers who would avoid hundreds of millions of dollars in higher transportation charges for moving the gas on the ACP. The Transco/Columbia alternative meets all of the project criteria identified in Section 1.1 far better than does the proposed action. An objective and rigorous examination of these facts must be included in a revised DEIS and offered to the public for review and comment before the final EIS is issued. Dismissing this evidence would not comply with the Natural Gas Act. The Commission must consider the public convenience and necessity prior to issuing a certificate.

If the Commission chooses to certify a project that is not needed and costs more, it is forcing landowners to unwillingly relinquish access to their property purely for the private gain of the developers.

Historically, the Commission has reviewed projects to see if they had customers (precedent agreements). Experience has shown that this is not enough to demonstrate market demand for the project, especially if the "customers" are affiliates of the pipeline owners. The Natural Gas Act requires that the public's interest must be served by the project, not just the desires of the pipeline developers, before a certificate can be issued.

The Commission issued Order No. 636 to achieve more fairness in the development of the nation's natural gas system. The purpose of this order was to balance the interests of pipeline investors with the interests of consumers. In particular, the Commission wanted to regulate pipelines in a way that did not give a competitive advantage to pipelines over other sellers of natural gas. The Commission felt it was "vital to give all gas purchasers (Local Distribution Companies and end users, such as industrials and gas-fired electric generators) the ability to make market-driven choices about the price of gas as a commodity and about the cost of delivering the gas". . . "Only then will gas purchasers be able to purchase, based upon their needs, the exact services they want with full recognition of the prices that they would have to

pay. And only then will the Commission be assured that all gas is transported to the marketplace on fair terms."

Order 636 referenced the Natural Gas Act saying that Congress's "primary aim . . . was to protect consumers against exploitation at the hands of natural gas companies" to ensure consumers "access to an adequate supply of gas at a reasonable price."[62]

Natural gas is a valuable strategic resource. We should not rush to build unnecessary projects that will result in a short-term gain for a few and long-term pain for many others. We must rely on the honesty and foresight of the Commission to decide what truly serves the public convenience and necessity.

Respectfully submitted, March 31, 2016

/s/ Thomas Hadwin

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328 Walnut Ave.
Waynesboro, VA 22980
(540) 256-7474
tzhad13@gmail.com

[62] Order No. 636, United States Of America, 59 FERC 61, 030, Federal Energy regulatory Commission, 18 CFR Part 284

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Waynesboro, VA, this 31st day of March 2017.

/s/ Thomas Hadwin
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