



April 5, 2017

Nathaniel J. Davis, Sr., Deputy Secretary  
Federal Energy Regulatory Commission  
888 First Street NE, Room 1A  
Washington, DC 20426

RE: Comments of Friends of Nelson and Ernest Reed, Interveners

RE: the Draft Environmental Impact Statement for the Atlantic Coast Pipeline and Supply Header Project (Docket Nos. CP15-554-000, CP15-554-001, and CP15-555-000 FERC/EIS-0274D)

Dear Mr. Davis and Members of the Commission,

Thank you for the opportunity to comment on the Atlantic Coast Pipeline Draft Environmental Impact Statement, the Notice of Availability of which was published in the Federal Register on January 6 and January 9, 2017. These comments are submitted on behalf of Friends of Nelson, the membership of Friends of Nelson and Ernest Q. Reed, Jr.

Friends of Nelson is a not-for-profit membership corporation under the laws of Virginia organized to protect the property rights, property values, rural heritage and the environment for all the citizens of Nelson County, Virginia. Friends of Nelson is an intervener in the proceedings.

Ernest Q. Reed Jr. is president of Friends of Nelson and a resident of Nelson County. I live in the evacuation zone and within 2000' of the blast radius of the proposed ACP. I am an intervener in the proceedings.

### **Project Purpose and Need**

As mandated by NEPA, and confirmed by its own policies, it is FERC's responsibility to protect the public from any unjustified impacts of a particular project by certifying (i.e. making certain) that it is, in fact, needed, i.e. in the public convenience and necessity. Thus the issue of need is absolutely fundamental to any argument for certification of a project, especially one that would allow the use of eminent domain to take private property on the scale of the project in question, and therefore requires thorough address.

It is thus perhaps appropriate that the December, 2016 Draft Environmental Impact Statement (DEIS) issued by your Commission for the Atlantic Coast Pipeline introduces its discussion of the project with a statement titled **Project Purpose and Need**. Indeed, these two terms are actually closely interrelated and, in many ways, can be viewed as two sides of the same coin; functioning to address the fundamental reason, or reasons, that the action is being proposed on the one hand, while justifying the purpose by further explaining why the action is necessary on the other. While the purpose of the ACP may therefore, on its most fundamental level, be seen as the transportation of natural gas, this, like any statement of purpose is incomplete without a complementary reference to its need, i.e., in this case, to justify why the transportation of gas is necessary.

The DEIS acknowledges this dual role by combining both Purpose and Need into one heading (DEIS p.1-2) (emphasis mine): “**1.1 PROJECT PURPOSE AND NEED.**”

*Atlantic’s and DTI’s stated purpose for ACP and SHP are, in summary:*

- *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;*
- *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; and*
- *to provide access to a low cost supply hub 6 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).*

While despite its heading, this section may be viewed as primarily a statement of purpose, i.e. “to serve”, “provide”, or “increase”, it does nonetheless introduce the subject of need by indicating the anticipated uses for the gas, primarily, “to generate electricity for industrial, commercial, and residential uses”. By way of further describing the project need, the following statement (in **Sec. 1.1.1**) is more to the point:

*“ACP would **serve the growing energy needs** of multiple public utilities and local distribution companies in Virginia and North Carolina. The majority (**Atlantic anticipates approximately 79.2 percent**) of the natural gas transported by ACP would be used as a fuel to generate electricity for industrial, commercial, and residential uses.”* (DEIS, p.1-2)

Clearly, if the underlying, fundamental Purpose of the project is to transport natural gas, the stated need for the project is thus to address the requirement, or demand, for additional electric power generation in the region.

### **The Definition of Need**

Traditionally, the metric that FERC has used in identifying the need for pipeline projects has not been one that directly reflects just such a real-world demand for power, but a somewhat different

criterion that uses customer commitments for transportation capacity as primary indicator of need. While these precedent customer commitments may be a convenient way to gauge project “need”, and may have in the past represented a valid metric for it when projected energy loads were, in fact, growing, this is no longer necessarily true in the current environment and is furthermore susceptible to abuse by project development entities that may, as in the case at hand, be composed of affiliates that are also the very customers who have ostensibly established the “need” for the project through their subscriptions for transportation capacity.

As far back as its 1999 Policy Statement, FERC itself stated that the policy of basing project need on customer contracts should be de-emphasized.

*“In the policy statement, 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.”*<sup>1</sup>

And:

*“The amount of capacity under contract... is not a sufficient indicator by itself of the need for a project, because the industry has been moving to a practice of relying on short-term contracts, and pipeline capacity is often managed by an entity that is not the actual purchaser of the gas. **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.** Thus, the test relying on the percent of capacity contracted does not reflect the reality of the natural gas industry’s structure and presents difficult issues.”*<sup>2</sup>

Finally, former FERC Chairman Norman Bay has also recently weighed in on the subject:

*“While these ‘precedent agreements’ are useful indicators of need, Bay said the commission should also consider whether capacity is needed to ensure deliverability to power generators, reliability benefits and concerns ‘that anticipated markets may fail to materialize’.”*<sup>3</sup>

### **Demonstrable Real-world Need**

Obviously, these policy statements provide what must be seen as further support for the premise that the real need for a project must be ultimately linked to the actual demonstrable demand for energy in the region that the project is intended to serve. By way of analyzing this demand for energy, recent studies such as the September 2016 Synapse Energy Economics report have indicated that the rate of increase in the demand for natural gas in the region, as demonstrated by overall peak need as well as for the generation of electric power, has been slower than anticipated

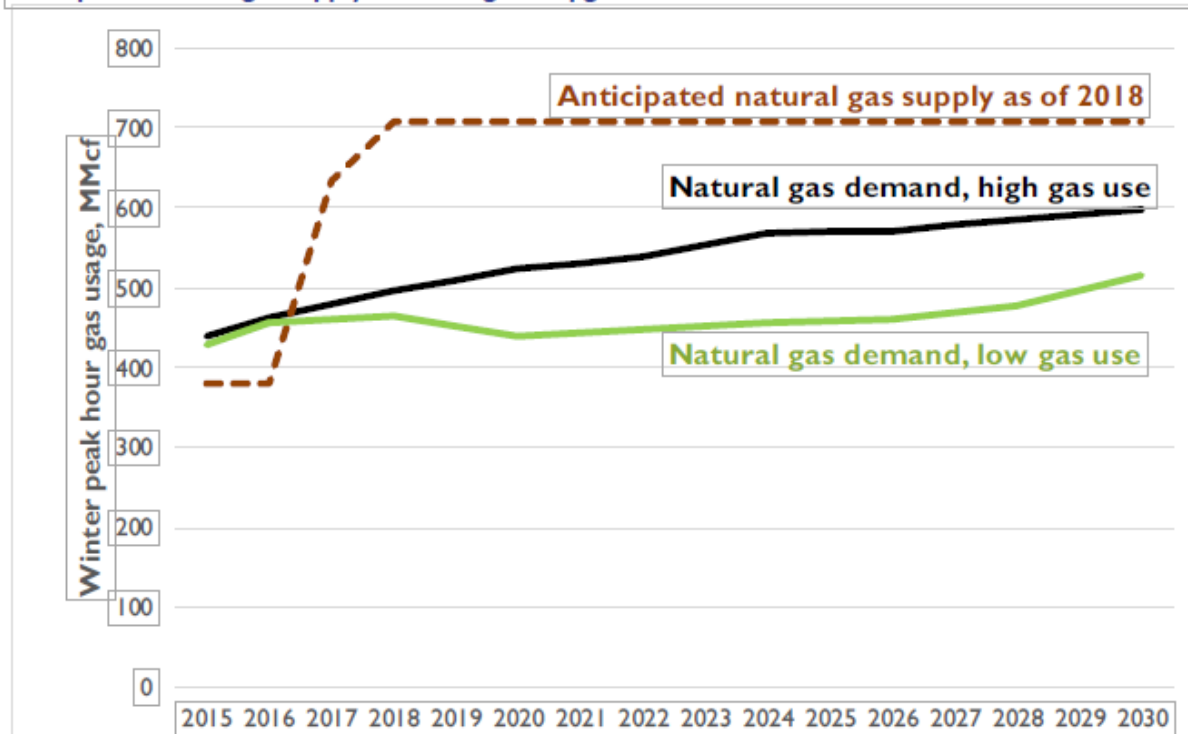
<sup>1</sup> Order Clarifying Statement of Policy, Certification of New Interstate Natural Gas Pipeline Facilities, Docket No. PL99-3-001, Federal Energy Regulatory Commission, February 9, 2000, p.3.

<sup>2</sup> Statement of Policy, Certification of New Interstate Natural Gas Pipeline Facilities, Docket No. PL99-3-000, Federal Energy Regulatory Commission, September 15, 1999, p.16.

<sup>3</sup> Heidorn, R., ‘Bay Calls for Review of Marcellus, Utica Shale Development’, RTO Insider, Feb. 5, 2017

and is expected to remain so in the foreseeable future. In fact, by the end of 2016, gas supply had already risen enough to meet demand.<sup>4</sup>

**Figure 5. Peak hour natural gas demand under scenarios of low and high natural gas use compared to anticipated natural gas supply on existing and upgraded infrastructure**



While these studies have, in fact already been submitted to the docket record, the Commission has, as evidenced by the previous quote from **Sec. 1.1**) apparently chosen to disregard consideration of them, and instead merely echo the assertions of the developer (ACP, LLC) that the ACP is necessary to meet regional energy demand now and in the future. Indeed, the following statement is found in **Sec.3.1**:

*“Natural gas consumption is projected to continue increasing due to population growth, industrial consumption, and electric power generation (EIA, 2016a).” (DEIS p.3.3)*

It must be noted, however, that even if overall gas consumption in the US may be generally projected to increase in the future as the above-referenced EIA report suggests (and it will be shown that there is reason to question this assumption), this increase in consumption does not necessarily indicate a requirement for more transportation capacity, as existing capacity is deemed to be sufficient to meet transportation demand until at least 2030. In a 2015 study the Department of Energy, has, for example, stated:

<sup>4</sup> Wilson, R., Fields, S., Knight, P., McGee, E., Ong, W., Santeen, N., Vitolo, T., Stanton, E., Are the Atlantic Coast Pipeline and the Mountain Valley Pipeline Necessary?, An examination of the need for additional pipeline capacity into Virginia and Carolinas, Synapse Energy Economics, Inc., Sept. 12, 2016, p.18.

*“This study concludes that, under scenarios in which natural gas demand from the electric power sector increases, the incremental increase in interstate natural gas pipeline expansion and associated investment is modest, relative to historical capacity additions. The projected rate of interstate pipeline capacity expansion in the scenarios considered in this analysis is lower than the rate of historical capacity additions over the past 15 years.”*<sup>5</sup>

And;

*“Two primary factors mitigate the need for additional interstate natural gas pipeline infrastructure and related capital expenditures in these scenarios. First, the growth in both natural gas demand from electricity generation and natural gas production is broadly distributed rather than geographically concentrated, reducing potential interstate pipeline capacity constraints as well as the need for new interstate pipelines. Second, increasing utilization of capacity that is not fully utilized in existing interstate natural gas pipelines, re-routing natural gas flows, and expanding existing pipeline capacity are potentially lower-cost alternatives to building new infrastructure and can accommodate a significant increase in natural gas flows.”*<sup>6</sup>

Furthermore, in looking at the need for more pipeline infrastructure from a more regional perspective, i.e. focusing specifically on the region including VA and NC, the Synapse report, concludes:

*“The region’s anticipated natural gas supply on existing and upgraded infrastructure is sufficient to meet maximum natural gas demand from 2017 through 2030. Additional interstate natural gas pipelines, like the Atlantic Coast Pipeline and the Mountain Valley Pipeline, are not needed to keep the lights on, homes and businesses heated, and industrial facilities in production.”*<sup>7</sup>

When this distinction is taken into account, it becomes obvious that customer contracts or not, there is actually no overriding real-world need for more energy delivery capacity in the region. In addition:

- All the electric power generating plants that have been cited by DTI/ACP as examples of facilities requiring to be supplied by the ACP are already supplied by existing pipelines, or ones currently under construction.
- Reversing flow of Transco and improvements to the capacity of the Columbia system will only increase gas supplies available to VA and NC.

There is, of course, no way to predict the future demand for energy in any region with absolute assurity, but there is nonetheless reason to expect that the demand for electricity generated from traditional, fossil fuel sources such as natural gas, is likely to be significantly reduced with the

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<sup>5</sup> Natural Gas Infrastructure Implications of Increased Demand from the Electric Power Sector, U.S. Department of Energy, February 2015, p.31.

<sup>6</sup> *Ibid.*

<sup>7</sup> Synapse Energy Economics, Inc., Sept. 12, 2016, p. 17.

growing shift towards conservation and the increases in the contributions of renewables, including both wind and solar. The DEIS flatly, and mistakenly, dismisses the relevance of conservation and the potential contributions of renewables by appealing to the stated purpose of the project:

*“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.”* (DEIS, p.3-2)

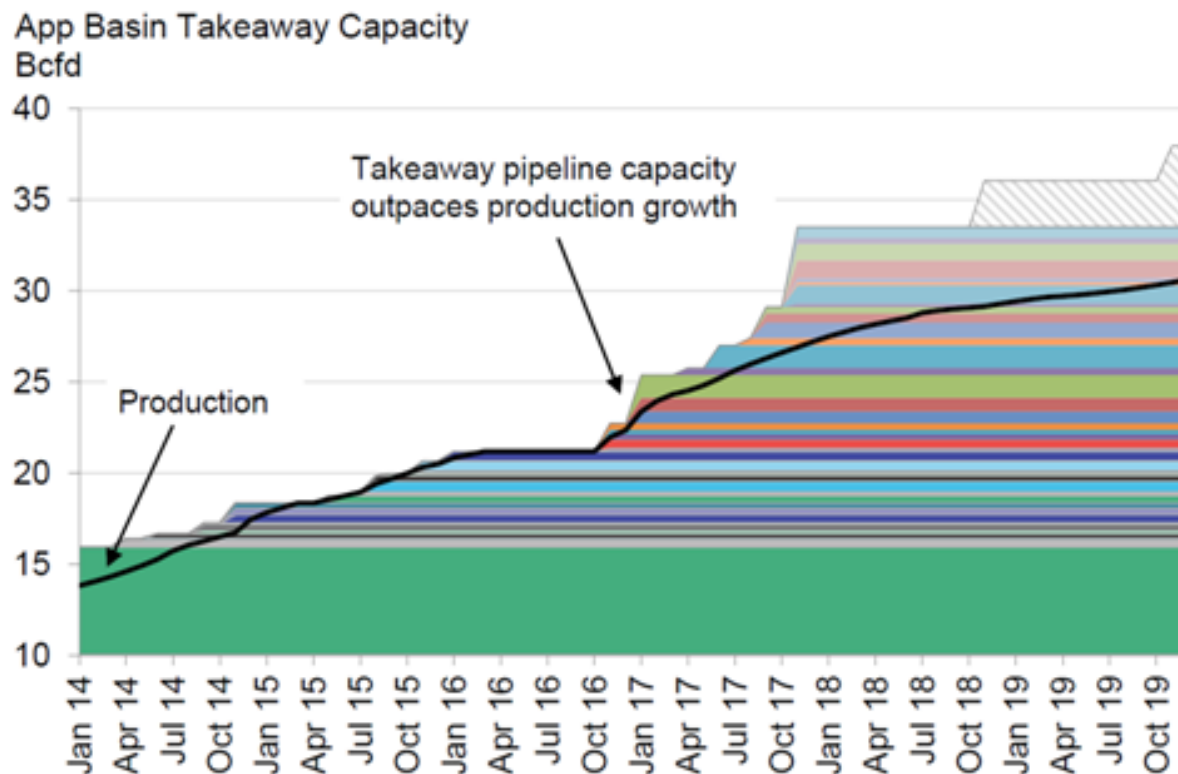
But, as has been previously discussed, to cite a project’s purpose without a complimentary reference to its need is incomplete at best, and disingenuous at worst. In fact, the entire argument for, and purpose of, the project depend on the assumption that the transportation of the gas is necessary, as we have already seen in **Sec. 1-1**, “...to serve the growing energy needs of multiple public utilities....by using [it]to generate electricity for industrial, commercial, and residential uses....”, and furthermore that this need is, in fact, first among “.....Atlantic’s and DTI’s stated purpose[s]”, and comprising the “...majority (....approximately 79.2 percent) of the natural gas transported by ACP....” (Interestingly, there is no mention whatsoever in **Sec. 1.1, Purpose and Need** of the purpose of the project being to “transport natural gas”).

Clearly, ACP and DTI cannot have it both ways. Either the purpose of the project is for transportation alone, and the stated energy needs of its “customers” and the region served are not relevant, or its purpose is to address these needs by using the gas to generate electricity, in which case the need for electricity and the potential contributions of conservation and renewable are indeed relevant as they have the potential to affect the need. Obviously, the only conclusion that offers a rational way out of this contradictory situation is the latter, and the DEIS must, at the very least, be revised to reflect this distinction.

So, not only does the overall use of natural gas not necessarily increase, but even if it does, this does not mean that an increase in the infrastructure will be required to transport it, and if whatever portion of the increase that may be associated with the region including Virginia and Carolinas can be met, in the near term at least, by existing infrastructure, there is no compelling reason for the project to proceed, and allowing it to do so will likely result only in the kind of project overbuild that it is FERC’s duty to avoid. Indeed, if all the pipelines currently slated to take gas away from the Marcellus are built, there will ultimately be 40% more take-away capacity than exists in the Marcellus.<sup>8</sup>

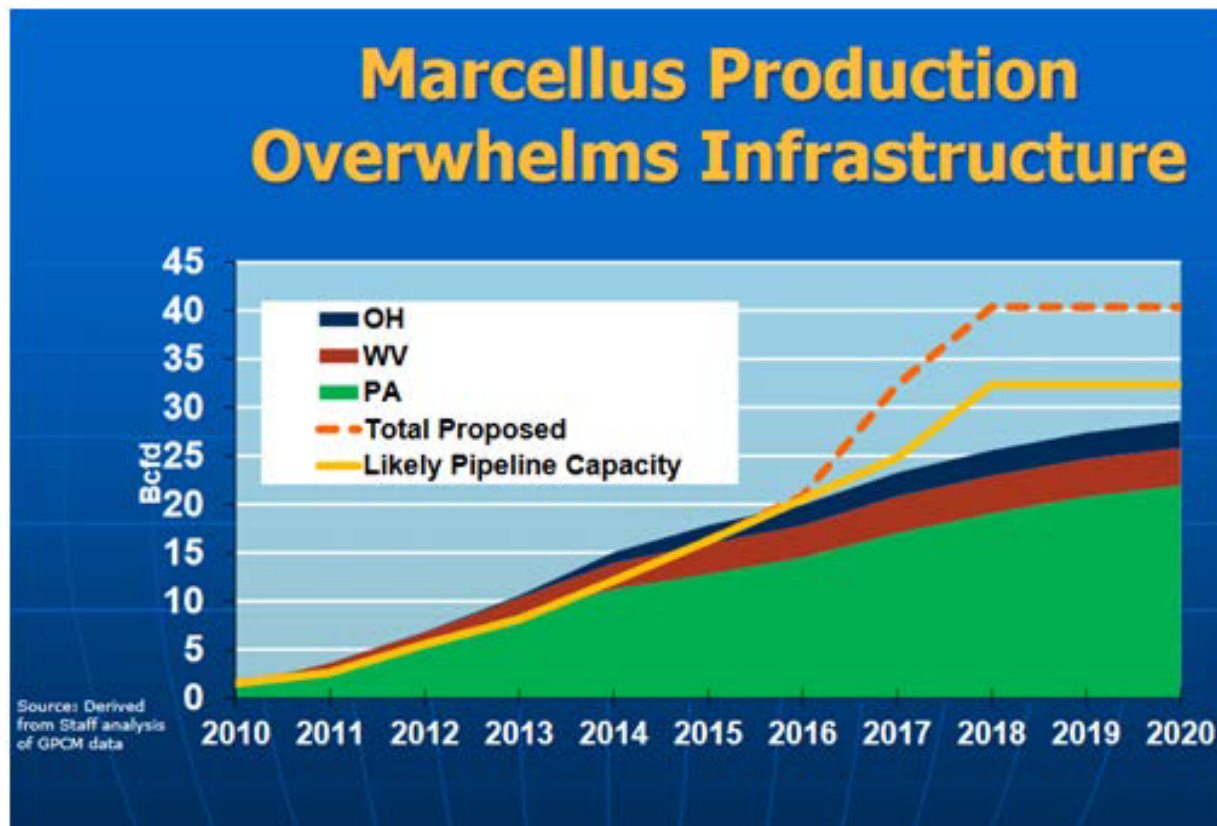
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<sup>8</sup> Braziel, S. and Shelor, J., “Marcellus/Utica On Pace for Pipeline Overbuild”, NGI’s Daily Gas Price Index, June, 8 2016.



In addition, in 2015, the Commission was advised in a presentation by its own staff of the then-current deficiencies in take-away infrastructure associated with the Marcellus, but also warned of the looming potential for pipeline overbuild by 2016 in reaction to the shortfall:<sup>9</sup>

<sup>9</sup> 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>.



(The title refers to the insufficient infrastructure that existed in 2014. A more appropriate title for the same illustration in 2017 might be “Pipeline Capacity Overwhelms Marcellus Output.” Also, notice the striking similarities between this slide from a presentation to the Commissioners by FERC staff and the graph from the Synapse study on p. 3.) In summary, it is clear that

*“The assessment of need from the developers of these proposed pipelines rely entirely on the expectation that there will be significant growth in regional natural gas use for electric power generation over the next 20 years. Developers expect that the Atlantic Coast Pipeline and Mountain Valley Pipeline will primarily (1) serve new natural gas-fired electric generating units constructed to replace retiring coal units or (2) meet growing electric demand in Virginia and North Carolina. Both pipeline developers rely on projections of electric demand and infrastructure additions from the EIA; however, the EIA has revised its forecasts of electricity consumption steadily downward over the last 15 years....”<sup>10</sup>*

### **If the Project is not Needed, Why has it been Proposed?**

If existing pipeline capacity is sufficient to meet the demand until at least 2030, rendering more delivery capacity unnecessary, why would a company like ACP want to build a new pipeline to supply a non-existent demand?

<sup>10</sup> Synapse, pp. 8-9



- FERC, the very agency that is supposed to regulate the industry and certify the need for new projects while preventing overbuilding of infrastructure continues to hold out a “carrot” consisting of handsome (as much as 15%) rates of return on investment in such new infrastructure, and as this rate of return can be passed on to the rate payers through their electric bills, it is essentially guaranteed. (This may have made some degree of sense in the past, when the need for energy was, in fact, increasing, and expected to continue doing so, but has the potential for significant overbuild in today’s environment.)
- After all, what for-profit corporation, especially one composed mainly of utilities, wouldn’t want to satisfy their shareholders with the potential for such guaranteed rates of return, rather than having to pay someone else to transport the gas to their power plants?
- Obviously the ACP partners would rather pay themselves to move the gas than to pay someone else to do it, thus taking competition out of the equation.

### “Cheap” Natural Gas Will Not Save the Public Money

If it is thus clear that this guaranteed rate of return is, in fact, the real reason that the ACP project is on the table, in this light, it may just as well be viewed as the real Purpose of the project, a project that will leave the captive customers of the utilities that compose the majority of ACP, LLC ultimately stuck paying for it through their electric rates.

*“Pipelines are attractive investments because they are typically allowed rates of return of [around 14%](#), compared with the average regulated utility return allowed by public utility commissions of about 10%. For the southeastern utilities, however, that rate of return is only part of the attraction.*

*In a strategy that ought to concern regulators and electricity consumers, Duke, Dominion and NextEra all plan to use their regulated electric power subsidiaries to guarantee demand for the pipelines they’re building. The subsidiaries will build natural gas generating plants, paid for by electricity consumers, to be supplied with gas carried through the pipelines owned by their sister companies.”<sup>11</sup>*

Not only that, but rates for power generation from the combustion of gas are destined to increase, so the ACP will not save money for Virginia consumers:

- While there may currently be a gas glut in the Marcellus, it will eventually play out and gas will become more expensive. (This may already be happening.)
- This will exacerbated if and when more take-away capacity is built
- Using new pipelines to transport gas is always more expensive for consumers than using existing (older) pipelines because transportation rates are depreciated and get cheaper over time
- Gas from sources in Pennsylvania feeding Transco are cheaper than those in WV that ACP will draw from.

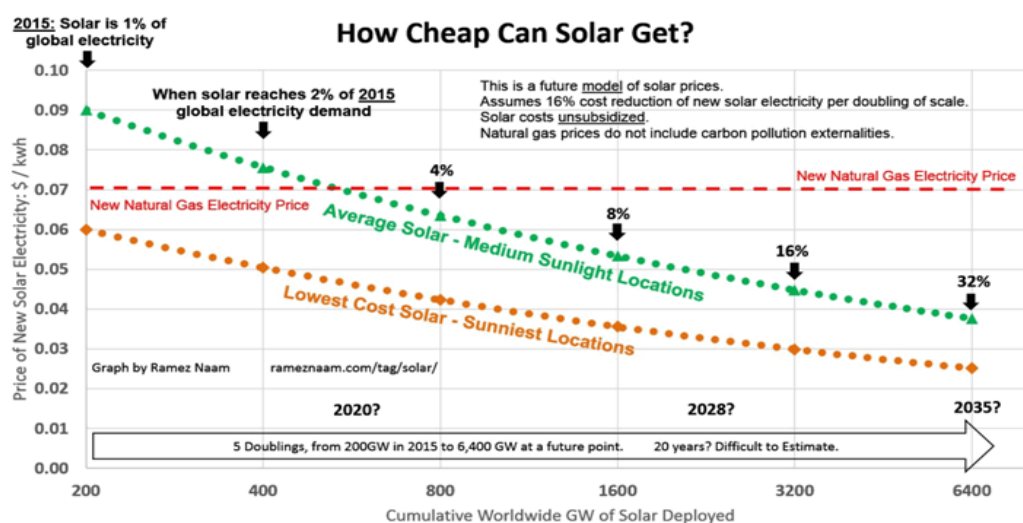
Clearly, the ACP cannot be viewed as being in the public interest.

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<sup>11</sup> <http://bluevirginia.us/2016/07/southeastern-electric-utilities-find-way-higher-profits-gas-pipelines-captive-consumers>

## Options that Will Save the Public Money:

On the other hand, for comparison purposes, the cost curve for renewable energy such as solar and wind has (as we have seen) been trending sharply downward, and will likely continue to do so as technological innovation and the efficiencies of scale drive prices down. The speed of future deployment of technologies to take advantage of energy derived from renewable sources depends, of course, on both federal and state policy decisions that may or may not be adopted on the one hand, and market economics on the other, and while there is little certainty with regard to how policy will respond, there is considerable reason to expect that the currently-increasing market share of renewables will continue to increase with the pace of technological innovation and the economic efficiencies of scale. Consider this estimate from 2015: <sup>12</sup>



(Note that this illustration assumes that the price of electricity generated from natural gas remains essentially steady throughout the period, when they are, in fact, likely to increase.) For example, using Dominion's own estimate that natural gas prices could well be something like 3-4 times higher than today's costs in 10-15 years<sup>13</sup>, and the assumption that the cost of fuel is approximately 40% of the total cost of energy for gas-fired plants like its recently-completed Brunswick power station in SE VA, power generated at these plants will, in ten years or so, be approximately twice as expensive as it is today.

The cost of energy from solar sources, on the other hand, is on course for experiencing a 50% price reduction every 5 years, which means that in ten years it is expected to be something like 25% as expensive as it is now.

<sup>12</sup> <https://hypergeometric.files.wordpress.com/2016/05/whyfossilfuelsareinbigtrouble-future-solar-cost-projections-ppa-lcoe.png>

<sup>13</sup> Dominion Virginia Power's and Dominion North Carolina Power's Report of its Integrated Resource Plan, filed before the Virginia State Corporation Commission and North Carolina Utilities Commission, Case No. PUE-2016-00049, Docket No. E-100, Sub 147, April 29, 2016, p.73.

In addition, while the above illustration was made back in 2015, more recent reports indicate what seems to be an even greater rate of adoption and decreasing costs for renewables. For example;

*“The renewable energy future will arrive when installing new solar panels is cheaper than a comparable investment in coal, natural gas or other options. If you ask the World Economic Forum (WEF), the day has arrived. Solar and wind is now the same price or cheaper than new fossil fuel capacity in more than 30 countries, the WEF reported in December. As prices for solar and wind power continue their precipitous fall, two-thirds of all nations will reach the point known as “grid parity” within a few years, even without subsidies. “Renewable energy has reached a tipping point,” Michael Drexler, who leads infrastructure and development investing at the WEF, said in a statement. “It is not only a commercially viable option, but an outright compelling investment opportunity with long-term, stable, inflation-protected returns.”<sup>14</sup>*

And;

*“In early 2011, Steven Chu, Secretary of the U.S. Department of Energy (and a scientist), along with Dick Swanson, founder of SunPower, christened the DOE’s SunShot initiative. Swanson cited DOE’s early support of SunPower as a factor in SunPower’s success..... With the advent of \$1.00-per-watt (DC) pricing for utility fixed-tilt PV systems, the solar industry has crushed the SunShot Program’s \$1.00-per-watt goal for 2020 three years early.”<sup>15</sup>*

Finally;

*“The wind power industry is booming in the United States, with wind-farm technician projected to be the country’s fastest-growing occupation over the next decade.”<sup>16</sup>*

So where is the “public good” in this project? It would seem as if FERC is caught in a kind of anachronistic system that uses what appear to be outmoded and obsolete assumptions regarding energy demand, combined with an equally outmoded definition of “need” that, together with handsome guarantees of return on investment, create a situation that functions both to encourage the building of new projects regardless of whether they are responsive to existent real-world energy needs.

As the result is needless higher costs for consumers, environmental degradation, and the devaluation of private property, as well as the potential for its being taken through eminent domain, it is high time for FERC to finally heed its own policies that have essentially been ignored for 18 years and base its determination of project need on energy demand reality rather than the outmoded metric of self-dealing “precedent agreements” that results in a “build first, consider later” approach to pipeline projects. If doing so ultimately leads to the rejection of this and other projects on the

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<sup>14</sup> Coren, Michael J., “2016 was the year that solar panels became cheaper than fossil fuels, just wait for 2017”, Quartz, Dec. 26, 2016.

<sup>15</sup> Wesoff, Eric, “On the Blogs: U.S. hits Solar Pricing Goal Three years Ahead of Schedule”, GreenTech Media, January 26, 2017.

<sup>16</sup> [https://www.nytimes.com/2017/01/02/science/donald-trump-global-warming.html?\\_r=1](https://www.nytimes.com/2017/01/02/science/donald-trump-global-warming.html?_r=1)

basis of lack of real, demonstrable demand for energy, so much the better for all concerned. For all the reasons outlined above, and in adherence to its duty to protect the public interest by preventing both unnecessary project overbuild and rate increases, FERC should and must choose the “No Action Alternative” and deny ACP its certification for the Atlantic Coast Pipeline.

### **Analysis of Alternatives**

This ACP DEIS does not provide high-quality, scientific analysis of the environmental impacts for each considered ACP alternative. FERC staff use subjective terms to state the environmental impact of the ACP without defining the terms or substantiating the statements with quantitative or scientific analysis. In some cases, the environmental impact of an alternative action is simply not even discussed.

### **The “No Action Alternative”**

The National Environmental Policy Act requires consideration of a “no-action” alternative. The draft EIS for the proposed Atlantic Coast Pipeline fails to take seriously the possibility of NOT building the Atlantic Coast Pipeline. Out of over 2300 pages in the DEIS, only one and one half consider not building the pipeline. Even this cursory treatment fails in at least four of its assertions.

First, the DEIS claims that the natural gas the ACP will transport is needed to meet the growing energy needs of Tidewater Virginia and North Carolina. Focusing on Virginia, however, recent independent analyses have shown that electricity consumption has been essentially flat for a number of years, largely due to such energy-conserving trends as improvements in lighting (CFL’s and LED’s) and stronger building codes. In fact, if renewable energy received the support in Virginia that it has in other states demand for electric energy from gas-fired power plants would likely decline in the future, not increase as the DEIS assumes. In North Carolina, for example, as of 2015 there were a total of 2,294 megawatts of installed wind and solar energy, while in Virginia there were 22 megawatts. Dominion Virginia Power’s resistance to renewable energy has been effective.

Second, the DEIS notes that failure to build the ACP could harm Dominion customers due to winter-premium pricing, greater price volatility and limitations of economical gas supplies. However, the DEIS does not consider that captive Dominion customers will be forced to cover the cost of building the ACP plus an additional 10-14 percent guaranteed by law. It also does not take into account that gas prices are likely at historical lows due to the gold-rush of fracking and the resulting over-supply of gas. And it does not consider that the worrisome price volatility is much greater with gas than with wind and solar energy. Gas as is a finite natural resource and prices are determined by global markets, while wind and sun power are infinite free resources we have been able to capture with increasing efficiency and decreasing cost.

Third, the DEIS notes that natural gas burns cleaner than coal, and therefore “air emissions”--especially greenhouse gas--would be reduced. It is true that burning natural gas produces less carbon dioxide than burning coal, but recent studies have shown that when the full gas cycle from fracking well to power plant is considered, using natural gas to make electricity is as dangerous as

using coal. Additionally, the methane that escapes at all stages of production and distribution is 80 times more dangerous greenhouse gas than carbon dioxide in the first 20 years of its release, and credible climate scientists are united in their belief that we have very little time to waste if we are to avoid the worst of the climate warming scenarios.

Fourth, the DEIS touts the economic benefits promised by pipeline promoters: more jobs, secondary spending, tax revenues associated with construction, and increased property tax revenues during operation. In fact, however, the rapidly growing wind and solar industries are already creating many more good, permanent U.S. jobs than their fossil fuel counterparts, and in Virginia many more jobs could be created if Virginia politicians stepped up their support as other states already have. Additionally, any local tax revenues associated with construction would be offset by declines in property values and property tax revenues, damage to business activity, and increases in road maintenance, rescue, and other local government services.

In its dismissal of the no-action alternative, the draft EIS for the Atlantic Coast pipeline reveals FERC's fundamental assumption that the pipeline should be built. It makes abundantly clear that FERC is the handmaiden of the natural gas industry and its associated utilities. FERC is a captured regulatory agency that is ripe for reform.

## **Climate Change**

The December, 2016 DEIS, in Volume I, page 4-509, in the section on "Climate Change," begins by insulting the reader with a slipshod redundancy of these sentences: "Climate change is the adjustment in climate over time, whether due to natural variability or as a result of human activity, and cannot be represented by single annual events or individual anomalies. For example, a single large flood event or particularly hot summer are not indications of climate change, while a series of floods or warm years that statistically change the average precipitation or temperature over years or decades may indicate climate change."

This quotation also occurs, word for word, in the September 2016 DEIS for the proposed Mountain Valley Pipeline (on page 4-513 of that document), which gives credence to the theory that it is part of standard FERC boilerplate, and indeed, scientists generally accept that climate change is a global phenomenon.

Next comes a glaring contradiction between two statements. First we encounter, "The cumulative impact analysis described below does not focus on a specific cumulative impact area because climate change is a global phenomenon." Second, on the same page, we read, "Although climate change is a global concern, for this analysis, we will focus on the potential cumulative impacts of climate change in ACP and SHP project areas." Well, my friends, which shall it be?

The second sentence sets the stage for the theater of the absurd that follows in the proposed Atlantic Coast Pipeline DEIS. A focus on potential cumulative impacts of climate change in the proposed project areas, is what it claims to examine. And what, pray tell, might those areas be? A 75-foot wide swath of land about 550-600 miles long? The states of WV, VA, and NC? And how exactly do you assess the cumulative impact of climate change on any arbitrary piece of land? It

seems that when you set up a bizarre situation which no methodology could possibly examine, you feel free to conclude that the causative agent, climate change, would have no direct impact on that piece of land. This appallingly illogical gobbledegook has no place in a scientific document.

Initially the question raised by commenters was, what would be the contribution of the proposed project on global climate change? The question has magically morphed into, what would be the potential cumulative impacts of climate change on the proposed project?

A brief mention is made of an international group studying climate change, the Intergovernmental Panel on Climate Change (IPCC). None of the details of IPCC's research have been included. Instead the writer references data of the U.S. Global Change Research Program (USGCRP), created by a mandate of the U.S. Congress, and summarizes its observations of environmental impacts that may be attributed to climate change in the Northeast and Southeast U.S.

Next comes a little shell game featuring greenhouse gas (GHG) emissions, methane, carbon dioxide, and "carbon dioxide equivalents," using EPA data. FERC is playing fast and loose with the facts, and cherry picking data. Here is an outstanding example.

The DEIS refers to the DOE's National Energy Technology Laboratory's May 29, 2014 report: *Life Cycle Analysis of Natural Gas Extraction and Power Generation* which indicates that life cycle emissions of GHG are lower for energy production from natural gas than from coal. The report also quantifies methane emissions. This argument is flawed in several ways.

First, it does not compare the life cycle GHG emissions with any other energy source than coal. Other energy sources, and especially renewable energy sources have much lower life cycle GHG emissions than natural gas, and actually contribute no GHG emissions, or extremely low GHG emissions, once operating. This again shows that renewable energy systems are far superior to natural gas systems in protecting us from climate change.

Secondly, the above referenced DOE report is outdated and inaccurate. The more recent DOE National Energy Technology Laboratory's August 30, 2016 report by the same author found that methane GHG emissions are nearly twice as high as the 2014 report indicated. This report was available a full 4 months prior to the DEIS being issued. Your decision to use an outdated report over the newer report is deceitful at best, and possibly illegal. How can FERC be trusted with reporting accurate information when this important information was left out of the DEIS?

Researchers at Purdue University and the Environmental Defense Fund have published an article in the March, 2017 issue of "Environmental Science and Technology" with their research showing that natural gas power plants release 21–120 times more methane than earlier estimates. The researchers were careful to differentiate between emissions related to natural gas combustion versus leakage, with the latter found to be the primary source of methane emissions. Previous estimates of methane emissions were reported to the EPA from the facilities themselves and were restricted to what came out of the smokestack, which means they excluded leaks from equipment such as steam turbines and compressors.

To continue with the DEIS, after tap-dancing around GHG emissions, the conclusion on page 4-513 is that “As emissions have been minimized, we conclude that ACP and SHP would not significantly contribute to GHG cumulative impacts or climate change.” But methane leakages and fugitive emissions are routinely ignored and not reported to the EPA. Before you can minimize emissions, you have to know where the leaks are. Emissions have not been minimized, and the conclusion is unsubstantiated.

On page 4-512, the writer admonishes us, "NEPA does not, however, require us to engage in speculative analyses...". In the very next paragraph, on page 4-513, however, we are treated to a highly speculative analysis: "Because natural gas emits less CO2 compared to other fuel sources (e.g., fuel oil or coal), it is anticipated that the eventual consumption of the distributed gas to converted power plants would reduce current GHGs emissions, thereby potentially offsetting some regional CO2 emissions." No quantification of any sort leads to this wishful thinking, and it would be deleted from the DEIS.

Until factors leading to climate change can be effectively mitigated, the obvious contributors of GHG emissions such as the gas industry should be reined in by FERC. FERC should not allow this proposed project to go forward. And FERC should get solid research scientists to produce a meaningful section on “Climate Change” for their DEIS.

### **Fire and Climate Change Hazard**

Vol. I, section 5, page 25 of the DEIS dismisses in one sentence the risk of fire to communities along the ACP, concluding that “compliance with applicable design, construction, and maintenance standards, and DOT safety regulations would be protective of the public.”

That sentence may look nice on paper, but the reality in forested areas with steep slopes challenges any faith that a pipeline explosion would be anything other than catastrophic. A recent forest fire provides an example of how difficult it is to contain a fire in rugged terrain.

The fire started in the early evening of Nov. 20, 2016, in Eades Hollow in Nelson County. The cause of the fire has not been determined, but it may have been started from a lighted cigarette or hot ashes tossed on the ground near the end of the dead-end road. Steep, forested mountain slopes with narrow ridges are encountered beyond the end of the road, and trails in the area are in some cases not even wide enough to accommodate an ATV.

There had been no rain for several weeks, and the small ash fire soon got out of hand. With the fire rapidly progressing up the steep slopes, it was too dangerous for fire fighters to attempt to get in front of the fire to fight it until the following morning. Throughout the duration of the fire, humidity ranged between 20 and 30%, and the first two days were quite windy.

A couple of miles downwind of the fire is where I live – on another dead end road. My husband and I learned about the fire the morning of Nov. 21, when the VA Dept. of Forestry brought a bull dozer to the end of our road and parked it by our barn. We were told there was no eminent danger to us, but they wanted to leave equipment there in case they needed to bulldoze a fire break in a

hurry. That evening, looking out our kitchen window, we could see the fire burning on the ridge along the north western border of our property.

All the next day (Nov. 22), our little valley was engulfed in heavy smoke. That evening, we could again see the fire, only now it had spread to encompass the entire ridgetop.

On Nov. 23, a six-man crew from neighboring Augusta County arrived at the end of our road early in the morning with more heavy equipment. They took off in two directions towards the fire and bulldozed several long firebreaks. The fire had already jumped two other firebreaks the previous day, but the one made by this crew was adjacent to our open pastures, on flat land at the bottom of a mountain, and it proved far more effective than the fire breaks previously attempted on the mountain slopes. The crew started a back fire just below our barn that quickly burned up hill to meet the oncoming fire itself. That night, the smoke was truly thick here, but we dared not leave the area in case we needed to evacuate our horses on short notice. The morning of Nov. 24, the horses had ashes on their backs. Fortunately, the wind changed direction on this morning, and the smoke started blowing away from our valley.

After five days, the fire was finally brought under control. This was Thanksgiving Day, Nov. 25. On Nov. 26, we finally got some rain, and although the remaining smoke cleared, the air retained a strong smell of charcoal. For a week during and after the fire, at night cool air would settle in our valley, blanketing our lower pasture in a heavy layer of smoke. This is our winter pasture, but due to the smoke, we were unable to put the horses in that pasture during that week, and instead fed hay.

By the time the fire was extinguished, more than 1,650 acres had burned, with 300 of those on my property. 122 firefighters, along with fire engines, bulldozers, and aircraft from neighboring counties had been called in on this fire, and the fire was managed by a VDOF Type-3 Incident Management Team. The fire on the ridgetops had been quite hot, but fortunately was not as severe in the lower valleys, where all the houses are located. In the area closest to our house, most of the large trees are black at the base of the trunk, but the canopy did not burn.

Had this fire been started by an explosion of a 42" gas pipeline instead of a small pile of discarded hot ashes, the outcome would have been considerably different. With a pressure as high as 1440 psi (100 times atmospheric pressure), fire fighters would not have been able to get equipment within two miles of the heat. Hot ridgetop fires would have created a canopy fire that could not have been stopped in a mere five days. Far more than 1,650 acres would have burned, and significantly more than 122 firefighters would have been needed. My house would have burned, and all the other houses in the area would also have burned.

Newer pipelines should be safe, but according to a Pipeline Safety Trust analysis of federal data, new pipelines are failing at a rate on par with gas transmission lines installed before the 1940s. In



fact, pipelines built in the 2010s have been failing at about [three times the rate](#) of those built from the 1950s to the 2000s.<sup>17</sup>

Inside Climate News reports that data analyzed from the Pipeline and Hazardous Materials Safety Administration between 2002 and 2012 shows that only 5% of leaks were [detected](#) by remote sensors. This data cancels any reassurances published in the DEIS that the ACP is “safe.”

Fire is not the only hazard that will be created by the ACP. A recent study by Harvard University identifies the U.S. as the cause of the enormous spike in global methane emissions over the past decade, accounting for 30 to 60 percent of all “human-caused atmospheric emissions.” The increase in methane emissions is coming from fracking and the transport and use of gas from fracking fields. The ACP fits right into this picture. It will cater to the economic interests of a minority of corporation owners and employees at the expense of the environment.

In my opinion, the DEIS does not fully consider the threat of fire or methane leaks from the ACP. Confucius is credited with a statement that can be applied to the ACP: “The superior man seeks what is right; the inferior one, what is profitable.”

## **Economic Impacts**

### *Property Values*

In Environmental Impact Statement Section 4.9.7, the FERC dismisses the Key-Log Economics Study as lacking in sources and cites “anecdotal reporting” of real estate transactions in the western counties of Virginia after the Atlantic Coast Pipeline proposed its route; instead choosing to rely on data sponsored by INGAA, a gas industry organization who contracted with Integra Realty Resources, a commercial real estate appraiser, with virtually zero experience with rural, residential property. In addition to the INGAA report, the FERC cites a study (*Hansen, et al, 2006*). It is misleading for the FERC to imply that this was “its own independent research.” This 11-year-old “*Hansen*” report included public polling data which implied that public awareness of nearby pipelines was very low to non-existent and that pipelines are simply “out of sight, out of mind”.

FERC commissioners have publicly acknowledged that pipeline “significant incidents” have increased since 2006 when this poll was conducted. Along with the recent boom of the Marcellus/Utica Shale triggering an enormous pipeline infrastructure build-out, there has been heightened public awareness and opposition. Given the impacts of the San Bruno PG&E pipeline explosion and the 2015 Aliso Canyon gas storage well leak, it’s almost certain that a similar poll done today, eleven years later, would generate significantly different results. Given the weight the FERC gives the *Hansen* report on a 20” liquids pipeline, it’s shocking that the FERC doesn’t give equal weight to Hansen’s *Pricing Residential Amenities: The Value of a View*,<sup>18</sup> citing ocean and mountain views as adding 8-60% value to residential properties. Perhaps the FERC should re-

<sup>17</sup> <https://www.snl.com/InteractiveX/Article.aspx?cdid=A-33791090-11060>

<sup>18</sup> <https://link.springer.com/article/10.1023/A:1007785315925>

evaluate their “conclusions” regarding the ACP’s negative impact on the viewshed through Nelson County and other counties west of Nelson? The FERC is surely obligated to look further than these two reports before drawing any conclusions regarding residential property values in communities like Nelson. The FERC has publicly called for the natural gas industry to educate stakeholders. Commissioners are likewise obligated to educate themselves on the real impacts of pipeline buildout.

Exploring conclusions from the outdated *Hansen* report further, legal precedents are beginning to emerge regarding devaluation of property from pipelines.

From a March, 2014 PR Newswire release: “North Texas family members have won a \$2.1 million verdict against a pipeline company after their parcel of land lost value because an easement was taken for a gas line. This marks the third time Texas property owners recently have prevailed in similar eminent domain cases.”<sup>19</sup>

And from the website of the Forensic Appraisal Group, LLC, specializing in condemnation proceedings:

**“Stigma factors** (or Severance): Damages resulting from perceived market prejudice is sometimes know(n) as ‘stigma’ or ‘severance’ damages. These perceptions need not be factual to be real. These perceptions drive the view of the potential buyer as to the potential enjoyment or return on investment they may receive in the purchase of the property. Since it is the job of the appraiser to reflect the actions of the potential market, i.e. buyer, it is necessary to study the actions of these buyers and what they perceive as detractors of value. Though it is true that the properties affected by a large diameter natural gas transmission line do sell in the market, it may not be true that these properties sell at the same price as a similar property not so affected.”<sup>20</sup>

The above quote erases the FERC’s dismissal of “anecdotal reporting”.

In a June, 2014, Texas Tribune<sup>21</sup> article the jury awarded the landowner more than 20 times the original amount Peregrine Pipeline offered. “In that case, a special commission determines an award based on the value of the land subject to the easement and the decline in value to the remainder of the property. If either side objects to the award, it can bring the case to court.”

And, from Law360, March 2014<sup>22</sup>: “Texas landowners in three recent cases have presented evidence during condemnation proceedings of massive losses in property value purportedly caused by pipeline easements, allowing them to score verdicts as much as 25 times higher than what they

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<sup>19</sup> March 2014 PRNewswire: <http://www.prnewswire.com/news-releases/texas-landowners-win-21-million-judgment-against-pipeline-company-over-lower-property-value-251945191.html>

<sup>20</sup> [http://forensic-appraisal.com/valuation\\_issues](http://forensic-appraisal.com/valuation_issues)

<sup>21</sup> <https://www.texastribune.org/2014/06/18/pipeline-companies-paying-more-cross-private-land/>

<sup>22</sup> <https://www.law360.com/articles/522523/pipeline-giants-lose-ground-in-fight-over-easement-values>

had been offered by energy companies prior to trial. In three cases, landowners hired experts who testified that the narrow strips of land seized by pipeline companies significantly devalued surrounding acreage.”

And finally, from January, 2017, the Chronicle-Telegram<sup>23</sup>: “A news release from Mary B. Miller’s attorneys said jurors awarded the 91-year-old woman \$236,500 at the conclusion of a jury trial earlier this week. ‘This was an excellent verdict by a jury that understood how damaging a pipeline easement can be to private property,’ Clinton Stahler, one of Miller’s attorneys, said in the release.

The company, which plans to run a pipeline from its power plant in Avon Lake to a Dominion Gas pipeline in LaGrange Township, originally offered Miller \$3,500, the release from Goldman & Braunstein said.

The company, which burns coal at its Avon Lake plant, later upped its offer to \$15,500, according to the release.”

Given the controversy surrounding pipelines and property values, the FERC is obligated to look beyond reports commissioned by the industry and study sales trends from communities recently impacted by pipeline accidents, and also communities where pipeline construction is proposed or ongoing. As an example, the Charlottesville Area Association of Realtors (covering Charlottesville and the surrounding 5 counties), in its 2016 3<sup>rd</sup> Quarter report<sup>24</sup>, cites Nelson as the only county in the area with a drop in sales, while all other counties saw increases from 12% to 45%. Nelson had the largest number for “days on the market” and a significant increase from the prior year (up from an average 106 days in 3<sup>rd</sup> quarter 2015 to 164 days in 3<sup>rd</sup> quarter 2016). CAAR’s year-end report<sup>25</sup> shows a drop in Nelson’s median sales price from \$205K to \$186K.

Again, the FERC must look beyond the outcome preferred by the applicants, cease using industry generated reports, and begin to draw “conclusions” based on reality. Should an unthinkable “incident” occur, FERC must also consider the negative impacts to property values. There are studies in existence that track the impacts on property values after spills or ruptures from pipelines. One such study, printed in the *Appraisal Journal* from 1999, tracked the impacts from a 1993 Colonial Pipeline spill in Fairfax, Virginia.<sup>26</sup> The author concludes:

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<sup>23</sup> <http://www.chroniclet.com/Local-News/2017/01/28/Avon-woman-awarded-236K-for-pipeline-easement.html>

<sup>24</sup> CAAR Third Quarter 2016 Home Sales Report, <https://www.caar.com/docs/default-source/press-releases/caar-q316-press-release.pdf?sfvrsn=4>

<sup>25</sup> <https://www.caar.com/docs/default-source/press-releases/caar-2016-end-year.pdf?sfvrsn=2>

<sup>26</sup> “The effect of pipeline ruptures on noncontaminated residential easement-holding property in Fairfax County”, Robert Simons, *Appraisal Journal*, July, 1999. <https://www.thefreelibrary.com/The+effect+of+pipeline+ruptures+on+noncontaminated+residential...+a055343439>

“For the North Fairfax (Sugarland Run Creek) study area, combining the results of the two studies of single-family home sales on the pipeline for the two miles area north of the 1993 rupture (with losses of 5.5 and 3.3% respectively), the conclusion is that single-family homes with easements along the Colonial Pipeline right of way located within two miles of a well-publicized, substantial pipeline rupture experience a loss in value of 4%-5% after the rupture, relative to comparable noncontaminated properties not on the pipeline.

For the entire Fairfax pipeline corridor, based on the two studies along the Colonial Pipeline corridor, the conclusion is that same-county single-family homes (with losses of 0.3%-1.4%) and townhouses (loss of 2.6%) with pipeline easements within 10 miles of a well-publicized, substantial pipeline rupture experience a loss in value of 1%-2% after the rupture, relative to comparable noncontaminated properties away from the pipeline right of way.

This article implies that appraisers and county property tax assessors in Fairfax County and potentially in other areas should consider reducing the value of easement-holding residential properties along large oil pipeline rights of way with a relatively high incidence of publicized pipeline ruptures. This discount may be applied even though these residential properties are not known to be contaminated. This loss can be attributed to the market's valuing the possibility of a future occurrence, based on a well-publicized and substandard-operating record with respect to pipeline ruptures. These reductions in value would be larger in close proximity to the rupture event. The following rules of thumb may apply to residential property with pipeline easements, holding all else constant:

1. Properties located within two miles may experience losses of up to 4%-5%.
2. Residential properties farther away, but on the pipeline corridor within the same market area would be expected to have a 1%-2% discount. (With respect to the passage of time, these figures represent an average loss within four years of a major pipeline rupture.)”

Finally, the FERC has completely failed to account for any adverse impacts to property values outside of the pipeline easement, but within the potential impact radius or evacuation zone. The Key-Log study addressed these issues, but the FERC did not answer them in the DEIS.

In January, 2015, the Pipeline Hazardous Materials Safety Administration (PHMSA), along with the Federal Emergency Management Agency (FEMA) released [“Hazard Mitigation Planning: Practices for Land Use Planning and Development near Pipelines”](#) which outlines best practices for communities to reduce risks from pipeline incidents, including those caused by natural hazards. The Pipelines and Informed Planning Alliance (PIPA) has developed recommended practices to help in making decisions about what, where and how to build safely near transmission pipelines.

The PIPA guidelines for local governments, includes the following recommendations:

- Establish consultation zones to require developers and pipeline operators to communicate
- Restrict certain types of land use and development
- Require specific design or construction features

- Ensure adequate emergency response and evacuation<sup>27</sup>

The Pipelines and Informed Planning Alliance (PIPA) summary report<sup>28</sup> states the following:

“The complex national network of transmission pipelines travels through the jurisdictions of many county governments, and counties are often the first ones to respond when an emergency occurs due to a pipeline rupture. Counties have a responsibility to ensure the safety of their communities by enforcing good land use practices around pipelines.”

The PIPA guidelines recommend that local governments consider the potential impact radius (PIR) and beyond, and subsequently, enact ordinances to limit land use and development in these areas. It cannot be disputed that much of this PIR will encroach on property owners not compensated by an easement agreement and will most certainly impact future development, and hence, values of these lands. It is irresponsible for FERC commissioners to ignore these guidelines and the property value impacts associated with them.

Here, Nelson county realtors have produced sales data that shows the Atlantic Coast Pipeline is **already** having a deleterious effect on local property values – even before it has been approved for construction. Since the announcement of the ACP route by the Wintergreen area, analysis has shown that property values have dropped by 10% or more. This decline is in sharp contrast to property value that have increased in virtually all Virginia communities not subject to the “blight” of this potential 42 inch pipeline presence. (See chart.)

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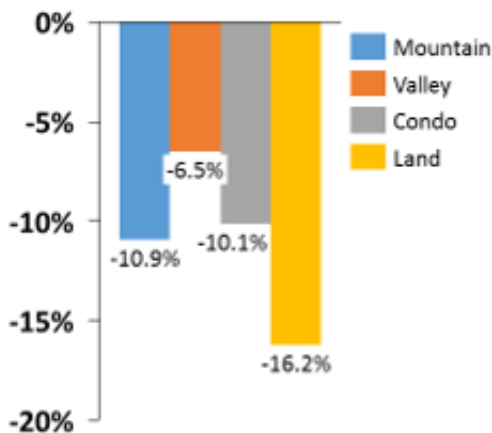
<sup>27</sup>[https://primis.phmsa.dot.gov/comm/pipa/pipa\\_audience\\_local\\_government.htm?nocache=6625](https://primis.phmsa.dot.gov/comm/pipa/pipa_audience_local_government.htm?nocache=6625)

<sup>28</sup> <https://primis.phmsa.dot.gov/comm/publications/PIPA/NACo-PIPA-SummaryReportForElectedOfficials-June2011.pdf>

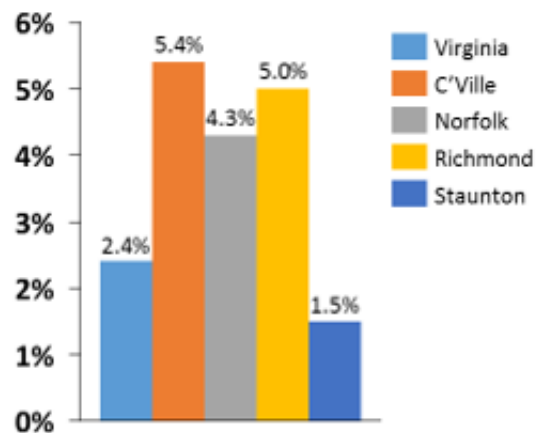
## Pipeline And Wintergreen Property Values

### % Change in Property Values After Pipeline Announcement

#### Wintergreen: -10% or more



#### Other VA: +5%



Comparisons: Homes at price per sq. foot; Land at price per acre.

Wintergreen sales: over 16 months: Before = 6/13– 9/14-, After = 6/15 – 9/16 (Source: sales data, local realtors)

Sales from Other VA Areas: Over past twelve months (Source: Zillow, Redfin and others).

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On a macro level, a ten percent drop in Wintergreen real estate values equates to a \$80-\$100 million loss in community property values (and corresponding real estate taxes to Nelson County). Sales for higher end properties have virtually shut down because of the ACP pipeline “blight”. This is reality, not a study.

Furthermore, this condition has placed significant pressure on the continued viability of the entire Wintergreen resort and community, including:

- Compromised safety – ACP’s planned location would be situated at the only entrance/exit to the resort, where 10,000 or more residents and guests would be jeopardized.
- Halt in economic development projects – Two \$75 million in tourism development projects (Wintergreen Hotel; Spruce Creek Resort and Market) and the 250+ new jobs it would bring to Nelson County have been cancelled or indefinitely delayed because of the pipeline location. This is not a theoretical problem -- affidavits to this effect have been presented by the projects’ developers.

- Erosion and Steep Slopes – There is a high likelihood of significant erosion from steep slopes (some in excess of 65 degrees), colluvial soils, shallow bedrock, and adverse weather conditions, which the DEIS and the ACP did not properly evaluate. Recent geological and soils analysis conducted by private groups (and not by the ACP or required by FERC) demonstrate the unique frailty of these areas. These are the same concerns outlined by the USFS to FERC and the ACP recently.
- Mitigation – The ACP claims its BIC (Best in Class) construction approach will mitigate environmental impacts to problematic work areas. The USFS has challenged this claim, as do I. We ask that that FERC be equally proactive and challenging on the application and efficacy of BIC techniques to these unique physical settings.

### *Recreation/Tourism*

From DEIS section 4.9.5, the FERC states “(b)ased on the impacts identified and Atlantic’s proposed measures to reduce impacts, we conclude the project would not result in significant or adverse impacts on recreational or special interest areas. As such, and given the relative short timeframe for construction, we conclude the projects would not result in significant or adverse long-term impacts on tourism.”

At the same time, FERC’s executive summary acknowledges short-term, long-term, and permanent environmental impacts (terms that the FERC fails to clearly define). For tourist driven economies like Nelson, these impacts will be more likely “long-term” and “permanent”, as opposed to “short-term”, as the FERC has concluded.

One case in point are the potential impacts to the Fenton Inn during construction. In the words of Will Fenton:

*“Fenton Inn is a high end environmentally conscious Bed and Breakfast in Nelson County, VA. Our guests come here to escape stresses of city life and enjoy the quiet peaceful environment with unobstructed and untouched views of the National Forest, Blue Ridge Mountains and Piney Mountain at Wintergreen Resort. We get guests from all over the world and people who serve in high level positions in stressful jobs, from FBI investigators to top Pentagon brass, diplomats and doctors. Almost daily someone stares out the large floor to ceiling windows looking right towards the future pipeline cut and comments about how amazing the view is or how rare to see so much undisturbed nature around. Each morning they comment about how quiet it is and how they slept with the windows open for the first time in a decade or more. Well-traveled people all agree that this spot we have here is a rare gem in a world of sirens and construction noise, highways and power-lines. The ACP will forever alter this area.*

*ACP developers plan to cross Blue Ridge Parkway and Appalachia Trail by HDD method and want to establish large scale drilling operation in our front yard. In addition to blasting, excavation, leveling, clearing and other activities in our immediate area we will be forced to experience Horizontal Directional Drilling for more than 1 year under the fastest case scenario. It could be twice this or more given the time lines of other Dominion projects in which years have become a decade of construction. Our business will be **severely damaged for a very long period of time** and potentially would have to be **closed for the entire duration of ACP construction**. Your statement of short time frame will not apply to our situation. We will have 24/7 large scale drilling operation with constant heavy machinery traffic supporting HDD operations, with day like night illumination of a work zone and all of this in addition to clearing, leveling, blasting and other activities in our immediate area.*

*We would like to comment on noise barrier that ACP proposes at our location. Unless ACP developers plan to install 10- foot tall wall that would completely enclose entire HDD site including roof- this wall will be useless.*

*Our Inn located 100 feet or so above the site of the HDD entrance site. Noise will easily travel above and over any 20-foot tall wall that ACP developers told us. Moreover on both sides of HDD entrance site we have mountains in a bowl or amphitheater shape and echoes travel back and forward with out losing volume. There is no way to mitigate HDD noise other than to not have HDD in a first place.*

These impacts to the area, the business and the future of Fenton Inn cannot be mitigated.

And then there are the impacts to Nelson County's forests. "Nelson County has more large intact areas of forest than most counties in the Virginia Piedmont, covering 80 percent of the county. More than 249,000 acres of those forests are ranked by the Virginia Department of Conservation and Recreation as 'outstanding to very high quality' for wildlife and water quality protection."<sup>29</sup> Nelson County's local government has long understood the responsibility to protect its sensitive slopes, by limiting development that would strip slopes of forest vegetation. Development of Wintergreen Resort came with many lessons and Nelson has been mindful of the negative impacts that such development can bring. Nearly 90% of the proposed ACP route through Nelson will encompass sloped areas and require large swaths of land to be "deforested". For a county that relies on its scenic beauty and pristine condition to attract tourists, the impacts will be devastating. The Key-Log study estimates an annual loss of \$18.5 million in recreation

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<sup>29</sup> From *The Green Infrastructure Center*, 2011 Press Release:  
[http://www.gicinc.org/PDFs/Nelson\\_Press.pdf](http://www.gicinc.org/PDFs/Nelson_Press.pdf)



and tourism dollars for Nelson County. The FERC did not dispute this loss in the DEIS. FERC commissioners must acknowledge the long-term and permanent degradation that will result from such a large swath of permanently lost scenic beauty. To do otherwise is irresponsible and flies in the face of the FERC's own "mission".

Also, from the Green Infrastructure Center's press release for the 2011 Nelson Study:

"According to GIC Director Karen Firehock, "These forests contribute \$3 million dollars to the local economy, so it isn't just wildlife that benefits. They are also helping the community by cleaning the air and facilitating the recharge of our drinking water aquifers, while filtering storm water runoff before it reaches our creeks and rivers."

The new stewardship guide Healthy Watersheds , Healthy Communities show the forests and rivers of Nelson County promote the county's active nature-based recreation and tourism. The breweries, wineries, walking, hiking and biking trails, and boating areas depend on the beautiful scenery that Nelson County's intact forests provide. Fishermen also rely on intact, forested watersheds to help keep rivers clean and support abundant fish populations."

From the Nelson County website:

"NELSON COUNTY offers visitors the opportunity to experience the wilderness and rich rural traditions of those who love to call it home. The county's mountainous terrain offers vistas of the Blue Ridge Mountains and the deep green splendor of the George Washington National Forest, with the wide, winding James River forming the southeast boundary. Within this bounty of natural beauty are miles of hiking trails, crystal-clear fishing streams, historic family farms and orchards, picturesque vineyards, inviting tap rooms and unparalleled views."<sup>30</sup>

And, the Nelson County Board of Supervisors' Mission Statement:

"It is the mission of the Board of Supervisors to maintain Nelson County as a beautiful, safe, healthy, and prosperous rural county; where public services are effective, efficient, adequate and responsive to the needs of its citizens; where education is a life-long process; where citizens are involved in all aspects of their governance; and where the community is well planned to assure respect for and dedication to its traditions and resources, while continuing to improve its economic viability."<sup>31</sup>

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<sup>30</sup> <http://www.nelsoncounty-va.gov/>

<sup>31</sup> <http://www.nelsoncounty-va.gov/government/board-of-supervisors/>

Within the tourist industry, there exists a wealth of studies that address tourism’s negative impacts on communities and the importance of a sustainable approach which requires minimizing of the environmental footprint of tourist activities. *The Impacts of Tourism*”, by Glenn Kreag (Minnesota Sea Grant, 2001)<sup>32</sup> states the following:

**“Fragility of the environment used by tourists:** Many of the most sought-after environments for tourism are also the most fragile. Extra effort to plan appropriate access and use of fragile environments helps insure their long-term viability and continued attractiveness for tourism.”

This publication further states:

**“Environmental:** Areas with high-value natural resources, like oceans, lakes, waterfalls, mountains, unique flora and fauna, and great scenic beauty attract tourists and new residents (in-migrants) who seek emotional and spiritual connections with nature. Because these people value nature, selected natural environments are preserved, protected, and kept from further ecological decline.”

From the Abstract of *The Impact of Negative Environmental Factors on Recreation Choice Behavior* (David Klenosky, 2005)<sup>33</sup>

“In contrast to the amount of attention directed at examining the impact of recreation and tourism activity on the environment, very little research has explored the impact of the environment itself on recreation and tourism choice behavior. To address this gap in the research literature, a series of conjoint analysis experiments were conducted to examine how site selection decisions for selected outdoor recreation activities (golf, birdwatching, and fishing) would be affected by the negative environmental conditions often found in post-industrial urban areas (such as the Lake Calumet Region of Illinois/Indiana).”

The study closely examined behaviors of golfers and birders using the following parameters:

**“Table 1. Study Factors & Factor Levels**

*Travel time (by car):*  
15 minutes

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<sup>32</sup> <http://www.seagrant.umn.edu/tourism/pdfs/ImpactsTourism.pdf>

<sup>33</sup> [https://www.fs.fed.us/ne/newtown\\_square/publications/technical\\_reports/pdfs/2005/326papers/klenosky326.pdf](https://www.fs.fed.us/ne/newtown_square/publications/technical_reports/pdfs/2005/326papers/klenosky326.pdf)

45 minutes

90 minutes

*Quality of birding (or golf) in the area:*

Excellent

Good

Fair

*Residential development:*

No houses or residential development visible in the area

Some houses or residential development visible in the area

Heavy residential development visible in the area

*Industrial activity:*

No industrial activity visible in the area

Factory/industrial structures visible in the area

Landfill/waste treatment facility visible in the area

*Air quality:*

Good, no noticeable smells or odors in the air

Moderate, some noticeable manmade smells or odors in the air

Bad, strong/annoying manmade smells or odors in the air

*Noise in the area:*

Quiet, hear only natural sounds

Can hear some manmade or highway noises in the distance

Noisy, hear loud manmade or highway noises nearby”

While birders and golfers both feel strongly about noise, birders are particularly opinionated about development and its impact on their choices. It is incumbent on the FERC to study this publication and apply the findings to both construction and restoration time periods of the ACP, and re-evaluate its conclusion on the ability for the ACP to sufficiently minimize these impacts on tourism.

This publication is also part of the US Forest Service's Publications & Data made available on their website<sup>34</sup> and further states:

“In addition to their conceptual value, these results hold useful implications for those involved in managing and restoring natural resources in post-industrial urban settings. Restoring such areas for recreation use is critical to enhancing the quality of life of area residents and for rectifying, or at least addressing, resident concerns about environmental injustices that have occurred in the past. In addition to supporting the recreation interests of local residents, these areas hold considerable potential for attracting nature-oriented tourist visitation from outside the area. Continued research assessing the sensitivity of these outside resource users to the environmental conditions inherent in urban post-industrial areas should provide important insight to recreation planners and resource managers about the types of uses that would be sustainable, and thus should be encouraged and promoted in the future.”

The ACP intends to undo what tourist-driven economies have strived to protect. From the 2013 Virginia Outdoors Plan, Chapter 2: Economics and Tourism<sup>35</sup>:

“**Scenic resources and travel:** More than 31 percent of Virginia's visitors reported taking a scenic drive, making scenic resources a significant factor for tourism.<sup>10</sup> Developments that conserve land and visual assets retain value over time. Wintergreen Resort reports that \$15 million in development sales were forfeited to save views within and surrounding the resort. Likewise, a 2,300-acre development at the Homestead Preserve in Bath County limited density to 450 homes and put 935 acres into a conservation easement to preserve scenic resources surrounding the development.”

The Draft Environmental Impact Statement gives considerable rhetoric to concerns expressed by residents and businesses regarding negative impacts to tourism at Wintergreen and the surrounding area, but again, dismisses it with language like “relative short-term timeframe”. Wintergreen is a year-round resort and cannot rely on the short ski season for survival. Activities like golf and nature interests are its very lifeblood. Visitors attracted to these non-ski season activities are largely repeat visitors. If a 10-14 month timeframe disallows such activities, most of the people attracted by golfing and nature activities will find other outlets for their interests, and will likely not return to Wintergreen after construction is complete.

It is a distortion of reality for the FERC to suggest that any mitigation measures during construction will eliminate this long-term negative impact. While acknowledging some

<sup>34</sup> <https://www.nrs.fs.fed.us/pubs/6973>

<sup>35</sup> <http://www.dcr.virginia.gov/recreational-planning/document/vopchapt02.pdf>

environmental impacts to fishing, wildlife, and vegetation will last for several years, or might be permanent, the FERC's conclusion fails to connect the dots between these impacts and a tourist-driven economy dependent on a healthy environment. There are multiple instances in the DEIS where "short-term" is defined as "up to a decade". Proper DEIS analyses of these issues is simply not there, and both the ACP and the FERC have had more than two years to do sufficient studies specific to an area like Nelson County.

Further, the thriving and growing agritourism dollars from our many wineries, breweries, and cideries are interconnected with Wintergreen and Blue Ridge Parkway visitors. The FERC commissioners cite no specific long-term impacts related to at least 14 months of unsafe and congested traffic conditions during construction. Certainly, commissioners understand that these types of businesses cannot afford a "slump" for more than a year and that the nature of these agritourism activities relies on "repeat visitors". Traffic for our businesses from the surrounding counties will simply avoid the area, find new sources of entertainment, and may never return to these venues. It should be noted that the majority of Nelson's tourist attractions are only accessible using the winding Route 151 corridor. This stretch of highway has been considered to be in the top five most dangerous stretches of highway in Virginia and the subject of several safety studies. The FERC did not mention these studies in spite of the comments it has received during scoping and Table 4.9.6-1 does not include a mention of this vital route during construction or the number of vehicles estimated to travel it during construction in its other related tables. Table 4.9.6-1 does however, mention Route 360. We can expect Nelson to see little impact to 360 as it does not exist in Nelson at all, nor does Route 15. Once again, sloppy work on the part of the ACP.

#### *Personal Income*

If the Atlantic Coast Pipeline is constructed, the Key-Log Study cites the loss of 163 jobs, \$3.2 million in payroll and \$1,348,000 in state and local taxes. Given that the Draft Environmental Impact Statement does not address income losses within communities along the proposed route of the ACP, seemingly FERC commissioners have no argument against these numbers. In addition to the Key-Log Study numbers citing impacts on personal incomes and jobs if the project is constructed, the FERC must also acknowledge the loss of income to local realtors, as evidenced by the CAAR reports cited earlier in this document. The "slump" in sales in Nelson began in late 2014 after the project was announced and has continued since. The obvious conclusion from reduced prices and reduced numbers of transactions, is an adverse impact on the personal incomes of numerous realtors who live and work in this community.

#### *Lost Economic Opportunity*

Again, the DEIS does not take issue with the Key-Log Study results concerning the proposed Wintergreen expansion or the proposed development of the Spruce Creek Resort, so clearly acknowledges these findings.

Concerning Wintergreen, the FERC states: “We believe that construction of ACP and development of the hotel could be accomplished such that impacts associated with ACP are reduced or mitigated for, while maintaining the appeal of the area, as demonstrated by other residential and commercial developments in the area and similar projects throughout the country.” “Reduced or mitigated for”, is an acknowledgment that this financial damage exists, and commissioners offer no specific details to back up this claim for “mitigation” or dollar amount of this “reduction”.

Concerning the proposed Spruce Creek Resort, for which a special use permit has been issued, the FERC states: “We requested that Atlantic analyze a route variation that would, among other things, avoid the Spruce Creek Resort and Market. The three route variations (Spruce Creek Route Variation, Horizons Village 1 Route Adjustment, and Horizons Village 2 Route Adjustment) are described in section 3.4.1. For the reasons discussed in section 3.4.1, we do not recommend that Atlantic adopt the Spruce Creek Route Variation, which would avoid the proposed Spruce Creek Resort and Market development. Similar to the Wintergreen Resort, we believe that construction of ACP and development of the Spruce Creek Resort and Market could be accomplished such that impacts associated with ACP are reduced or mitigated for, while maintaining the appeal of the area, as demonstrated by other residential and commercial developments in the area and similar projects throughout the country.” And again, “reduced or mitigated for”, is an acknowledgment that this financial damage exists, and commissioners offer no specific details to back up this claim for “mitigation” or dollar amount of this “reduction”. In both cases, the FERC supplies no data from other similar pipeline easements in similar areas around the nation. This is not analyses, but rather conjecture with a desired end result that satisfies the applicant.

Finally, the FERC as stated earlier in this document, offers no discussion on future development of land outside the pipeline easement but within the Potential Impact Radius and the PIPA guidelines that suggest that land use be limited.

### *Ecosystem Services*

*Ecosystem services* are defined as benefits that people obtain from ecosystems and distinguishes four categories of ecosystem services, where the so-called supporting services are regarded as the basis for the three other categories of provisioning services, regulating services and cultural services. The Key-Log Study estimates a one-time cost during construction of \$7.44 billion in the viewshed. The DEIS does not address the issue

at all, leading one to assume that it agrees with this cost. Commissioners are required to evaluate all costs and damages against the “no build” alternative where it claims that alternate routes are unacceptable. Communities are not obliged to shoulder such damage for a pipeline whose “public need” is in question.

The most logical approach for the ACP is to find a route using less green space and significantly expand on its use of existing utility right of ways to gain real reduction and to truly mitigate the damages, otherwise the FERC must decide on the “no build” alternative.

### **Consulting Party Status**

The inclusion of local governments, preservation organizations and other representatives of communities along the project area as consulting parties is critical to reaching sound agreement on the presence and significance of historic properties, on the effects of the project on historic properties and on appropriate ways to resolve adverse effects to historic properties, including historic districts.

The DEIS makes no provision or commitment for any inclusion of either the governing body of Nelson County or of any preservation organizations or other representatives of communities along the project area in the Section 106 review process before construction of the ACP would begin, even though local governments are entitled to participate as consulting parties by right under federal preservation regulations.

We appreciate the March 2 action by FERC to accept the Nelson County Board of Supervisors become a consulting party under Section 106 of the National Historic Preservation Act (NHPA). However this was granted after the initiation of the DEIS comment period which has deprived the Board from viewing appropriate documents in a timely manner.

It is also of note that FERC has denied the requests of the Nelson County Historical Society, the Rockfish Valley Foundation and Preservation Virginia, Inc. to participate as consulting parties. We request that they be given consulting party status.

### **Section 106 of the National Historic Preservation Act**

The DEIS admits that identification and evaluation of historic properties are still underway and that full consultation between FERC, State Historic Preservation Offices, the President’s Advisory Council on Historic Preservation and other interested parties on

the determination of the effects and adverse effects of this project on historic properties has yet to begin.

The DEIS recommends that FERC approve the final EIS, and then issue a construction certificate to the ACP LLC, thereby empowering that private corporation immediately to acquire private property under eminent domain before FERC has fulfilled its responsibilities for federal review of the project under Section 106 of the National Historic Preservation Act of 1966 as amended. We are simply assured in the DEIS that all pertinent matters related to the treatment of historic properties will ultimately be determined and resolved by the interested consulting parties before actual construction begins.

To issue a construction certificate before FERC has completely fulfilled its responsibilities for federal review of the project under Section 106 of the National Historic Preservation Act will be effectively to foreclose the opportunity by all appropriate consulting parties to engage in a full exploration of alternatives to avoid adverse effects to historic properties including historic districts affected by this project. It will effectively limit the mandated consultation to consideration of one and only pipeline route and only to consideration of options to mitigate, not avoid adverse effects.

The inclusion of local governments, preservation organizations and other representatives of communities along the project area as consulting parties is critical to reaching sound agreement on the presence and significance of historic properties, on the effects of the project on historic properties and on appropriate ways to resolve adverse effects to historic properties, including historic districts.

We submit that FERC's DEIS as it describes and addresses the environmental impact of the ACP on historic properties including historic districts runs counter to the spirit and letter of federal regulations for review of the ACP under the National Historic Preservation Act of 1966 as amended (36 CFR 800 Protection of Historic Properties).

### **Cultural Attachment in Nelson County**

We find that there is insufficient and insensitive treatment of Cultural Attachment in the DEIS with regards to Nelson County. This is an extremely important issue for Nelson County that both ACP and FERC have dismissed as a valid consideration.

The ACP would cause irreparable harm to many families who have lived and worked their land for generations, and have developed deep cultural attachments to the natural, physical and spiritual environment.



The Nelson County Historical Society, in a letter signed by 6 other groups (Friends of Nelson, Millennium Group, Rockfish Valley Foundation, Free Nelson, Pipeline Education Group, All Pain No Gain), and several family members wrote to FERC last spring requesting a cultural attachment assessment, and stressed how this attachment is non-economic and non-transferable, and that its loss cannot be mitigated through monetary compensation or by the receipt of comparable land.

Yet ACP and FERC have rejected this input and in the DEIS stated that historic preservation laws and regulations do not require an assessment of cultural attachment. And -- that “We do not anticipate any negative impacts on the Nelson County community’s cultural attachment to the landscape.” Yet it is impossible to reach such a conclusion in the absence of any kind of cultural assessment.

The Federal Regulations for the National Environmental Policy Act (NEPA) clearly require that agencies consider the effects of their actions on all aspects of the “human environment.” Section 1508.14 states that the “Human Environment shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment.” The DEIS is required to analyze the historic, cultural and social impacts of the project whether they be direct, indirect or cumulative.

Analysis should include all potential social, cultural, environmental, socio-economic and visual impacts to the Warminster Rural Historic District, the Rockfish Valley Historic District, the Elk Hill Baptist Church community, Red Apple Orchard, the South Rockfish Valley Rural Historic District including Spruce Creek Bridge, and the Rt. 151 Virginia Scenic Byway. It should include the impacts not only of the route but also of all access roads and work spaces.

The impacts to the African-American community in Wingina and Westminster would be especially devastating. In the words of Rhamoina Woodsen:

*We, descendants of the African-American family members (with given surnames of Woodson, Venable, Dillard, Early, White, Rose, Fleming, Mayo, and Horsley...) of the town of Wingina, Nelson County, VA, share a "cultural attachment experience". We are descendants of slaves, who once lived at Union Hill and who labored physically in establishing the historical town of Wingina, VA in the new nation of the United States. Cultural attachment, our cultural values developed over generations of attachment to our home places, has been recognized as a valid social phenomenon and policy tool. We request that FERC recognize cultural attachment as a factor in the Atlantic Coast Pipeline (ACP) proposed route.*

*In the 1800s, our Woodson ancestors labored at both the historically-rich, Cabell and Oak Ridge Farms in Nelson County. Through slave auctions and family gifts, the Woodson slaves also reached Buckingham County. My great, great grandfather worked a few days at the Cabell Farm; then, travelled miles to work a few days at the Oak Ridge Farm.*

*Under the direction of Nathaniel Cabell, our ancestors built the James River Canal and Kanawha Bridge, only one of many accomplishments in our new nation's rich history. It is certain that our lands were passageway for Civil War troops. Not only are our families' properties, acquired after the Civil War, part of the cultural landscape of historically important houses and historic districts of Nelson County, but we were the builders of those historic resources. The Wingina Post Office Store, Montezuma, Bon Aire, just to name a few, are a portfolio of our accomplishments, recognized and often registered historic manifests that our Woodson ancestors helped to establish.*

*Our town of Wingina was a sought-after stop on the Underground Railroad. Seeking safe passage, many slaves ran to St. Hebron Baptist Church, where abolitionists secretly provided food, water and clothing. Some of the slaves, too weak to continue, perished there.*

*I still find joy at St. Hebron Baptist Church with all my family members, who still serve in all capacities of the church, as we were taught, as our ancestors did. Wingina is the alpha and omega of my physical existence.*

*A recent initiative to extend the boundaries of the Warminster Rural Historic District would include the African American community. The full extension area is considered historically significant and rests between the Norwood-Wingina and Warminster Rural Historic districts. This area is our land.*

*My family is 'this community' of African Americans, related by slavery. All family names in this area of Wingina are the 'same names' given to us by the Cabell family. We continue to live here; since the days of slavery. We've built this community 'then' and continue to thrive here today. We are of this land and the land is of us. We have sacrificed for this community, and worked hard to keep our land in the family.*

*Truly, we have deep roots and are connected to our land, our history and also to our entire community. It is the heart of who we are. You cannot place a pipeline this close and disregard the negative consequences it will have on us all.*

*I believe that is pipeline route is racially-motivated, because all of the proposed routes have affected my family in Wingina, and all have impacted long-standing African*

*American families, most with smaller lots. Both ACP and FERC were aware of this as it was brought up in the Nelson scoping meeting and in conversations with ACP representatives. Yet- the route filed would still barrel through our community. It is our fear that the pipeline will truly wipe out a whole legacy of family members and land ownership, if allowed. We are an integral part of the history of Wingina.*

*We started from the Union Hill and moved, not far, to Cabell Road. So proudly, we uphold our existence in this community, maintaining, amongst the families related by slavery, a cherished bond, which we still gather to celebrate. We are still here! It's the truest form of life we know.*

*I strongly believe that a decision to use this Wingina community on the ACP proposed route a target practice of racial discrimination*

*I understand that the Environmental Impact Statement (EIS) gives FERC the ability to consider social and cultural impacts that might occur from the routes under consideration. Therefore, I request that FERC include "cultural attachment" as an integral part of the EIS for the ACP.*

And in the words of Hilda Rose:

*But now, we have another mountain to climb, much higher than any we've ever known in this community. Our ancestors have slaved for many, and fought many wars, for us to be here today. Now, it seems, it's our turn to climb the mountain for our family rights to own land, have a home, and live with peace and tranquility.*

*Please, let it be understood, that this proposed route will negatively affect our right to live in peace and tranquility, our very right to own land that we can pass on to our future generations. The construction will negatively affect our water sources, our air and our ability to provide land for building homes for our heirs. We are a small community and our small parcels of land are all we have to pass on to our children. Please, let our land be, 'as it is' and reject this pipeline. Instead of spending billions of dollars on this pipeline and putting land and lives in harm's way, please encourage Dominion to fund responsible alternative energy sources.*

As he words of these residents demonstrate, impacts to Cultural Attachment cannot be mitigated. Failing to address these issues directly in the DEIS is a violation of NEPA.

### **Socio-Economic Impacts**

The DEIS fails to analyze the socio-economic impacts of the proposed route. The DEIS argument that because more than half of the census tracts within a mile of the proposed

route, therefore “there is no evidence that environmental or socioeconomic impacts on any socioeconomic group” is specious, racist, and insulting to those Nelsonians who make a life for themselves and their families below the poverty line.

The DEIS grievously omits Buckingham County’s cultural significance, socio-economic and environmental justice effects.. Buckingham County is the proposed site of Virginia’s only compressor station for the ACP. Because of the unusually long distance between compressor stations, this station is planned to be exceptionally large and powerful. The neighborhood around the compressor station is a low income and 92% African American, comprised of families some of whose families have owned their property for many generations. The area is zoned A-1 agricultural. The people, property, cattle farms and orchards nearby will be significantly impacted by the noise of the compressor station and its methane emissions. The question of environmental injustice looms large: Was this area singled out because it is low income and largely African American?

### **Environmental Impacts to Nelson County**

In reviewing portions of Section 4 of the DEIS for the ACP Transmission line, it seems that descriptions of environmental impacts are generally termed “minor, short term, easily mitigated, ...”, that the descriptions are very general in nature, such that it is difficult to discern where they are located, and that the general conclusion is “Prior to Construction, Atlantic should ... “. I do not believe I found any directives, such as “Shall provide ... Prior to Approval” as though Approval is a foregone conclusion. It seems there is a one-sided bias that is not acting to protect the people and places whose land is being taken for a private enterprise that is designed to provide a private source of natural gas when currently there are transmission lines that have capacity to provide that same fuel.

The ACP, based on its assertions, conclusions, and recommendations and its lack of detail and specificity should be required to provide site specific plans and details to fully assess the environmental impacts prior to Approval by the FERC.

Access roads for ACP would cross 490 waterbodies (some waterbodies are crossed more than once), including 2 major, 102 intermediate, and 377 minor waterbodies, and 9 open ponds. Of these features, 137 are perennial, 248 are intermittent, 83 are ephemeral, 13 are canals/ditches, and 9 are open water ponds (see table 4.3.2-2). Of the 490 access road crossings, 455 would be permanent and 34 would be temporary. One waterbody at AP-3, MP 75.0 would be impacted by both a temporary and permanent access road.” There is no comment about where these are located, what sort of impact is created, or how that impact could be mitigated. In addition, it states that 455 of those crossings would be permanent and therefore, at a minimum would be long term.

In discussing Erosion and Sediment Control crossing water bodies, the ACP states [in Nelson County] they will be crossing the South Fork of the Rockfish, Spruce Creek, Davis Creek, Muddy Creek, Dutch Creek, Buffalo Creek, and Mayo Creek along with many Unnamed Tributaries to those creeks and the Rockfish for a listed total of 62 crossings. Many of these creeks and tributaries will be dammed and pumped to cut through the streambed. These crossings are considered as minor with short term effects. Yet the ACP states that “In addition to following the requirements of the FERC Plan and Procedures, Atlantic and DTI would construct their projects in accordance with state/commonwealth Construction Stormwater NPDES permits, which regulate the discharge of stormwater generated from construction activities. A condition of these permits would be to develop and implement a project-specific SWPPP or Erosion and Sediment Control Plan. The SWPPP must assess the project area and select appropriate erosion and sediment control BMPs”. This project cannot be assessed without site-specific construction plans to be able to understand what is being contemplated. They continue that, Forested Riparian buffers would be restored, except for the 10 foot corridor centered over the pipeline. At best this is a Long Term affect in the range of 20 to 30 years, assuming that they do not come back to maintain the crossing and need to once again disturb the tree cover. During that 20 to 30 years, the increased run-off will not be accounted for without measures to infiltrate it prior to entering the stream flow.

Moreover, the DEIS only mentions the SWPPP and Commonwealth Construction Stormwater NPDES permits related to stream crossings, yet the entire ACP needs to account for the increased stormwater run-off due to simply changing the forested portions of the route to a turf or brush covered right-of-way which according to standard run-off calculations will promote increased stormwater run-off. The ACP does mention “Slope Breakers” as an erosion control management feature, but they do not explain how the collected stormwater would then be dispersed with a BMP such as a Level Spreader and how that could be accomplished when the slopes are steep mountain slopes, often above 25%. Again, this cannot be determined without site specific construction and Erosion Control plans.

Horizontal Directional Drilling (HDD) is proposed for several waterbody crossings and for the Blue Ridge Parkway – Appalachian Trail crossing. The DEIS states “Use of the HDD method may avoid impacts on waterbodies because it allows for the pipe to be installed underneath the ground surface without disturbance of the streambed or banks. However, a temporary, localized increase in turbidity could occur in the event of an inadvertent release of drilling fluid (also termed an “inadvertent return”) into the waterbody. Along a river or creek bank the HDD would be contained in the trench below surrounding grade and should be relatively controllable. Excess fluids would be pumped to some form of holding pond, which would increase the area of disturbance, before it is settled and finally released. Regarding the Blue Ridge Parkway – Appalachian Trail

crossing there is a planned route and a contingency, neither plan indicates the drilling pad, trench, desilting ponds, etc. all placed on very steep terrain. In addition, if the first route does not work, all the infrastructure and BMP's would need to be duplicated, again on very steep terrain. It seems if there is a need for a contingency, then this form of mountain crossing should be conducted as a First step before any other construction along the entire line is begun. In reality, if this is the crossing needed, this should be done prior to Approval of the project by the FERC, to insure that the project is viable.

Relative to public drinking water sources, the ACP states that “during operations, the pipelines would transport natural gas, which primarily is methane. Methane is buoyant at atmospheric temperatures and pressure, and disperses rapidly in air” and that in the event of a leak, the gas would disperse and therefore not impact drinking water. No mention is made of the volume of gas that is blown off to clear the pipe of oxygen prior to initial start-up and how that, along with all the small leaks, affect Air Quality.

Floodplain crossings are mentioned and that local permits [typically from counties] would be obtained. It goes further to say that any structure built in the floodplain would use “graveled lots that allow for some infiltration of rainwater, similar to surrounding areas that are vegetated”. In Virginia, gravelled lots, without specific design, are considered relatively impervious due to the compaction of gravel with fines. These gravelled lots would produce additional run-off relative to the A & B soils they would be replacing. Without site-specific plans and details, it is difficult to determine what sort of construction is being contemplated.

For Hydrostatic Testing surface water intakes would be set in areas of flowing water to avoid taking up sediment. The rate of withdrawal would be controlled to assure a continued flow within the surface water source. Typically, water would be withdrawn at a rate of 1,500 to 3,000 gallons per minute at each withdrawal location, unless otherwise specified in applicable permits. To minimize impacts of the short duration of larger volume withdrawals of water from streams, Atlantic would construct temporary cylindrical water impoundment structures adjacent to several of the water withdrawal points. Atlantic would construct 18 water impoundment structures, each with a 300 foot diameter and a storage capacity of approximately 2.5 million gallons. Where would these structures be placed that they do not create an additional encumbrance on the construction area? There are no indications on the plans included.

TABLE 4.3.2-8 lists “Water Impoundment Structure @ MP 163.7 with water source as South Fork Rockfish River storing 2.52 million gallons.

TABLE 4.3.2-9 lists “3.6 million gallons sourced from South Fork Rockfish River (MP 163.7) and 8.5 million gallons sourced from James River (MP 184.7).

Table 4.3.2-10 lists the Horizontal Directional Drill project “BRP/ANST” as located in Augusta County [Mile Post 158.2], using 325,000 gallons of water for hydrostatic testing and 4,517,000 gallons for drilling mud and that the water will be trucked in from South, James River Boat Ramp.

This operation will generate a fair amount of construction traffic even without knowing what route they would use. Where would this withdrawal be set up at the boat ramp? Without site specific plans, it cannot be determined how this impacts the construction.

Section 4.3.2.10 Conclusion states that there are potential short term effects during construction from clearing riparian areas, potential blasting, trenching, installation of the pipeline, road building or improvements and use, water withdrawals for HDD construction, hydrostatic testing, and dust control, and increased erosion and sedimentation from the construction right-of-way. It then states there could be Long Term effects related to slope instability adjacent to streams ... and short term effects from potential future maintenance and ongoing impacts could occur due to increased surface runoff and erosion/sedimentation from cleared areas, disturbed steep slopes, surface compaction, access roads, and the proximity of the right-of-way and other features to Streams. The Result that the Conclusion should state is there will be incremental impacts, both Long Term and Short Term for the life of the structure.

In Table 4.4.2-1, Spruce Creek Tributary [Conservation Site] is listed as a B3 ranked “Central Appalachian Low Elevation Acidic Seepage Swamp”, the Conservation Site has been deemed necessary for the swamp’s conservation, and yet, it does not warrant a mention in the recommendation.

One example of this inadequate treatment of potential environmental impacts is the way the DEIS addresses (or does not address) the environmental impact of one of the Commonwealth of Virginia’s Department of Conservation and Recreation’s Division of Natural Heritage (DCR-DNH), the Spruce Creek Tributary Conservation Site. The environmental impact of placing the pipeline route within the Conservation Site is never addressed in FERC’s DEIS. The DEIS ignores the United States Army Corps of Engineers (USACE) jurisdictional determination of the wetland boundaries within this site and has placed the centerline of the ACP within 29 feet of the wetland boundary. This means the 10-foot wide, 10-foot deep trench will be built directly next to the wetland boundary and seeps and the area around the trench will be clear-cut, destroying the forest canopy above this section of the forested wetland.

The proposed route passes through the Conservation Site, despite Virginia's request to avoid this area. The center of the 42-inch pipeline passes within feet of the wetland boundary identified by USACE and the wetland boundary identified by the Dominion survey team. In addition, the DEIS now reflects two Additional Temporary Work Spaces within the Conservation Site adjacent to the Spruce Creek. The ATWS areas will require a clear-cut of the forest to provide for this workspace. The centerline of the proposed pipeline path is within 29 feet of the wetland boundary on the western corner of the wetland and within 40 feet of the Dominion-identified wetland on the eastern border of the wetland. In addition, the proposed ATWS appears to be on top of the wetland area identified by Dominion. All of this is within the Spruce Creek Tributary Conservation Site which Virginia DCR has requested be avoided by the ACP. The proposed trench required to bury the 42-inch pipe will be somewhere between 10 feet and 20 feet wide with a total clear-cut construction zone of 125-feet of forest around the pipeline in this area. The clear cutting of the forests in this forested wetland, the construction of a 10-20 foot-wide trench and associated construction activities are exactly what scientist try to avoid around wetlands, spring seeps and sensitive swamps. This is one of the reasons for the recommended 250-meter buffer zone around the Seepage Swamp in this Conservation Site:

*A conservation site is a planning boundary delineating the Virginia Natural Heritage Program's best determination of the land and water area occupied by one or more natural heritage resources (exemplary natural communities and rare species) and necessary to maintain ecological processes that will facilitate their long-term survival.*

*The size and dimensions of a conservation site are generally determined by application of standard, repeatable buffers that are based on the habitat requirements of the natural heritage resources present and the physical features of the surrounding landscape. Natural communities require buffering from disturbances such as clear-cutting, forest fragmentation, soil erosion and siltation, on-site hydrological disturbances, disruption of organic matter and woody debris recruitment, and invasive species. Significant wetlands also require a buffer capable of protecting normal flood retention, stream flow, and water temperature (The Nature Conservancy, 2015). While a standard buffer cannot capture groundwater recharge zones, which are not uniformly predictable and may be located hundreds of meters or even kilometers from the discharge areas, it can protect superficial water tables and concave topography in which groundwater is typically channeled in a zone immediately adjacent to significant seepage wetlands. ....therefore, for natural communities, a buffer of 250 meters around an occurrence has been adopted by DCR-DNH as a minimum, conservative standard to adequately protect against the full range of near-site threats.<sup>36</sup>*

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<sup>36</sup> Conservation Site And Buffering Methodology, Virginia Department of Conservation and Recreation, Division of Natural Heritage, 15 March 2016.



The Draft EIS quotes the Virginia Agricultural and Forestal Districts (AFD) Act that it is "the policy of the Commonwealth to conserve and protect and to encourage the development and improvement of the Commonwealth's agricultural and forestal lands for the production of food and other agricultural and forestal products . . . conserve and protect agricultural and forestal lands as valued natural and ecological resources which provide essential open spaces for clean air sheds, watershed protection, wildlife habitat as well as for aesthetic purpose."

FERC then concludes--without any any consultation with the Nelson County AFD Advisory Committee or any local authority; or presenting any analysis--that the intrusion into the Dutch Creek AFD by the ACP "would not result in a significant or adverse effect on agricultural and forestal lands enrolled as a Virginia Agricultural and Forestal District."

The ACP will permanently eliminate nearly a half-mile of mountain hardwood forest from timber production. It will parallel Falls Creek, a bold stream whose bed lies down-slope from ACP as it flows to Dutch Creek, thence to the Rockfish and James Rivers to the Chesapeake Bay. In the absence of this information or any analysis on the potential impacts to the Dutch Creek Agricultural and Forestal District, the public and agencies have been deprived of the opportunity to review and comment on those potential impacts.

FERC seems to disregard entirely the Commonwealth's goals in the creation of AFDs and presumes that any objection can be overcome by assuring all that the pipe is "under the ground." When, in fact, the protection of what is under the ground, on top of it or flowing through it--whether flora, fauna or water resources is the express purpose of Agricultural and Forestal Districts.

In discussing Erosion and Sediment Control crossing water bodies, the ACP states [in Nelson County] they will be crossing the South Fork of the Rockfish, Spruce Creek, Davis Creek, Muddy Creek, Dutch Creek, Buffalo Creek, and Mayo Creek along with many Unnamed Tributaries to those creeks and the Rockfish for a listed total of 62 crossings. Many of these creeks and tributaries will be dammed and pumped to cut through the streambed. These crossings are considered as "minor with short term effects."

The DEIS further states that "Atlantic and DTI would construct their projects in accordance with state/commonwealth Construction Stormwater NPDES (National Pollution Discharge Elimination System) permits, which regulate the discharge of stormwater generated from construction activities. A condition of these permits would be to develop and implement a project-specific SWPPP (Stormwater Pollution Prevention Plans) or Erosion and Sediment Control Plans. The SWPPP must assess the project area and select appropriate erosion and sediment control BMPs".

The DEIS only mentions the SWPPP and Commonwealth Construction Stormwater NPDES permits related to stream crossings, yet the entire ACP needs to account for the increased stormwater run-off due to simply changing the forested portions of the route to a turf or brush covered right-of-way which according to standard run-off calculations will promote increased stormwater run-off. Again, impacts cannot be determined without site specific construction and Erosion Control plans.

Floodplain crossings are mentioned and that local permits [typically from counties] would be obtained. It goes further to say that any structure built in the floodplain would use “graveled lots that allow for some infiltration of rainwater, similar to surrounding areas that are vegetated”. In Virginia, however, graveled lots, without specific design, are considered relatively impervious due to the compaction of gravel with fines. These graveled lots would produce additional run-off relative to the A & B soils they would be replacing. These become additional impacts to water quality.

Section 4.3.2.10 Conclusion states that there are potential short term effects during construction from clearing riparian areas, potential blasting, trenching, installation of the pipeline, road building or improvements and use, water withdrawals for HDD construction, hydrostatic testing, and dust control, and increased erosion and sedimentation from the construction right-of-way. It then states there could be Long Term effects related to slope instability adjacent to streams ... and short term effects from potential future maintenance and ongoing impacts could occur due to increased surface runoff and erosion/sedimentation from cleared areas, disturbed steep slopes, surface compaction, access roads, and the proximity of the right-of-way and other features to Streams.

The conclusion should reflect that these environmental impacts are significant. While some are short term, some are long term and some are incremental, the conclusion should specify that long term and incremental impacts are significant for the life of the structure.

Dominion is trying to make an end run around the necessary work of VA Dept of Environmental Quality and the U S Army Corps of engineers. It expects to have the right to keep the U S Army Corps at bay and to be able to cross waterways without planning that is transparent and open to analysis. It wants state wide permits to avoid planning in advance that is transparent and can be discussed. This is an example of hiding true impacts and seeking blanket privilege to mess up our communities. The result is only mitigation in which the pipeline routes and landowners are the losers.

If one looks at the RT 151 crossing at Spruce Creek bridge and adds the work spaces, one finds wetlands, waterways, flood planes and a 200 year old system of water traces that carried water by gravity into and away from a complex of grist mills. Water is

represented here in its rarest form. The archaeology in the area merits a plan that prohibits crossing the area above ground. It merits engineering studies so as not to topple structures, implode the mill traces and eliminate the wetlands by drying out the area and removal of 225 feet width of trees even if a drilling underground is allowed. It can not be mitigated and without the plans in advance of approval of routes and authorization of construction, there will be no opportunity to determine that alternate routes are needed.

### **Steep Slopes and Potential for Significant Sedimentation and Landslides**

Nelson County has more steep slope acreage along the pipeline route than any other county.

Additionally, Nelson's combination of fractured bedrock, concave landforms, colluvial soils with poor cohesive qualities, and historical debris flow activity already make our County highly susceptible to further landslide events.

Destabilization of soil structure due to construction activities such as digging, blasting, vegetation removal, and recontouring, as well as long-term changes in both surface and subsurface hydrological patterns caused by the removal of forest canopy and the installation of the pipeline trench can further compromise already-fragile slopes. Repercussions will not be limited to the denuded right-of-way, but will also impact the steep, “undisturbed” terrain adjacent to the pipeline-affected ridgetops, thereby increasing dangerous debris flow potential.

As Nelson County already has seen, large debris flows can result in catastrophic property damage and loss of life. But even smaller events can negatively impact water quality far downstream, and/or alter the landscape in ways that set the stage for larger mass wasting events in the future.

Because of Nelson’s heightened landslide vulnerability, special care must be taken when siting and installing a major project like the ACP; the risks must be thoroughly assessed and impacts carefully mitigated along *and adjacent to* the proposed pipeline corridor and access roads. The Dominion filings that FERC used as the basis for its DEIS included gross generalities which were based on regional data sets unsuited to the kind of detailed analysis necessary to ensure the safety of Nelson’s slopes and residents. Because of this, FERC must require that a more comprehensive risk-analysis be performed and that site-specific stabilization and mitigation plans be prepared – and that Nelson stakeholders be given the opportunity to thoroughly evaluate and comment on those site-specific plans – BEFORE a certificate is granted on this project.

Finally note one example: the pipeline route through Nelson County crosses the ridgetop of Roberts Mountain, south of Rt.6 and west of Rt. 29. The top of Roberts Mountain is a 200' ridgeline averaging 12-16' across the top with slopes of 30-40% grades on either side. The creation of a proposed 125' construction corridor here would require the blasting, removal and flattening of the top 50'+ of Roberts Mountain. These impacts are nowhere mentioned in the DEIS and they are very significant.

### **County Infrastructure**

Absent from the DEIS is any analysis of the impacts on county infrastructure from the potential construction of the ACP. This includes, but is not limited to, the impacts to county roads, bridges, and access to residences, businesses and developments.

The removal of soil, rock and timber from the easements for construction would be substantial throughout Nelson County. The transportation of water for hydrostatic testing also will result in significant impacts. These impacts will be translated into inconvenient and potentially dangerous impacts and use restrictions to the county road system, bridges and access to businesses, homes and developments. This will further be reflected into maintenance and repair costs, lost business opportunities and difficulty in maintaining consistent emergency services. Dust and sedimentation impacts will be significant. None of these impacts or costs are specified or considered in the DEIS.

In addition, there are the bridges in Nelson that are listed as having structural problems or are "functionally obsolete" and are along the route of proposed ACP or access roads. These include:

- Rockfish Valley Highway crossing of Spruce Creek, built in 1936, 73.8% sufficiency rating (1.14 miles N. of Beech Grove Road, .15 miles S of 627/Spruce Creek Road, between Horizons Village Road and Spruce Creek Lane)
- Rockfish Valley Highway crossing of S. Fork of Rockfish built in 1936, 63.2% sufficiency rating (11.15 miles N. of Rte 29, 4.76 miles S. of Rt. 6)
- Rockfish Valley Highway crossing of Reid's Creek, built 1936, 76.9% sufficiency rating (10.12 miles N. of Rte 29, .26 miles S. of Rte 664/Beech Grove Rd)
- Rocky Road Crossing of branch of Rockfish River, built in 1932, 69% sufficiency rating (1.45 miles N. of 776/Grape Lawn, 1.34 S of 634/Adial)
- River Road (Rte 6) crossing of Rockfish River, built 1949, 68.5% sufficiency rating (.11 miles N. of Rte 29, 5.65 miles South of 151)
- Thomas Nelson Highway (Rte 29) Crossing of Davis Creek, built 1932, 59.1% sufficiency, (2.73 miles N. of 623, at Rte. 776/Grape Lawn)

The impacts to these structures, the costs of repairs and maintenance and the inconveniences connected with their repair and maintenance need to be considered in the DEIS.

### **Emergency Services**

Nelson County depends on volunteer emergency service personnel to serve our county. Nelson County lacks the staff, the training, the equipment and the budget to provide emergency services required in the event of a pipeline or construction failure. This fact is integral to the DEIS since there is no way that Nelson County can provide sufficient emergency services and those impacts cannot be mitigated.

### **Scenic Resources**

The Nelson County Comprehensive Plan (NCCP) contains numerous references to protecting visual resources. The introduction addresses eight key areas, one of which is Natural and Scenic Resources, and it states this goal: Protect the county's scenic resources as essential to the county's rural character, economic strength and quality of life. This can be achieved by protecting the county's scenic roadways by designating them as State Scenic Byways and by adopting a local scenic byways ordinance as needed. "In particular, support designation of Route 29 from Woods Mill to the Albemarle County line and Route 664 as scenic byways." (Quote from page 11.)

Another principle is to promote the preservation of the viewsheds of scenic vistas as an important part of the county's tourism program. Numerous references to protect scenic vistas and scenic roadways occur throughout the NCCP. It includes a vision statement that begins, "The natural beauty, scenic vistas, and environment of Nelson County are treasured resources. Nelson County is committed to preserving the unique aspects of the county to maintain its rural nature and character. Future generations should be able to see the blue sky and mountains as we do today."

In the Nelson County Zoning Ordinances (NCZO), one criterion for obtaining a Special Use Permit is this: "The proposed use shall not result in the destruction, loss or damage of any feature determined to be of significant ecological, scenic or historic importance."

Yet, Volume I, page 4-335 of the December 2016 DEIS states: "Generally, counties and municipalities affected by ACP and SHP identify the preservation of scenic values as important to their community; however, most affected county and municipal land planning agencies do not include specific regulations in ordinances for scenic areas, or utilize visual design guidelines. Based on review of existing county Comprehensive Land

Use Plans, Bath County, Virginia is the only county that has specifically established land use objectives to protect or conserve visual resources on county-owned lands.”

We find this statement misleading and incorrect. The DEIS has avoided analyzing the visual impacts to Nelson County. In the absence of this analysis, the public is neither given the opportunity to review the information, nor the possibility of commenting on it.

### **Impacts of Work Spaces**

The Impacts of work spaces have not been evaluated in the DEIS. The existence of 50 foot and larger work spaces adjoining the 125 foot corridor grow the environmental impact footprint significantly. Dominion should review the total dimensions of all areas where there are work spaces and amend their comments on environmental impact to speak to the larger spaces. There are thousands of these work spaces that greatly impact the specific areas. For example at Spruce Creek Bridge on RT 151 at MP 160 in Nelson County, the width of the crossing grows from 125 feet to 225 feet. This is highly significant when you note that the extended width hits Spruce Creek bridge and as a result, under VDOT regulations the pipeline route must be moved. The crossing is also a Virginia Scenic Byway. Dominion is hiding this information by not considering the true width of the crossing. This is true in thousands of locations along the pipeline and the result is Dominion camouflaging the true impact.

### **Eminent Domain**

In order to build the Atlantic Coast Pipeline, Atlantic Coast Pipeline, LLC (ACP) would by eminent domain take the land of many land owners who object to the taking of their land for that purpose. They are owners who value their land in its current agrarian and natural condition. Those values will irrevocably be compromised by ACP's pipeline.

When it chose a route for its pipeline through the rural western Virginia counties of Bath, Highland, Augusta and Nelson, ACP chose a route through some of the most significant cultural, historical, beautiful and pristine geography in the eastern United States. Late in the afternoon on a summer day, one can stand at the top of any ridge and see the sun gradually set over innumerable ridges to the west, as the color of the sky varies in rising shades of orange, pink, purple, and deep blue. It is a picture of rugged beauty, the essence of this land.

Its historical and cultural significance and natural beauty are only 3 reasons why the land's owners value it so much. They value it because of the sense of serenity they gain from the land's rural, undisturbed character. In many cases the owners acquired their land in the first place precisely because of its scenic and tranquil qualities. Some owners

operate businesses serving visitors for whom the terrain's scenic value forms a critical reason why those visitors patronize the businesses. Some owners value their land because their families have held it for multiple generations. All of them value the land because it is part of who they are.

The Commission can make owners surrender their land to ACP for a pipeline. It can give ACP the right to take their land by eminent domain. But it can never compensate them for the loss of their land. It can never make them whole. Nor can ACP to do so. Nothing ACP has to offer can compensate them for their loss.

The owners' concerns require the Commission to consider the legal issue why a pipeline owner gets a right of eminent domain. The pipeline owner is, after all, a private company, and proposes to build its pipeline for its own, private, profit. Yet to build the pipeline, the owner must confiscate the private property of others against their will. The owners of that confiscated property presumably value it for reasons that are not reflected in its "market value." Market value does not account for the loss of property owners' natural viewsheds and family heritage in the land, nor for the disruption of their serenity caused by construction and the ever-present danger of a subsequent explosion, and the possible loss of their sources of clean water. Those things matter to them, but not to the "market."

So what gives the pipeline owner the right to take this land? There is a tendency to think of the words "public convenience and necessity" as a sort of cliché that applies to any pipeline that a pipeline company wants to build. But those words have meaning. Only in the presence of a supervening public convenience and necessity may the Commission, under the Natural Gas Act, grant a pipeline company the right to take the people's property. The Act specifies here that ACP may not construct its pipeline "unless" it first receives "a certificate of public convenience and necessity issued by the Commission." The Commission may grant that certificate only if it finds that the proposed pipeline "is or will be required by the present or future public convenience and necessity." "Otherwise," the statute continues, the "application shall be denied." 15 U.S.C. §§ 717f(c)(1) and (e). The pipeline must both serve the public convenience and meet a public necessity.

The Commission has considered in some detail the question how it will determine whether a public convenience and necessity outweighs the rights of private land owners whose land will be taken involuntarily. Statement of Policy, Docket No. PL99-3-000, Sept. 15, 1999 (the Policy Statement). The Commission recognized that "landowners whose land would be condemned for the new pipeline right-of-way, under eminent domain rights conveyed by the Commission," hold legitimate interests in seeking "to avoid unnecessary construction." Policy Statement, 24.

To resolve this conflict, the Commission determined, it will conduct a balancing analysis. The degree of a pipeline's prospective public benefit will be weighed against the extent to which the pipeline will require the use of eminent domain. "A showing of *significant* public benefit would outweigh the *modest* use of federal eminent domain authority." But the calculus will be more demanding when a greater use of eminent domain will be required. "The strength of the benefit showing will need to be proportional to the applicant's proposed exercise of eminent domain procedures." "[T]he Commission will approve an application for a certificate," in the end, "only if the public benefits from the project outweigh any adverse effects." Policy Statement, 27, 28, emphasis added.

ACP proposes to use eminent domain to a truly extraordinary extent. The critical numbers in miles of pipeline can be seen in columnar form:

ACP Main Pipeline Total Length:	604
Length Transiting Privately Owned Land:	576
Co-located with Existing Rights-of-Way:	- 48
Length Transiting Private, non-ROW, land:	528
	÷ 604
Percentage of Pipeline on Private, non-ROW, Land:	87.4

ACP proposes, that is, to use private, non-co-located, land for fully 528 of its pipeline's 604 miles, or 87.4 % of that total distance. It proposes, in other words, to use privately owned forests, pastures, farmlands, and family yards for 87.4% of its proposed pipeline.<sup>37</sup>

The Commission has not in recent memory, we believe, before approved a proposed pipeline that involved so extensive a use of private, non-co-located, land. ACP must, it reports, acquire no fewer than 2,241 parcels of non-co-located land for its pipeline.<sup>38</sup> We do not know how many of these parcels ACP intends to take involuntarily by eminent domain. Although the Commission asked ACP for that information in a public request, ACP chose to file its response as a privileged document.<sup>39</sup> But we believe that ACP's reluctance to release this information reflects a general lack of success by it in acquiring rights by consent. In western Virginia, where the undersigned Owners reside, opposition to this pipeline is fierce. People in general, and people in particular on whose land the pipeline would be built, do not want to see their slice of heaven sliced by a pipeline.

<sup>37</sup> Figures in column derived from Draft Environmental Impact Statement, Table 4.8.2-1

<sup>38</sup> Figure derived from ACP response to FERC Question No. 2, filed December 8, 2016.

<sup>39</sup> See *id.*



In contrast to the extraordinary extent to which ACP proposes to confiscate private land, the public benefits of its proposed pipeline are thinner than tissue. Indeed, ACP provides the Commission with essentially no concrete, reliable demonstration of a public need for its pipeline. ACP and its owners offer the Commission vague platitudes about “growing energy needs,” and “growing gas generation needs.”<sup>40</sup> Platitudes do not, however, buy gas. And ACP provides the Commission with precisely no study—none whatever—showing that there is a demand for its pipeline that could not be met using existing infrastructure. ACP’s arrogance in this regard flies in the face of the Commission’s carefully articulated policy. When, as here, a new pipeline will serve markets already reached by existing infrastructure, “the evidence necessary to establish the need for the project will usually include a market study.” Policy Statement, 25. As for what ACP does offer, the Commission states, “Vague assertions of public benefits will not be sufficient.” *Id.*

Undeterred by its inability to show an actual need for its pipeline, ACP offers the Commission instead an artificial construct. Not to worry about the absence of actual demand for its pipeline, it seems to say. The gas it transports will be purchased under contract by certain utilities. Who are those utilities? Fully 93% of the contracted gas consists of gas provided for in contracts with subsidiaries of ACP’s *own owners*. Subsidiaries of Dominion Resources and Duke Energy, including Piedmont Natural Gas, account for 82% of the contracted gas, and Virginia Natural Gas, a subsidiary of another owner, Southern Company, accounts for an additional 11%.<sup>41</sup> The contracts have not been made available for public inspection, so we cannot say what mechanisms they may contain that will in effect allow the subsidiaries to avoid actually taking ACP’s gas.

Contracts for the supply of gas that are entered into by subsidiaries of the proposed contractor pipeline’s own owners, as demonstrations of public need, are inherently unreliable. Those subsidiaries are not at liberty to decide for themselves whether they actually need more gas. Or, if they do need more gas, whether they need it from this pipeline in particular. Their owners, who also own the pipeline, will decide those questions for them. And they will decide based not on any public need, but upon their own financial self-interests, interests which will include the profit they expect to make from the pipeline itself. Thus, as the Commission has pointed out, “A project that has precedent agreements with multiple new customers may present a greater indication of need than a project with only a precedent agreement with an affiliate.” And “using

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<sup>40</sup> Draft Environmental Impact Statement, p. 1-2, Joint Supplemental Comments of Duke Energy Carolinas, et al., p. 2, filed February 17, 2017.

<sup>41</sup> Percentages derived from ACP response to FERC Question No. 3, filed by ACP on December 8, 2016. APC provides information about its ownership in response to a FERC information request, a response filed February 28, 2017.

contracts as the primary indicator of market support for the proposed pipeline project . . . raises additional issues when the contracts are held by pipeline affiliates.” Policy Statement, 25-26,16.

The contracts entered into by ACP with Dominion and Duke subsidiaries are particularly suspect, as examination of the materials supplied by ACP and its owners shows. Approximately 82% of the gas transported by ACP, as we noted above, is contracted for by Dominion and Duke subsidiaries. Why exactly do those subsidiaries need that gas? ACP’s answers to that fundamental question are wholly opaque. The Commission put the question to ACP in an information request dated November 23, 2016. ACP’s answer, dated December 8, indicates, at best, that Dominion and Duke intend to treat their ACP gas as a possible redundant fuel source for their existing electrical generation plants. We quote ACP’s answer below, with emphasis added.<sup>42</sup>

ACP asserts that Duke will use its pipeline “to meet *portions* of its existing . . . power generation facilities, where the gas will provide Duke an “*alternative fuel source.*” Duke adds, in a supplemental filing, that ACP’s pipeline “will provide . . . *additional supply*” for existing facilities.<sup>43</sup> Similarly, Dominion will treat ACP’s gas, ACP asserts, “as an important *factor* to the reliable delivery of gas to its generation fleet *from an overall portfolio perspective.*” The pipeline will be directly connected with only two generation facilities, but it “*could*” be interconnected with other pipelines, which “*should*” allow gas to go to other facilities, thus providing “*additional sourcing flexibility.*” ACP lists the existing Dominion facilities which its pipeline “*could*” serve.

In addition, Duke is constructing a plant to be completed this year “that *will be able to utilize* the transportation service from ACP.” Dominion is constructing a plant to be completed next year, the Greenville plant, which “*could*” be served by ACP. But Dominion told the Virginia State Corporation Commission that the Greenville plant will “be fueled using natural gas with reliable firm transportation provided by Transcontinental Gas Pipe Line Company, LLC (“Transco”).” The plant will merely “*also have access*” to ACP pipeline gas.<sup>44</sup>

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<sup>42</sup> Except as otherwise noted, the discussion which follows relies upon and quotes ACP’s response to the Commission’s Question 3, filed December 8, 2016, with emphasis in all cases added.

<sup>43</sup> Joint Supplemental Comments of Duke Energy Carolinas, et al., p. 1-2, filed February 17, 2017, emphasis added.

<sup>44</sup> Application of Virginia Electric and Power Company, before the Virginia State Corporation Commission, Case No. PUE-2015-00075, July 1, 2015, pp. 7-8, emphasis added.

This Commission asked ACP to provide in particular information about any “proposed” electrical generation plants that the pipeline might serve. The Commission will note that ACP in its response provides no information about any “proposed” plants. It provides no information whatever about even prospective Dominion plants of any kind. With respect to Duke, ACP asserts that Duke is planning a number of plants for which it is evaluating siting locations, but for which the “locations . . . have not been finalized.” The plants are to be constructed between 2022 and 2031. But ACP does not say that its pipeline definitely would serve those prospective plants. It asserts only that unspecified “*quantities of natural gas*” from the pipeline “*would be available as a potential fuel source.*” Duke adds, in its supplemental filing, that the pipeline’s gas “*is expected to be available as a potential fuel source*” for an unspecified number of “additional power generation facilities.” Duke is, it says, “evaluating a number of siting locations . . . that *would provide access to ACP.*”<sup>45</sup>

So what is the Commission to make of this, ACP’s sole demonstration of “public need”? ACP claims that 82% of its gas will be purchased by its owners Dominion and Duke to generate electricity. Yet it fails to identify a single Dominion or Duke plant that definitely will use any ACP delivered gas. Instead it hides behind a series of vague generalities about what “could” be done if the stars and the planets come into alignment in the proper season. Essentially, the gas will serve as some kind of redundant fuel source if it is needed and if it can be transported to existing plants, or possible future Duke plants. The undersigned Owners do not dispute that these aspirations are quite nice. But we do beg to point out that they constitute no demonstration of public need of any kind. Much less do they constitute a showing of a public need sufficient to justify the confiscation of our property. As the Commission has stated, “a project built on speculation (whether or not it will be used by affiliated shippers) will usually require more justification than a project built for a specific new market when balanced against the impact on the affected interests.” Policy Statement, 26.

Even if it were assumed that additional gas is necessary for reasons ACP has failed to demonstrate, ACP has failed to show that the new gas cannot be delivered over existing gas pipelines, perhaps with modifications. That failure is especially telling. A pipeline proponent, the Commission recognizes, must make a stronger showing when it proposes “to serve markets already served by another pipeline.” Policy Statement, 25. ACP cannot make such a showing, however, because there is no such showing to be made. Existing pipelines, with modifications and additional storage facilities, can meet all currently anticipated needs in ACP’s proposed service area. This has been shown, beyond

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<sup>45</sup> Joint Supplemental Comments of Duke Energy Carolinas, et al., p. 2, filed February 17, 2017, emphasis added.

reasonable doubt, in a study by Synapse Energy Economics, Inc., a study submitted to the Commission by the Shenandoah Valley Network, et al., on December 20, 2016.

The Draft Environmental Impact Statement suggests that existing pipelines “would have to provide sufficient pipeline capacity to transport an additional 1.44 Bcf/d of natural gas to the delivery points specified by the precedent agreements” signed by ACP.<sup>46</sup> This suggestion, we respectfully submit, is a fundamental error. It assumes that there is in fact a need to deliver gas in the quantity and to the places ACP proposes. Yet such a need is precisely what ACP has failed to show. It has submitted no demand study. It is unable firmly to commit even its own owners, with whom it has signed the precedent agreements, to use its gas at any of their electrical generation plants. At best, the gas will serve only as a potential alternative fuel source. Why, then, should it be necessary for the existing pipelines to duplicate ACP’s unnecessary system? Those pipelines can, with modification, meet all demonstrable public needs. And that is the question before the Commission. Is ACP’s pipeline required by the public convenience and necessity?

Some Dominion plants, lastly, which ACP “could” serve are coal fired plants. And although Dominion has made no commitment to convert these plants to gas, ACP implies in its application that they might be converted, and that such a conversion would serve the EPA’s Clean Power Plan. But the EPA’s Clean Power Plan is now moribund. It has been stayed by the US Supreme Court, and the new administration has made clear that it intends to withdraw and remake the Plan. Conversion of coal plants by Dominion would not, in any event, have served the Plan’s climate change goals. The gas ACP proposes to acquire will be obtained by hydraulic fracturing, a process which incidentally releases methane, a far more potent greenhouse gas than carbon dioxide, into the atmosphere. Any plants newly reconstructed by Dominion will, moreover, last for 30 years, emitting carbon dioxide into the atmosphere for those 30 years. If, instead, the existing coal fired plants are allowed to remain in place until the ends of their useful lives in five or ten years, they can in the meantime be replaced with renewable sources for generating electricity. The net result will be far less carbon dioxide emitted into the atmosphere.

The Commission may, under the Natural Gas Act, authorize ACP to take land only if ACP shows that its proposed pipeline serves a public necessity. Yet ACP fails to demonstrate any concrete public necessity for its pipeline. It offers only speculative possibilities. *Could*s, *should*s, and *would be available*s. The absence of any necessity for ACP’s pipeline has clearly been shown. And the Commission will grant ACP the power to take land, under its established policy, only if ACP demonstrates a public benefit sufficiently great to justify the extent to which it proposes to confiscate private property. Here ACP proposes to confiscate private property to a truly extraordinary

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<sup>46</sup> DEIS, 3-4.

extent. Yet ACP has shown essentially no clear, genuine, verifiable public benefit. Under the statute and its own policy, then, the Commission must not grant ACP the power of eminent domain.

### **Reeds Gap Crossing**

The Federal Energy Regulatory Commission (FERC) has published a Draft Environmental Impact Statement (DEIS) for the proposed Atlantic Coast Pipeline (ACP).<sup>47</sup> The DEIS does not acknowledge the risk of failure and the unavoidable environmental damage associated with the plans proposed by Atlantic Coast Pipeline, LLC (Dominion) for drilling through the Blue Ridge Mountains.<sup>48</sup>

Because of restrictions on construction of a utility corridor across the Appalachian National Scenic Trail (ANST), Dominion proposes to tunnel 4,639 feet through the Blue Ridge using horizontal directional drilling (HDD).<sup>49</sup> Another drilling method, direct pipe installation (DPI), is proposed as a contingency should the HDD operation fail. As described in these comments, both the HDD and DPI methods involve substantial risks of failure and environmental damage, given workspace limitations and the topographic and geologic characteristics of the proposed drilling locations.

Because of the uncertainty associated with the Dominion proposals, the U.S. Forest Service (USFS) has stipulated that any authorization for ACP construction on National Forest lands would be conditioned on prior successful completion of the proposed Blue Ridge HDD or DPI operations.<sup>50</sup> This requirement should serve to avoid a situation in which a significant investment and resource commitment associated with premature ACP construction would be put at risk and in direct conflict with established legal protection of a highly valued public resource.

Dominion's proposed construction schedule for the ACP, however, cannot be met given the year or more that would be required to first complete the HDD or DPI operations.

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<sup>47</sup> Atlantic Coast Pipeline and Supply Header Project, Draft Environmental Impact Statement, 12/30/16.

<sup>48</sup> Atlantic Coast Pipeline, LLC, formed by four companies, Dominion, Duke Energy, Piedmont Natural Gas, and Southern Company Gas, is herein referenced as "Dominion."

<sup>49</sup> Dominion proposes ten HDD crossings for pipe diameters of 36-inches or greater. The Blue Ridge crossing is the only HDD that involves drilling through a mountain, and it is the longest among the ten, exceeding the next longest by 1,674 feet.

<sup>50</sup> This condition was initially stated in correspondence to Leslie Hartz, Vice President, Atlantic Coast Pipeline, LLC, from the U.S. Forest Service, Regional Forester Eastern Region and Regional Forester Southern Region, 1/19/16.

FERC has thus recommended that Dominion consult with the USFS and provide a realistic schedule prior to the end of the comment period for the DEIS.

Dominion can be expected to argue that its plans are sufficient to assure the success of the drilling effort, and there is no need for the delay required to actually demonstrate success. However, the information that Dominion provided for consideration in the DEIS analysis is incomplete, inconsistent, and misleading. It does not support an objective evaluation of the proposed drilling operations with respect to either the potential for successful completion or the acceptability of associated environmental damage.

Implementation of the National Environmental Policy Act (NEPA) requires an opportunity for public and agency review and comment. The DEIS for the ACP, however, repeatedly fails to address or provide the critical information required for meaningful review. The DEIS treatment of Dominion's proposed Blue Ridge drilling operation is a significant example of this deficiency. This report describes the failure of the DEIS to fully disclose the risk factors and uncertainties associated with the proposal.

The HDD operation would involve drilling for 4,639 feet at 800 feet below the crest of the Blue Ridge. The contingency DPI operation would involve drilling for 1,398 feet at 200 feet below the crest. Both methods are commonly used for installing pipelines under rivers or other obstacles where the terrain is relatively flat and extremely hard or fractured bedrock is not encountered. The use of either method to drill for long distances through steep mountains is less common. Dominion's proposal for drilling through the Blue Ridge approaches the limits of either technology, especially where geophysical conditions are both problematic and uncertain.

**Horizontal Directional Drilling** typically involves three operational phases (**Figure 2**).

Phase 1: A pilot hole is drilled from one side of the obstacle (river, mountain, road, etc.) to the other. A bentonite clay drilling fluid removes drill cuttings.

Phase 2: Reamers with larger bits and cutters are used to enlarge the borehole.

Phase 3: A pre-welded and pre-tested pipe string is pulled through the borehole from the exit side. The pullback section of pipe is elevated to align with the borehole.

**Direct Pipe Installation** is a newer method that involves mounting the drill bit on the front of a pre-welded and pre-tested pipe string and pushing it through or under the obstacle.

**FIGURE 2** – Phases of the HDD process as presented in the HDD Design Report prepared for Dominion Transmission, Inc. by J.D. Hair & Associates, Inc. (7/27/16). The depiction shows the more-common use of HDD for installing pipelines under rivers or other water bodies.

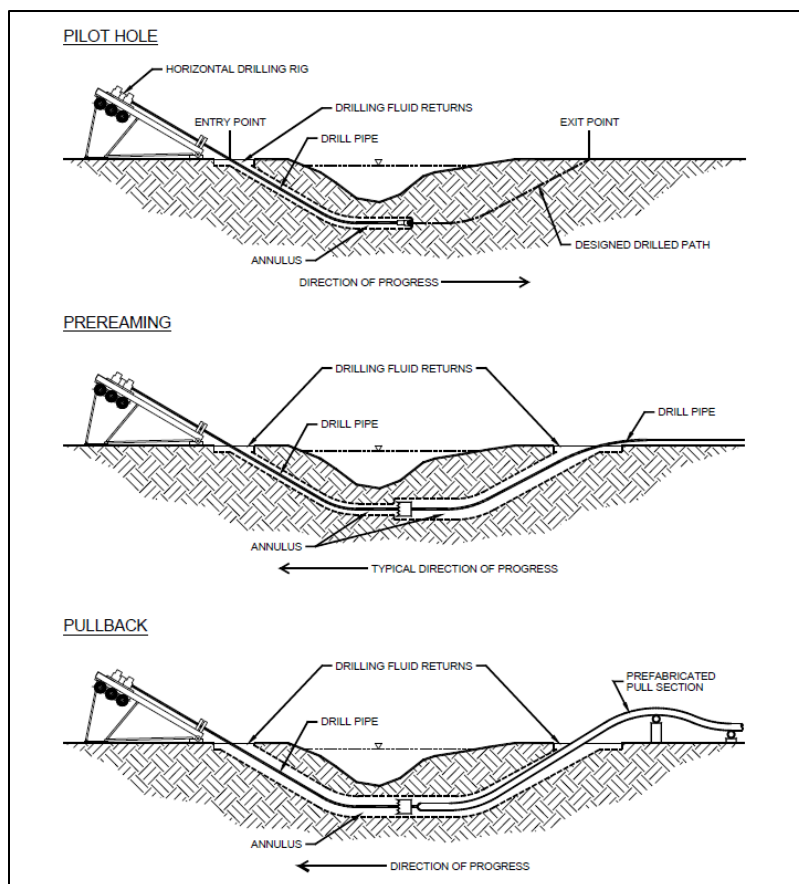
Our objection to the proposed Blue Ridge crossing is much like that for other areas of the ACP project. Large-scale forest clearing and excavation on steep mountainsides presents substantial risk of erosion and sedimentation, alteration of runoff properties, and landslides. FERC, however, has failed to require detailed plans for construction and mitigation prior to publication of the DEIS, thereby precluding informed public and regulatory agency analysis of risks, alternatives, and mitigation measures.

The proposed HDD and contingency DPI installations will require extensive excavation for creation of level workspaces, access roads, and areas for pipe fabrication, testing, staging, and pullback. The information included in the DEIS, however, does not disclose

the full scope or impact of the proposed operations.

The DEIS provides limited or misleading information concerning the excavation that will be required for the proposed primary and contingency drilling operations, and to the extent that information is provided, it is subject to change.

Information submitted to FERC by Dominion does acknowledge, but only in general terms,



that there are issues related to the amount of excavation that will be required.

*The proposed HDD crossing will be complicated by the challenging topography at the site, which is likely to require some amount of excavation at both ends of the crossing to create level work areas for the HDD equipment.*<sup>51</sup>

Despite this admission, no specific information concerning the actual extent of entry and exit point excavation was provided to FERC for consideration in the DEIS.

For example, the DEIS includes a schematic of the HDD operation.<sup>52</sup> However, the locations, areas, and excavation required for the entry and exit points are imprecisely specified as “*proposed*” or “*to be designed by contractor.*” In addition, the DEIS does not address plans submitted to the National Park Service that describe a modified HDD operation in which drilling would be conducted from both sides of the mountain.<sup>53</sup>

Information in the DEIS concerning the contingency DPI operation is similarly deficient. The limited information provided on excavation required for entry and exit points is characterized as

*“conceptual”* and qualified by the statement that “*Any excavations required for launch and reception of the tunnel boring machine shall be designed by the contractor.*”<sup>54</sup>

Although the DEIS indicates that Dominion was to provide a site-specific contingency plan in late 2016, the plan was not provided nor included in the DEIS.<sup>55</sup>

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<sup>51</sup> HDD Design Report, Revision 2, Atlantic Coast Pipeline, prepared by J. D. Hair and Associates, Inc., page 16, 12/14/14. Submitted to FERC by Dominion as a Supplemental Filing, 1/10/17.

<sup>52</sup> Site-Specific Horizontal Directional Drill Plans. Included in the DEIS, Vol. II, Part 5, page H3-1, 12/30/16.

<sup>53</sup> Stated in correspondence to Mark H. Woods, Superintendent, Blue Ridge Parkway, from Leslie Hartz, Vice President, Atlantic Coast Pipeline, LLC, 10/21/16.

<sup>54</sup> Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail and Blue Ridge Parkway, 8/4/16. Included in the DEIS, Vol. II, Part 5, page H2-7, 12/30/16.

<sup>55</sup> DEIS, Vol II, Part 5, page H1-12, 12/30/16.



Perspective on the footprint associated with HDD operations is provided by **Figure 3**, which shows an entry side workspace for a recent HDD operation in West Virginia. In contrast with the proposed Blue Ridge operations, this workspace was on relatively level ground where the need for cut and fill excavation was minimal. The pipeline was also smaller, and the length of the drill path was much less. **Figure 4** shows the approximate location of the entry-side workspace for the proposed Blue Ridge HDD.

Photo by DPMC Pipeline Air Force

**FIGURE 3** – Entry-side workspace for a comparatively small HDD operation for the Stonewall Gathering Pipeline in West Virginia. The pullback phase has been completed and the drilling rig has been removed. This operation involved a 1,000 foot boring to



install a 36-inch pipeline under Interstate 79.



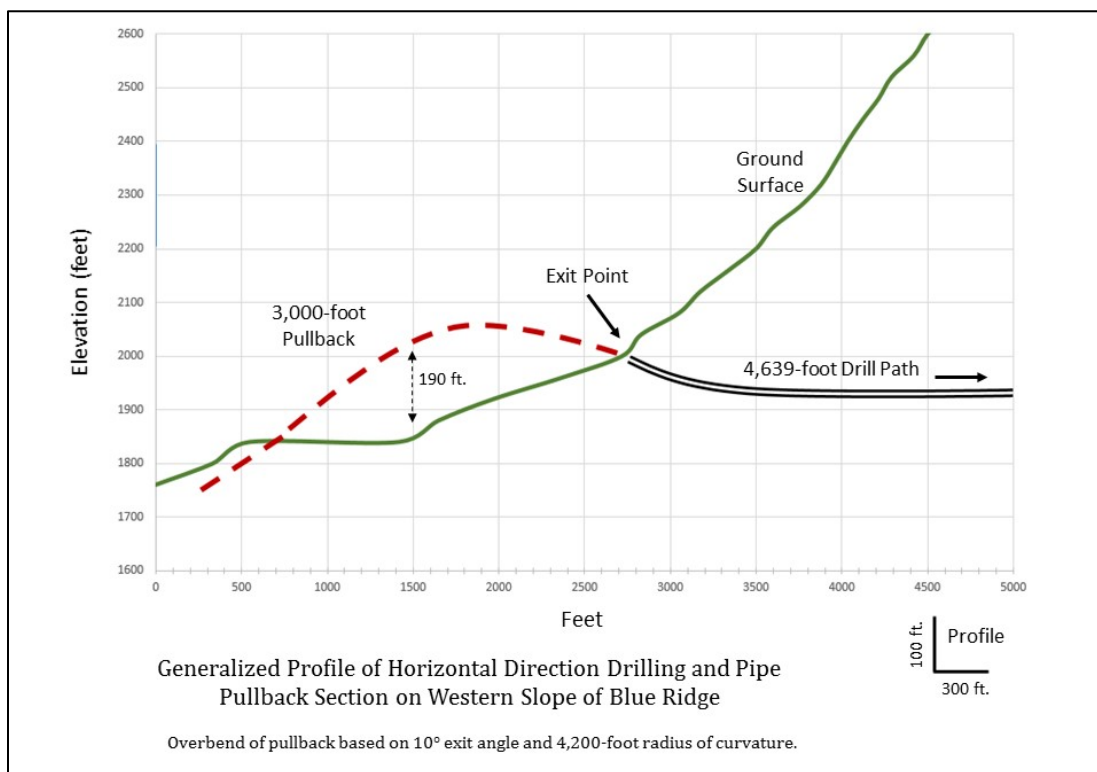
Photo by Lynn Cameron

**FIGURE 4** – This photo was taken adjacent the location (to the right) of the entry-side workspace for the proposed Blue Ridge HDD operation. Wintergreen Resort’s entrance is in the background.

The DEIS failed to address the footprint that will be required for pipe pullback, fabrication, and testing. The schematic provided for the HDD operation simply indicated that the pull-section staging area will be about 3,000 feet long and the workspace will be 150-feet wide.<sup>56</sup> The necessary alignment of the pull-section pipe with the borehole will require suspension of the pipe high above the ground. The industry-accepted safe bending radius (radius of curvature) for a 42-inch steel pipe is 4,200 feet.<sup>57</sup> Given this bending radius and the slope of the location, it will be necessary to suspend the pipe for approximately 2,000 feet at heights approaching 200 feet above the mountainside (see **Figure 5**). If this is even practicable, it will require significant excavation for access, pipe fabrication and testing, and siting of the multiple large cranes or other heavy equipment needed for pipe handling and support. The required suspension of pull-back pipe for

<sup>56</sup> Site-Specific Horizontal Directional Drill Plans. Included in the DEIS, Vol. II, Part 5, page H3-1, 12/30/16.

<sup>57</sup> American Society of Civil Engineers, Pipeline Design for Installation by Horizontal Directional Drilling, 2014.



**FIGURE 5** – Extreme pullback required for the proposed Blue Ridge HDD.

The proposed mountainside HDD operation greatly exceeds what is required for typical HDD operations on relatively flat ground. For example, see **Figure 6**.

Photo by Mike Taylor

**FIGURE 6** – Final section of pullback pipe for an HDD operation in relatively flat terrain.

The contingency DPI installation, which would occur on even steeper slopes than the proposed HDD operation, also raises questions about the potential footprint of the staging and fabrication area and the need for pipe suspension.<sup>58</sup>

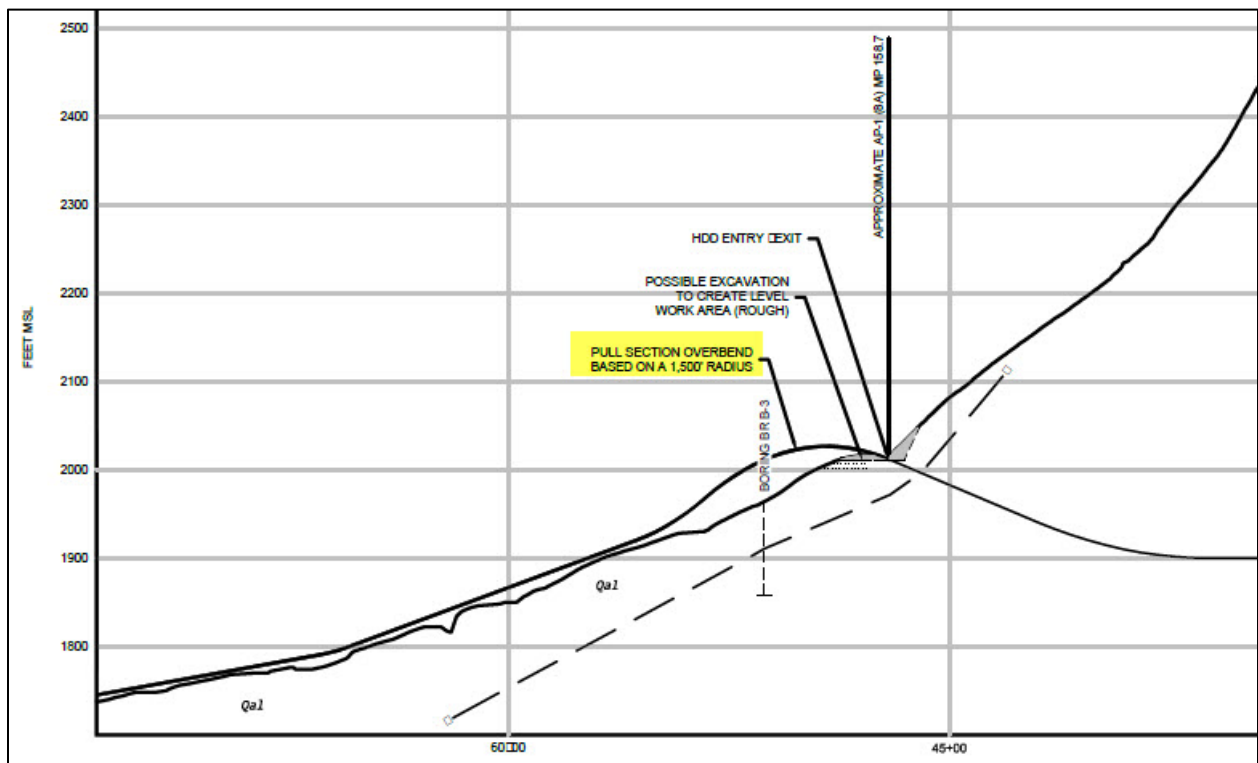


<sup>58</sup> DPI

equipment and long lengths of welded pipe. The pipe thruster requires that structural steel, including piles, be installed to support the operation. (See Waterbody Crossing Review, Mountain Valley Pipeline Project, page 3, February 2016. FERC Docket CP16-10.)

The fact that the suspension of pullback pipe and the magnitude of the related footprint were not addressed in the DEIS may be due to incorrect or misleading information provided to FERC by Dominion. The only depiction of the HDD pullback section included in Dominion submissions to FERC is based on a 1,500 foot bending radius (see **Figure 7**). This differs substantially from

**FIGURE 7** – Profile of the proposed Blue Ridge HDD showing the exit-side suspension of pullback pipe based on a 1,500-foot bend radius instead of the correct 4,200-foot bend radius. From Geotechnical Site Investigation Report for Atlantic Coast Pipeline –



Proposed Horizontal Directionally Drilled Crossing, Blue Ridge Parkway, Segment AP-1 MP 158 to 159, Virginia, Figure 4, prepared by Geosyntec Consultants, Inc., May 2016.

the correct 4,200-foot bending radius. As indicated in the depiction, a shorter bending radius would require much less lifting of the pipe. The necessary elevation would only be about 50 feet compared to about 200 feet for the longer correct bending radius. The length of pipe suspension would also be much less. Dominion has acknowledged, but only in general terms, that there are topographic complications that affect the pullback operation.

*... since the product pipe will be laid downhill from the proposed exit point, it is anticipated that several cranes will be needed to handle the pipe and support it as it is*

*lifted during pullback to be aligned with the reamed hole. However, the need for excavations and cranes does not cause any concern with regard to technical feasibility.*<sup>59</sup>

It is not clear, however, that the statement concerning technical feasibility and the suggestion that only “*several cranes will be needed*” is based on accurate information concerning the design, or bending, radius of the pipe. In addition, evaluation of environmental impacts, as required in preparation of a DEIS, concerns more than technical feasibility. However, the unavoidable environmental impacts associated the forest clearing and mountainside excavation required for the pullback component of the HDD operation are not addressed in the DEIS.

Construction in the proposed HDD and DPI operations area, including for the primary and contingency pipeline corridors, the entry and exit-point workspaces, the pipe pullback workspace, and access roads, will directly impact a number of streams (see **Figure 8**). The DEIS does not address the impact of construction for an extended period (a year or more) on these streams. The DEIS provides summary information concerning stream crossings (see **Table 1**).

**TABLE 1** – Water Crossing Information: Excerpt from DEIS.<sup>60</sup>

	Mile Post 157-158	Mile Post 158-159
	Western Slope	Eastern Slope
Total Stream Crossings	14	5
Perennial Streams	3	4
Intermittent Streams	10	1
Blasting Within 1000 Feet	7	4
In-Stream Blasting	5	1
Time-of-Year Restrictions	11	5

Park Service asked: “*Does the project proposal include altering any stream courses, surface or ground water flows in the area . . . ?*”

<sup>59</sup> HDD Design Report, Revision 2, Atlantic Coast Pipeline, prepared by J. D. Hair and Associates, Inc., page 16, 12/14/14. Submitted to FERC by Dominion as a Supplemental Filing, 1/10/17.

<sup>60</sup> Waterbody Crossings along the Atlantic Coast Project. Included in the DEIS, Vol. III, Part 1, Appendix K-1, 12/30/16.

Dominion's response:

*No. The project will not result in the alteration of any perennial or intermittent streams . . . Both the HDD entry and exit points are located between 50 and 100 feet away from intermittent streambeds. . . . The temporary construction workspace for both sides of the HDD will be in close proximity to the intermittent streambeds. However, should the streams happen to be flowing during construction, the intermittent streambeds will be protected with erosion control devices installed within or along the boundaries of the workspace in compliance with applicable regulations.*

*It is possible for HDD operations to fail, primarily due to encountering unexpected geologic conditions during drilling or if the pipe were to become lodged in the hole during pullback operations.<sup>61</sup>*

Topographic and workspace limitations affecting the pullback stage are among the significant problems confronting the proposed Blue Ridge HDD operation. As indicated in the DEIS, Dominion anticipates fabricating the pullback string in at least two sections.<sup>62</sup> Segmentation of the pullback string requires tie-in welding and thus a delay during the pullback. According to published HDD design information, segmentation of the pipe pullback string increases the risk of failure, and it does not conform to recommendations provided by engineering consultants working for Dominion.

The American Society of Civil Engineers has published a series of reports on engineering practice, including a 2014 report on HDD design that includes the following statement:

*The exit side (sometimes referred to as the pipe side) is where the pipeline is fabricated. Ideally, there is space in line with the drill alignment of sufficient length to fabricate the pipeline into one string. Delays associated with connecting strings together during pull back increase risk for the HDD installation.<sup>63</sup>*

The HDD design report prepared for Dominion by J.D. Hair & Associates, Inc. includes the following statement on pullback workspace requirements:

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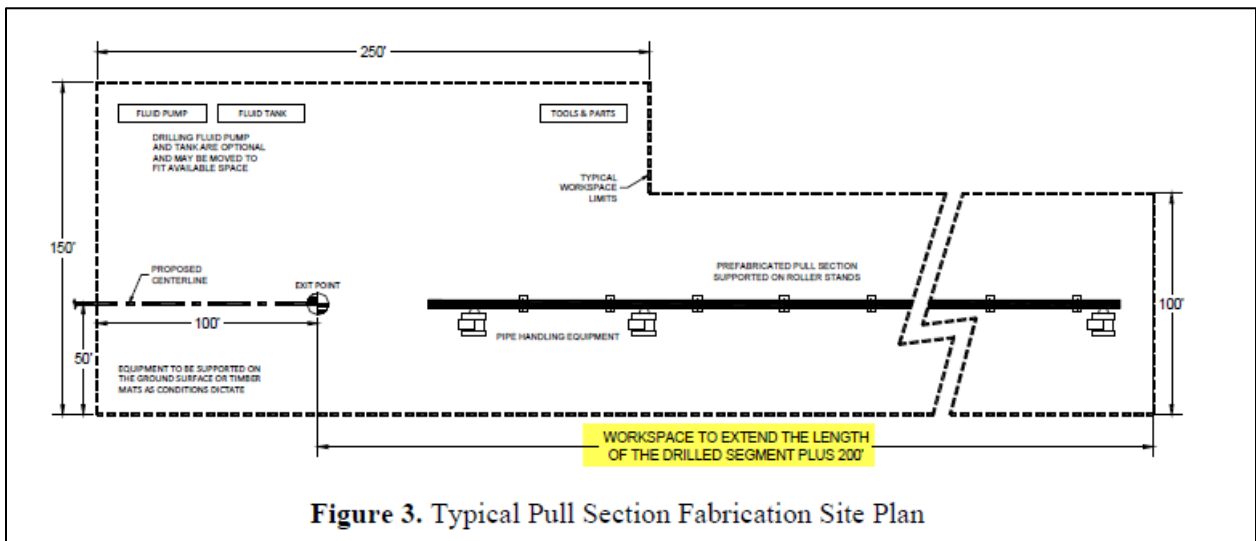
<sup>61</sup> DEIS, Vol. I, page 2-40, 12/30/16.

<sup>62</sup> Site-Specific Horizontal Directional Drill Plans. Included in the DEIS, Vol. II, Part 5, page H3-1, 12/30/16.

<sup>63</sup> American Society of Civil Engineers, Pipeline Design for Installation by Horizontal Directional Drilling, 2014.

*It is preferable to have workspace aligned with the drilled segment extending back from the exit point the length of the pull section plus approximately 200 feet. This will allow the pull section to be prefabricated in one continuous length prior to installation. If space is not available, the pull section may be fabricated in two or more sections which are welded together during installation. **It should be noted that delays associated with joining multiple pipe strings during pullback can increase the risk of the pipe becoming stuck in the hole.** . . . A typical pull section fabrication site plan is shown in Figure 3 [see Figure 9]. Where possible, we recommend obtaining workspaces of similar dimensions to accommodate HDD pipe side operations on the ACP Project.<sup>64</sup>*

**FIGURE 9** – Recommended exit-side and pullback pipe fabrication workspace.



The length of the drilled segment for Dominion’s proposed HDD is 4,639 feet. The recommended pullback segment would thus be 4,839 feet. However, as indicated in the DEIS, the length of the workspace available for staging the pipe pullback is only about 3,000 feet, which makes fabrication, hydrostatic testing, and pullback of the recommended single continuous pipe string impossible.

**Figure 10** shows the exit-side and pullback area for the proposed HDD on western slope of the Blue Ridge.

<sup>64</sup> HDD Design Report, Revision 2, Atlantic Coast Pipeline, prepared by J. D. Hair and Associates, Inc., page 6, 12/14/14. Submitted to FERC by Dominion as a Supplemental Filing, 1/10/17. (emphasis added)





Photo by Malcolm

Cameron

**FIGURE 10** – Exit-side for the proposed HDD. The pullback workspace for the HDD operation would extend from the western slope of the main Blue Ridge crest in the background. This photo was taken from Torry Ridge Trail above the Sherando Lake Recreation Area in the George Washington National Forest.

*It is possible for HDD operations to fail, primarily due to encountering unexpected geologic conditions during drilling or if the pipe were to become lodged in the hole during pullback operations.*<sup>65</sup>

Detailed investigation of geophysical conditions is thus standard practice for assessing the feasibility of prospective HDD operations. The DEIS includes the following assurance:

*Atlantic has completed geotechnical subsurface borings at the HDD crossing location and has confirmed its expectations that the drill path would be primarily through solid rock approximately 800 feet below the BRP and the AT. Drilling through solid rock,*

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<sup>65</sup> Description of Proposed Action. Included in the DEIS, Volume I, Section 2, page 2-40, 12/30/16.

*while a time consuming process, significantly helps to ensure the success of the drill operation due to the avoidance of rock fragments and cobbles that can disrupt or block the drill pathway.<sup>66</sup>*

*This statement is not supported by information included in the DEIS nor in documents published in the FERC docket. In fact, Dominion has obtained surprisingly little geotechnical information specific to the proposed HDD or contingency DPI drill paths.*

*Based on the information submitted to FERC by Dominion, only two subsurface borings were completed for the proposed HDD, and both were at a lower elevation than the proposed HDD drill path. The only direct physical measurement of geotechnical properties or groundwater in the HDD area was provided by these borings. There were no subsurface borings in the area of the contingency DPI. Additional investigation using geophysical survey methods was limited to areas close to the HDD entry and exit points, covering only a small part of the projected drill path.*

*The locations of the two subsurface borings and other geophysical surveys for the HDD are indicated in **Figure 11**.*

*Neither the borings nor the geophysical surveys were focused on the full length of the proposed drill path, and none of the information obtained through borings or geophysical surveys confirms “that the drill path would be primarily through solid rock.” The results of these investigations instead reveal a high degree of uncertainty concerning geotechnical properties of the drill path.*

*An 85-foot subsurface boring on the HDD entry (eastern) side is about 500 feet downslope and south of the entry point. A 108-foot boring on the HDD exit (western) side is about 650 feet downslope of the exit point. Both borings encountered thick surficial layers of unconsolidated material consisting of boulders, cobbles, gravel, sand, silt, and clay. The entry-side boring did not reach bedrock. The exit-side boring encountered highly fractured rock beginning at about 60 feet, but did not reach solid bedrock.<sup>67</sup>*

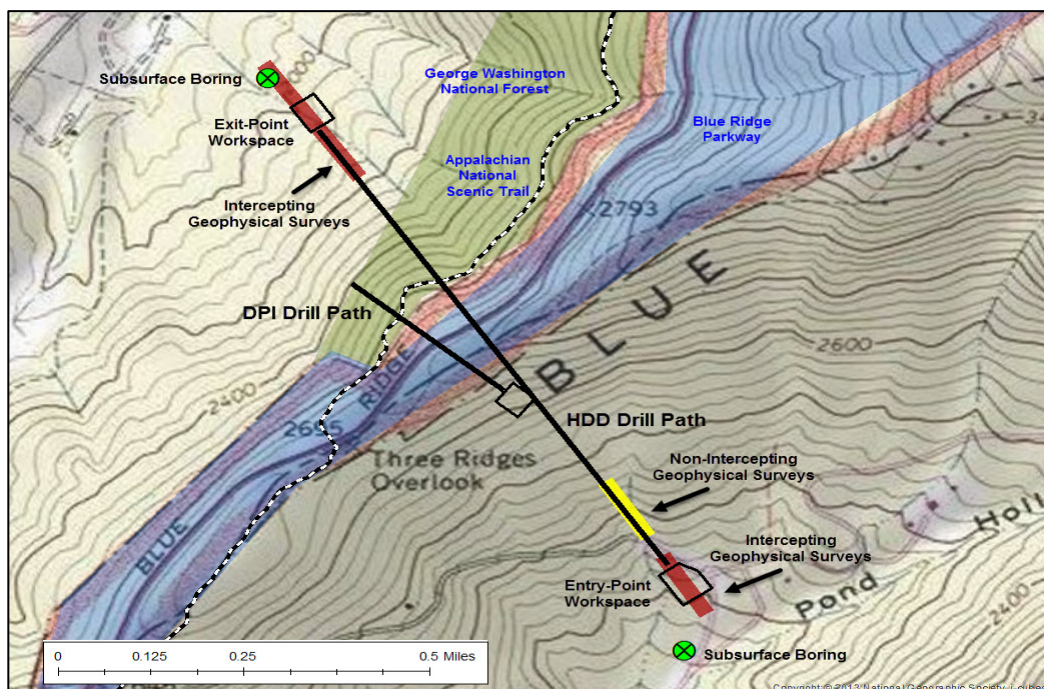
*In addition to the two subsurface borings, surface-based geophysical survey techniques were employed to evaluate geologic conditions associated with the proposed HDD operation. In addition to the near-surface unconsolidated material identified with the*

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<sup>66</sup> Contingency Plan for the Proposed Crossing of the Appalachian National Scenic Trail and Blue Ridge Parkway. Included in the DEIS, Volume II, Part 5, Attachment A, page H2-3, 12/30/16.

<sup>67</sup> Geotechnical Site Investigation Report for Atlantic Coast Pipeline – Proposed Horizontal Directionally Drilled Crossing, Blue Ridge Parkway, Segment AP-1 MP 158 to 159, Virginia, prepared by Geosyntec Consultants, Inc., May 2016.

subsurface borings, the surveys indicated the presence of faulting and fractured rock at greater depth.<sup>68</sup> The survey results indicated that approximately 100 feet of fractured rock associated with a fault would be encountered at approximately 160 feet from the west-side exit point. Another fault of undetermined extent, was estimated to be present in the drill path beginning at approximately 425-550 feet from the ground surface at the east-side entry point.<sup>69</sup>



**FIGURE 11** – Locations of subsurface borings and geophysical surveys conducted for the proposed Blue Ridge HDD crossing. From *Geotechnical Site Investigation Report for Atlantic Coast Pipeline Horizontal Directionally Drilled Crossing, Blue Ridge*

<sup>68</sup> Geophysical Study for a Proposed Blue Ridge HDD Crossing Augusta and Nelson Counties, Virginia, prepared by ATS International, Inc., 4/12/16. Included in Geotechnical Site Investigation Report for Atlantic Coast Pipeline – Proposed Horizontal Directionally Drilled Crossing, Blue Ridge Parkway, Segment AP-1 MP 158 to 159, Virginia, prepared by Geosyntec Consultants, Inc., May 2016.

<sup>69</sup> This corresponds to a major thrust fault at the contact between the primary bedrock formations in the area, the granitic Pedlar Formation and the basaltic Catoctin Formation. Faulting in the Pedlar and Catoctin Formations is extensive, with offsets ranging from hundreds to over 1,000 feet. (See Bartholomew, M. J. (1977). *Geology of the Greenfield and Sherando Quadrangles, Virginia*. Virginia Division of Mineral Resources, Commonwealth of Virginia)

*Parkway, Segment AP-1 MP 158 to 159, Virginia, Geosyntec Consultants, Inc., May 2016.*

*Designation of geophysical surveys (intercepting or non-intercepting) refers to the depth of seismic refraction and electrical resistivity imaging in relation to the depth of the drill path. From Geophysical Study for a Proposed Blue Ridge HDD Crossing, Augusta and Nelson Counties, Virginia, ATS International, Inc., 4/12/16.*

**Figure 12** depicts the findings obtained through electrical resistivity and seismic refraction surveys.

*Although the geophysical surveys served to confirm the presence of faulting and fractured rock in the projected HDD drill path, the information provided is limited in both scope and reliability. No geotechnical information was obtained for more than 75% of the drill path. For the part of the drill path that was surveyed, the absence of representative subsurface borings precluded specific findings concerning the location of the faults, the geotechnical properties of the fault-zones, or the presence and amount of associated groundwater.<sup>70</sup>*

*In fact, the geophysical services company that conducted and interpreted the surveys raised questions concerning the reliability of even its limited findings, stating:*

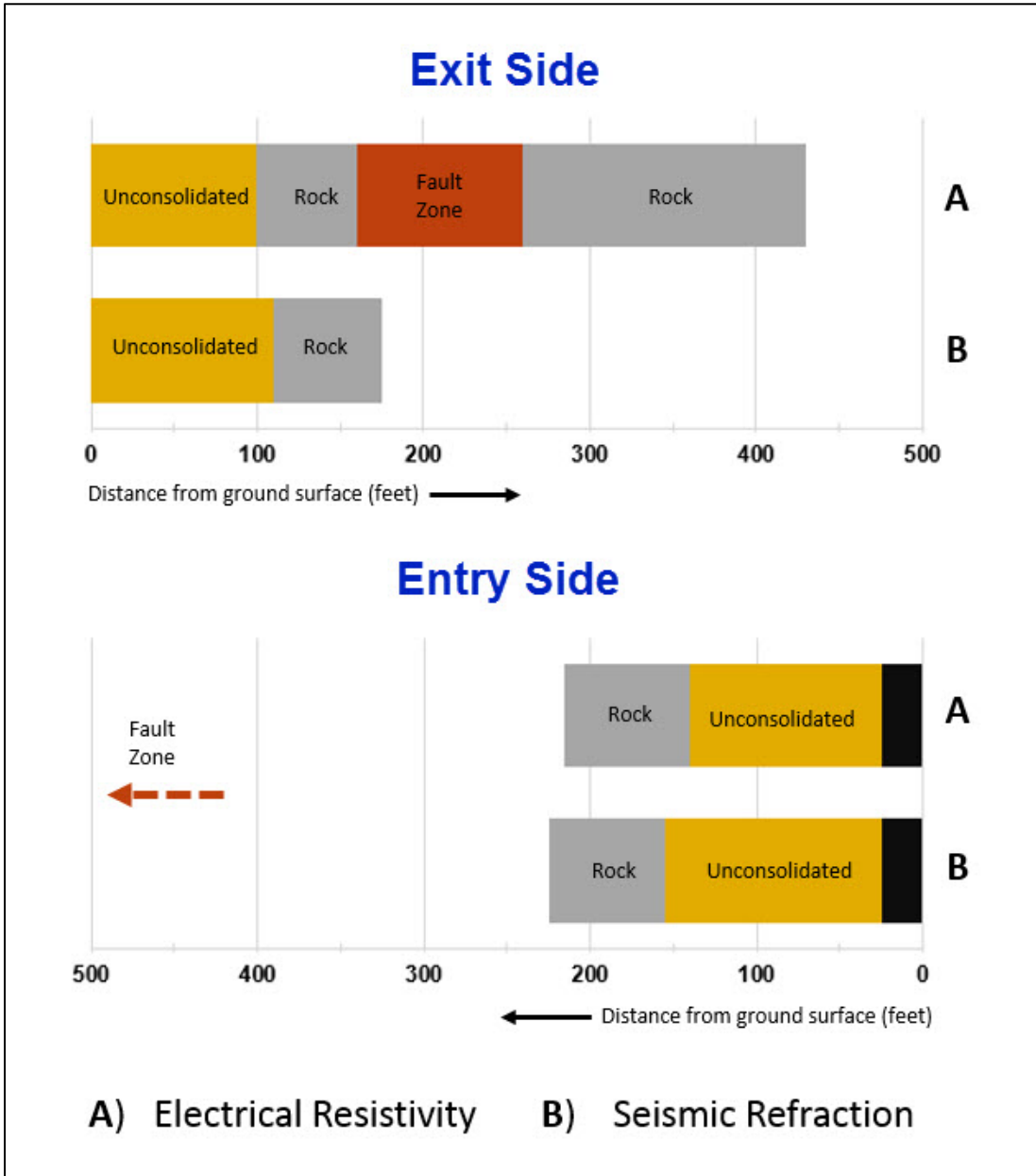
*. . . while three different geophysical methods were utilized in this study with the purpose of providing ample corroboration between the methods, all geophysical methods are interpretive, and the results presented in this report are provided with limited boring data with which to corroborate the geophysics. Additional boring and/or coring data would be necessary to confirm or refute these findings. Actual subsurface conditions may differ from those interpreted within this report.<sup>71</sup>*

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<sup>70</sup> Interception of groundwater during an HDD operation can interfere with the circulation of drilling fluids, result in “inadvertent return” of drilling fluid to the surface, and disrupt or contaminate groundwater systems. The DEIS and information in the FERC docket addressed “hydrofracture” and loss of drilling fluids during HDD but did not address the potential for groundwater-related problems associated with fault zones in the Blue Ridge. Investigations have shown that faults in the Blue Ridge Province can yield significant quantities of water and may dominate the hydrology of the region. (See, for example, Seaton, W.J., and T.J. Burbey, 2004. Influence of Ancient Thrust Faults on the Hydrogeology of the Blue Ridge Province, *Groundwater* 43, No. 3:301-313.)

<sup>71</sup> Geophysical Study for a Proposed Blue Ridge HDD Crossing Augusta and Nelson Counties, Virginia, prepared by ATS International, Inc., 4/12/16. Included in Geotechnical Site Investigation Report for Atlantic Coast Pipeline – Proposed





**FIGURE 12** – Interpreted results of geophysical surveys conducted at the entry and exit-sides of the proposed HDD drill path. (Based on Geophysical Study for a Proposed Blue Ridge HDD Crossing Augusta and Nelson Counties, Virginia, prepared by ATS International, Inc., 4/12/16.)

Results are shown for survey sections where imaging intercepted the projected drilling path. The fault zone in the entry-side section was estimated based on non-intercepting surveys, and was estimated to begin at 425-550 feet from the ground surface. The black-colored segments starting at the ground surface on the entry side indicate planned excavation. The total length of the projected drill path is 4,639 feet.

In other words, the company that performed the survey work cannot verify the accuracy of its interpretation.

This is consistent with the industry-recognized need for corroboration of information derived with geophysical techniques. A report prepared for a leading pipeline-industry research organization includes the following statement concerning the value of geophysical surveys:

*Geophysical exploration techniques are sometimes employed, but, results are only moderately reliable and vary significantly depending on the number of exploratory borings available for correlation.*<sup>72</sup>

The DEIS gave no consideration to the lack of substantive geologic data for the Blue Ridge HDD and DPI contingency proposals. Although the DEIS acknowledged that any Forest Service approval of ACP construction will be conditioned on successful completion of the Blue Ridge drilling, the DEIS did not address the risk factors at issue. The only risk-related information included in the DEIS was the misleading claim that

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<sup>72</sup> J.D. Hair and Associates, Inc., Pre-Construction Drillability Assessment for Horizontal Directional Drilling, prepared for the Pipeline Research Council International, Inc., 2008.

subsurface borings provided confirmation that the drilling would primarily encounter solid rock.

Neither Dominion nor FERC have acknowledged the risk associated with the presence of fault zones and fractured rock deeper in the drilling path. Dominion's earlier submissions to FERC, however, acknowledged risks associated with the unconsolidated near-surface material.

*Upon completion of the boring on the southeast end of the crossing in which bedrock was not encountered, there was a concern that the adverse alluvium may be so extensive that the feasibility of the proposed HDD installation would be questionable. However, the results of the boring on the northwest end of the crossing and the subsequent geophysical survey indicate that the adverse alluvial soils are not as extensive as initially feared. Based on that information, it is believed that bedrock can be reached within 90 to 130 feet of both HDD endpoints which will allow for large diameter surface casings to be set from the endpoints to competent rock. The ability to set surface casings through the adverse soils significantly reduces the risk of the proposed HDD installation.<sup>73</sup>*

Although the installation of large-diameter casings may allow the HDD operation to bypass the unconsolidated material covering the mountainside, the environmental issues related to the installation of casings are not addressed in the DEIS. These include the possible plan to conduct entry-side drilling from both sides of the mountain, a plan that was probably developed due to the difficulty of aligning the drill path with a distant exit-point casing.<sup>74</sup> It is also possible that Dominion will opt to remove the unconsolidated material rather than install casings. This would avoid the significant noise factor reportedly associated with this type of casing installation.<sup>75</sup> Although excavation on this scale would dramatically increase the footprint of the HDD operation, it is an option that

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<sup>73</sup> HDD Design Report, Revision 2, Atlantic Coast Pipeline, prepared by J. D. Hair and Associates, Inc., page 6, 12/14/14. Submitted to FERC by Dominion as a Supplemental Filing, 1/10/17.

<sup>74</sup> The plan for drilling from both sides of the mountain was revealed in correspondence to Mark H. Woods, Superintendent, Blue Ridge Parkway, from Leslie Hartz, Vice President, Atlantic Coast Pipeline, LLC, 10/21/16.

<sup>75</sup> Although Dominion has not provided specifics on the installation of endpoint casings, the noise levels associated with the equipment most often used to drive casings may not be acceptable. (See Going Deep with HDD, *World Pipelines*, October 2012 (Accessed at [www.golder.com](http://www.golder.com), 1/22/17).



Dominion reserved in plans submitted to FERC by indicating that excavation, if needed at the entry-point, will be “*determined by the contractor.*”<sup>76</sup>

Another proposed pipeline project, the Mountain Valley Pipeline (MVP), may cross the Appalachian National Scenic Trail and Peters Mountain in the Jefferson National Forest at the West Virginia-Virginia border. HDD was rejected as a crossing method due to site-specific engineering constraints.<sup>77</sup>

The 2016 DEIS for the proposed MVP project included the following statement:

*Mountain Valley assessed the feasibility of HDD at the proposed ANST crossing area and reported that due to the topography of the area, the drill entry and exit areas exceeded recommended angles, thereby increasing the chance of HDD failure. . . . Substantial issues associated with topography and with a safe bending radius during pullback of the pipeline section (either in whole or in sub-sections) back through the bore hole also would increase the likelihood of HDD failure. Further, given the geology of the area, the use of drilling fluids under high pressure, and the likelihood of a high rock content and potential issues with keeping the borehole open prior to pipeline pullback, Mountain Valley concluded that HDD at this location was too likely to fail. We [FERC] concur.*<sup>78</sup>

In response to earlier information requests from FERC, it was explained that:

*Fabrication and pullback of the pipe in one continuous pullback is the preferred method for installing pipe by HDD. In analyzing the proposed exit side for HDD construction, the steep slopes on either side of the ANST lower the feasibility of an HDD. Due to the length of the proposed HDD and the sloping topography, long sections of pipe would have to be elevated to maintain a safe bend radius during the pullback phase. In addition, pipe pullback will likely have to be achieved in numerous sections, further complicating pullback operations. Based on these factors an HDD is not a feasible method for crossing the ANST.*<sup>79</sup>

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<sup>76</sup> Site-Specific Horizontal Directional Drill Plans. Included in the DEIS, Vol. II, Part 5, page H3-1, 12/30/16.

<sup>77</sup> Responses Forest Service Comments on Final FERC Resource Reports, Mountain Valley Pipeline, LLC, 3/9/16, FERC Docket No. CP16-10.

<sup>78</sup> Alternates for Crossing the Appalachian National Scenic Trail. Included in the Mountain Valley Project and Equitrans Expansion Project, Draft Environmental Impact Statement, page 3-46, September 2016.

<sup>79</sup> Responses to FERC Post-Application Environmental Information Request #3, Mountain Valley Pipeline, LLC, 7/28/16, FERC Docket No. CP16-10

It's notable that FERC agreed with the MVP developer's assessment that the Peters Mountain HDD would be likely to fail. Examination of topographic and geologic maps suggests that geophysical conditions associated with the proposed Peters Mountain HDD operation, including the length of the drill path, slope steepness, rock content, and resulting pullback issues are similar to those of the proposed Blue Ridge HDD operation.

Given the significance of the decisions, an objective comparison of the conditions that led to opposite conclusions concerning the feasibility of the proposed MVP Peters Mountain and ACP Blue Ridge HDD operations is needed.

Despite the extensive steep-slope excavation that will be required for the proposed Blue Ridge HDD, the DEIS does not include site-specific details concerning erosion and sediment control, stormwater management, and slope-failure prevention. This is the case for the broader ACP project, as well as for the Blue Ridge HDD location.

*Figure 13 shows slope classes for the pipeline corridor, workspaces, pullback area, and access roads in the Blue Ridge HDD and contingency DPI areas.*

Dominion proposes to wait until after completion of environmental review, until after permitting, or until after initiation of construction to provide specific plans and identify engineering solutions for the range of significant geohazard and water-related problems that confront the ACP project. This delay in planning and analysis undermines the regulatory review process, as it will not provide the agencies with the information needed for responsible permitting decisions. It also denies the public with an opportunity to review and comment on the actual project.

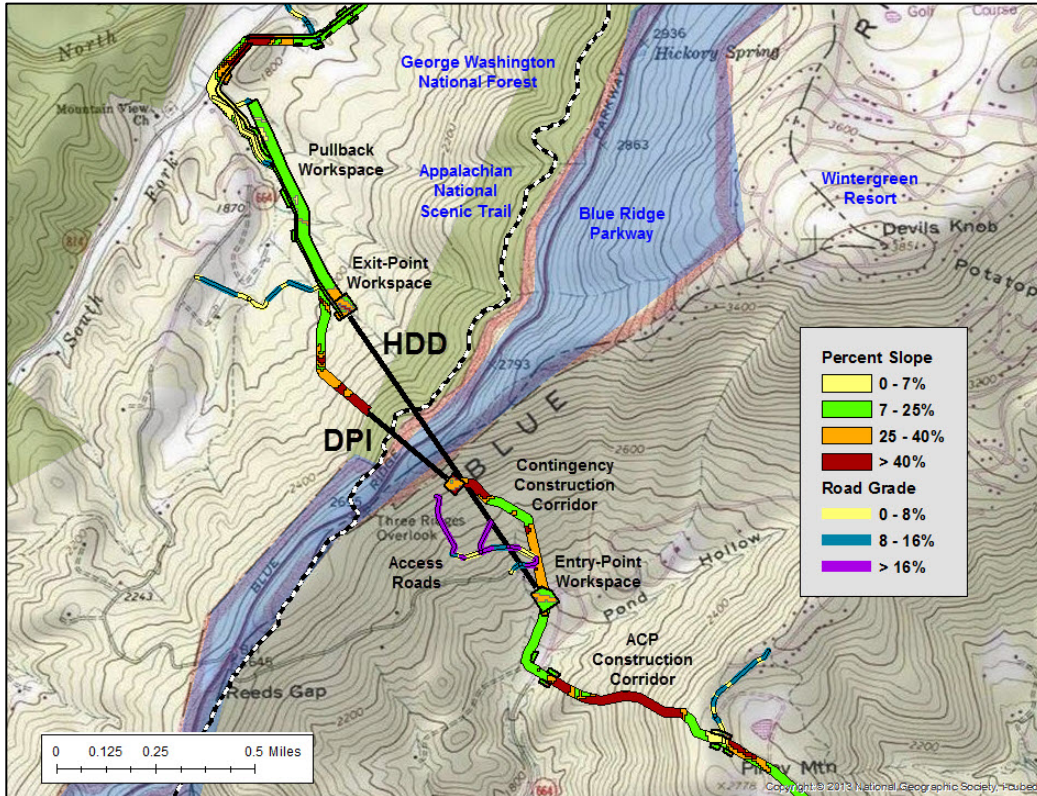
Dominion is developing what it calls a "Best in Class Program" to address geohazards in the proposed pipeline corridor. This Best in Class Program will convene a team of subject-matter experts to identify hazards and design mitigation measures.<sup>80</sup> However, Dominion has not completed the related field surveys, geotechnical studies, and geohazard analyses.<sup>81</sup> FERC is evidently willing to accept deferral of this critical data gathering, analysis, and planning until after environmental review and permitting. FERC simply recommends completion of the work and submission of results "prior to construction."<sup>82</sup> This approach relies on the presumption that practicable control technologies are available for mitigation of the most-extreme geohazards that confront the ACP. It precludes any possible conclusion that the risks are insurmountable or unacceptable.

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<sup>80</sup> Draft Construction, Operations, and Maintenance Plans, prepared by ERM, August 2016. Included in the DEIS, Vol. II, Part 5, Appendix G, page G-35, 12/30/16.

<sup>81</sup> DEIS, Vol I, Executive Summary, page ES-4, 12/30/16.

<sup>82</sup> DEIS, Vol I, Conclusions and Recommendations, page 5-2, 12/30/16.



**FIGURE 13** – Construction-area slope and access-road grade classification for the Blue Ridge HDD and contingency DPI operations area.

- Slope classification for the corridor and workspace areas is based on the following spacing criteria for right-of-way or runoff diversions (*Virginia Erosion and Sediment Control Handbook, 1992*).

SLOPE	REQUIRED SPACING
7 – 25%	75 feet
25 – 40%	50 feet
>40%	25 feet

- Slope classification for access-road gradients is based on the following design requirements for oil and gas roads (*Surface Operating Standards and Guideline for Oil and Gas Exploration and Development, Bureau of Land Management and U.S. Forest Service, 2007*).

The gradient should fit as closely as possible to natural terrain. . . . The gradient should not exceed 8 percent except for pitch grades (300 feet or less in length) in order to minimize environmental effects. In mountainous or dissected terrain, grades greater than 8 percent up to 16 percent may be permissible with prior approval of the surface management agency.

FERC routinely dismisses concerns about erosion, sedimentation, and runoff control based on the expectation that pipeline construction will comply with its Plans and Procedures.<sup>83</sup> These are one-size-fits-all guidelines that identify mitigation measures for minimizing impacts of pipeline construction, including erosion and impacts to water resources.

FERC has not been responsive to concerns that the central Appalachian region presents a set of geophysical and hydrologic conditions that, in combination with the extreme earth disturbance required for the proposed ACP, present challenges that are not adequately addressed by the generic Plans and Procedures. The DEIS did not address scoping comments that called on FERC to identify scientifically objective and quantitative evidence that the Plans and Procedures requirements are sufficient to prevent water resource impacts during and after construction of *the* ACP.<sup>84</sup> Given this failure to consider substantive concerns, there is no reason to expect a more-objective analysis of geohazard and water resource issues prior to FERC's final decision on the project.

Virginia natural resource agencies may also prove ineffectual with respect to oversight of the ACP. The Department of Environmental Quality (DEQ) has the primary responsibility for ensuring that pipeline construction projects comply with state erosion and sediment control (ESC) and stormwater management (SWM) requirements. A regulatory system investigation in 2014 revealed basic problems with DEQ oversight of pipeline projects.<sup>85</sup> Deficiencies included:

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<sup>83</sup> Upland Erosion Control, Vegetation, and Maintenance Plan, FERC, 2013; Wetland and Waterbody Construction and Mitigation Procedures, FERC, 2013. (Accessed at [www.ferc.gov/industries/gas/enviro](http://www.ferc.gov/industries/gas/enviro), 1/22/17)

<sup>84</sup> Dominion Pipeline Monitoring Coalition, 6/2/16. Submitted in response to the Supplemental Notice of Intent to Prepare an Environmental Impact Statement and Proposed Land and Resource Plan Amendment(s) for the Proposed Atlantic Coast Pipeline, Request for Comments on Environmental Issues Related to New Route and Facility Modifications, and Notice of Public Meetings. Published by FERC, 5/1/16.

<sup>85</sup> The investigation was conducted by the Dominion Pipeline Monitoring Coalition through a series of Freedom of Information Act requests and meetings with agency officials. See <http://pipelineupdate.org/case-study-no-1/>.

- Failure to require submission of Annual Standards and Specifications by pipeline construction companies.<sup>86</sup>
- Failure to require submission of site-specific ESC plans for pipeline projects.
- Failure to inspect pipeline construction projects except in response to complaints.

In addition, it was revealed that the DEQ routinely grants variances to the minimum ESC standard that limits open-trench segments to no more than 500 linear feet, a critical requirement for large pipelines on steep mountainsides.<sup>87</sup> See **Figure 14**.

There is some recent evidence for improvement in DEQ's program. After a several-year gap in submissions, Annual Standards and Specifications were submitted to DEQ by Dominion in 2016.<sup>88</sup> It has also been reported that Dominion will submit ESC plans for DEQ review in March of 2017.<sup>89</sup> There are still many unresolved issues, however, concerning state natural resource agency oversight of pipeline construction. Some of the significant issues that apply to the ACP, as well as to the proposed Blue Ridge HDD, are described briefly below.

- **401 Certification.** The Clean Water Act (CWA) assigns two obligations to the state in regulating pipelines that require federal approval. First, the state must certify that federal and state water quality requirements will be met. Second, the state must provide for public involvement in the process. The state has a duty under CWA section 401 to rule against the ACP unless "there is a reasonable assurance that the activity will be conducted in a manner which will not violate applicable water quality standards."<sup>90</sup> It is not clear that the state will conduct the review necessary to make

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<sup>86</sup> Although most construction projects are under the jurisdiction of local ESC authorities, pipeline construction companies are instead subject to Annual Standards and Specifications for ESC and SWM, with oversight by the DEQ.

<sup>87</sup> Virginia Erosion and Sediment Control Regulations (9VAC25-840-40), 2013.

(Accessed at <http://law.lis.virginia.gov/admincode/title9/agency25/chapter840/section40,1/22/17>).

<sup>88</sup> 2016 Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management for Construction and Maintenance of Pipeline Projects in Virginia, Dominion Transmission, Inc., February 2016.

<sup>89</sup> Indicated in correspondence to Mark H. Woods, Superintendent, Blue Ridge Parkway, from Leslie Hartz, Vice President, Atlantic Coast Pipeline, LLC, 10/21/16.

<sup>90</sup> 40 CFR § 121.2(a)(3) (1993)

this determination or if the public will be provided a meaningful opportunity for involvement in the process.<sup>91</sup>

- **Stormwater Management.** Dominion contends in its Annual Standards and Specifications that the ACP is exempt from stormwater management regulations and permit requirements because the project will not alter the long-term runoff properties of the construction corridor.<sup>92</sup> Regardless of this remarkable assertion, SWM plans are required by regulation for all construction projects that disturb five or more acres.<sup>93</sup>
- **Open-Trench Limits.** Dominion intends to seek variances to the open-trench limits from the DEQ.<sup>94</sup> This will exacerbate runoff control problems on steep slope sections of the pipeline corridor such as areas adjacent the proposed Blue Ridge HDD. A long open trench precludes compliance with the required installation and spacing of ESC structures that intercept and divert runoff.<sup>95</sup>

The spacing criteria for right-of-way or runoff diversions, for example, are listed above (see **Figure 12**). These diversions, which must be constructed completely across the disturbed part of the right-of-way, are intended to prevent downslope runoff and erosion and offsite transport of sediment.

- Based on the slope and length of the disturbed areas, about 45 runoff diversions would be required on the exit-side of the proposed HDD operation. About 80 runoff diversions would be required on the steep western side of Piney Mountain adjacent the HDD operation. These runoff diversions cannot be properly designed, installed, and maintained in combination with long-open trenches.
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<sup>91</sup> Virginia Secretary of Natural Resources, Molly Ward, has indicated that the DEQ is evaluating the scope of its authority for this review. Correspondence with Dominion Pipeline Monitoring Coalition, 8/23/16.

<sup>92</sup> 2016 Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management for Construction and Maintenance of Pipeline Projects in Virginia, Dominion Transmission, Inc., February 2016.

<sup>93</sup> Virginia Stormwater Management Program Regulations (9VAC25-870-10), 2014. (Accessed at <http://law.lis.virginia.gov/vacode/title62.1/chapter3.1/section62.1-44.15:28/>, 1/22/17.

<sup>94</sup> Resource Report 1, General Project Description, Permit Table for Atlantic Coast Pipeline, Table 1.12-1, September 2015.

<sup>95</sup> The required spacing of right-of-way or runoff diversions is based on slope, with closer spacing required on steeper slopes. See Virginia Erosion and Sediment Control Handbook, 1992.



**FIGURE 14** – A comparatively small 2014 pipeline replacement project in the Jefferson National Forest on Peters Mountain in Giles County, Virginia. A variance to the 500-foot open trench limit was requested for this project. Although slopes exceeded 40%, the DEQ approved the variance request, allowing a 2,000-foot open trench. No water interceptor diversions were installed during trenching. Following a rain event that occurred shortly before the above photo was taken, a Forest Service employee described having “never seen that much sediment move off site before.” A case study report is posted at [www.pipelineupdate.org/case-study-no-1/](http://www.pipelineupdate.org/case-study-no-1/). The Dominion Pipeline Monitoring Coalition has conducted a study of open-trench variance requests for pipeline construction projects in Virginia. Fifteen variance requests were submitted between January 2011 and July 2014, and all were approved. The authorized open-trench lengths ranged between 800 feet and 15 miles, with an average length of 2.3 miles.

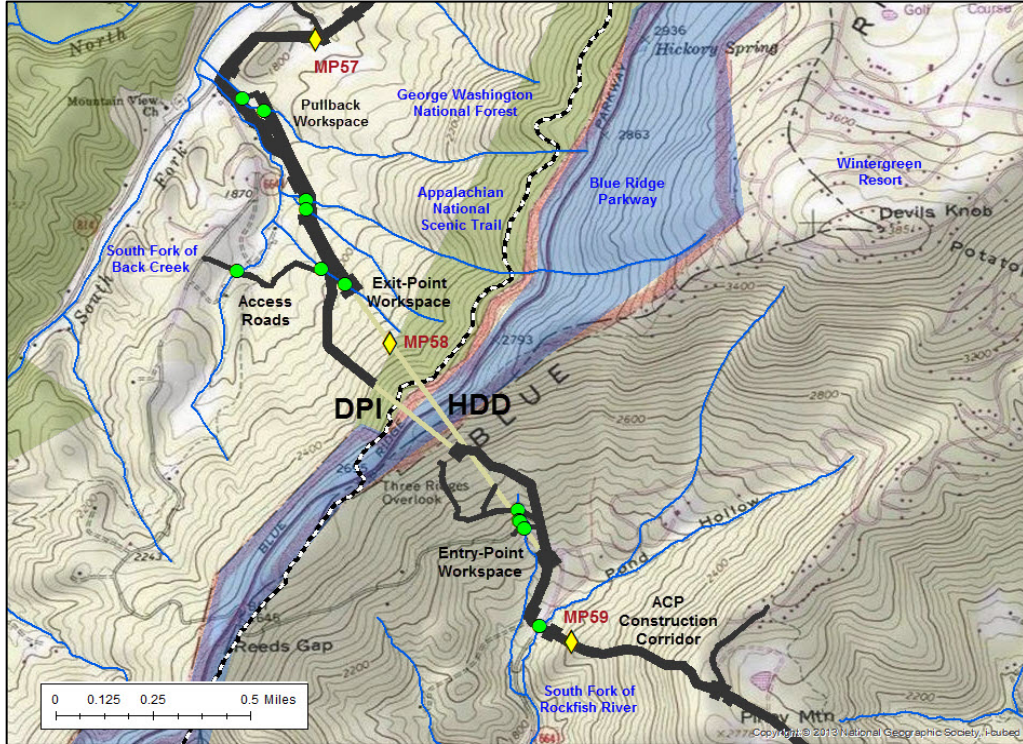
- **Access Road Oversight.** It is not clear whether the DEQ or localities will assume responsibility for ESC and SWM plan review and compliance oversight for construction of ACP access roads. In many areas, including the Blue Ridge HDD area, an extensive system of access roads is proposed. Many of the proposed roads are located on steep slopes, many will require significant excavation, and many will cross or be in close proximity to streams. These roads will be used for hauling heavy equipment and pipe.

The grade of the access road leading up to the entry-point workspace for the contingency DPI operation greatly exceeds recommendations for roads associated with oil and gas development (see **Figure 12**). This particular access road includes a 1,300-foot segment with grades that are continuously above 25% and partly above 40%.

- **Trout Habitat Protection.** Virginia, West Virginia, and the Forest Service apply time-of-year restrictions on construction activities that may affect brook trout habitat. These restrictions apply to the cold-season months, October 1 through April 1, and are designed to protect native trout populations from siltation during the sensitive early-life-stage period. Dominion intends to seek waivers in order to proceed with winter-time construction.

If these waivers are granted, many native brook trout streams will be harmed, including the South Fork of the Rockfish River, which would be crossed by the ACP below the entry-side workspace for the Blue Ridge HDD (**Figure 15**).





**FIGURE 15 –** South Fork of Rockfish River, a native brook trout stream on the eastern side of the proposed Blue Ridge HDD operation.

The photo shows the location of the proposed ACP crossing, about 800 feet

down the mountain from the HDD entry-side workspace. In-stream blasting is planned for this crossing.<sup>96</sup>

Construction across this stream in winter will require a waiver of time-of-year restrictions by the Virginia Department of Game and Inland Fisheries. Photo by Lynn Cameron

Before construction of the ACP on National Forest land can proceed, the Forest Service must grant Special Use Permits and amend the Land and Resource Management Plans for the Monongahela National Forest (MNF) and the George Washington National Forest (GWNF).

Although FERC has primary responsibility for conducting the required NEPA review for the proposed project, the Forest Service is responsible for decisions concerning pipeline construction on National Forest lands.<sup>97</sup> The Forest Service has indicated that it must follow the administrative review process established by federal law, and that its timetable will depend on receipt of necessary information, including data, analysis, and design criteria.<sup>98</sup> In contrast, FERC has sought to follow a fixed schedule and consequently has issued a DEIS that does not include information required by the Forest Service. Dominion, for its part, has sought an expedited review process and even a waiver of FERC regulations.<sup>99</sup>

The Forest Service has repeatedly requested information about the ACP that Dominion has persistently failed to provide. As stated in Forest Service correspondence with FERC, much of this missing information is needed for evaluation of risks and mitigation options.

*The Forest Service, to the extent necessary, will develop avoidance, minimization, and mitigation strategies on National Forest System lands that would be affected by the proposed Atlantic Coast Pipeline Project. A number of effects have not been analyzed due to outstanding data and analyses. Without having all of the information requested for the project, the Forest Service cannot provide detailed comments on potential avoidance, minimization, and mitigation strategies.*<sup>100</sup>

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<sup>96</sup> Waterbody Crossings along the Atlantic Coast Project. Included in the DEIS, Vol. III, Part 1, Appendix K-1, 12/30/16.

<sup>97</sup> Notice of Availability of the Atlantic Coast Pipeline Project and Supply Header Project Draft Environmental Impact Statement and the Forest Service Draft of Associated Land and Resource Management Plan Amendments, USDA Forest Service, Federal Register, Vol. 82, No. 4, 1/6/17.

<sup>98</sup> Forest Service submission to FERC, 12/13/16.

<sup>99</sup> Amendment to Application of Atlantic Coast Pipeline for a Certificate of Public Convenience and Necessity and Blanket Certification. Submitted to FERC, 3/11/16.

<sup>100</sup> Forest Service submission to FERC, 12/13/16.

The need for informed evaluation of risks and mitigation options extends to other areas in the route of the proposed ACP project, as well as to the National Forests. By insisting on receipt of critical information and analysis as a prerequisite for decisions on the project, the Forest Service is meeting its own obligations and demonstrating an appropriate standard of review for other permit-granting agencies and the concerned public.

Some of the ACP project information that the Forest Service requires is directly relevant to the proposed Blue Ridge HDD.

- **High-Hazard Locations.** The Forest Service has repeatedly raised concerns about the high-hazard conditions that the ACP would cross in the central Appalachian region.

*. . . difficult situations include steep slopes, presence of headwater streams, geologic formations with high slippage potential, highly erodible soils, and the presence of high-value natural resources downslope of high hazard areas . . . exacerbated by high annual rates of precipitation and the potential for extreme precipitation events.*<sup>101</sup>

As described above (see **Section 5.1**), Dominion proposed a “*Best in Class Program*” that defers critical data gathering, analysis, and planning until after environmental review and permitting. For the purpose of informing a preliminary determination of Forest Plan consistency, the Forest Service asked Dominion to instead demonstrate that the ACP can be built without unacceptable risk of resource damage (1) by documenting the effectiveness of control methods and (2) by developing site-specific stabilization designs for selected areas that present high risks for slope failure, slippage, erosion, and sedimentation.<sup>102</sup> Only limited information has been provided in response to this request.

One of the high-hazard areas selected for site-specific analysis is in the GWNF on the western slope of the Blue Ridge near ACP mile post 155, about two miles north of the pullback workspace for the proposed HDD (see **Figure 16**). Similar high-hazard conditions are present in the proposed HDD area. Based on geologic and topographic factors associated with slope failures in the region, the geohazard risks may be even more extreme in the HDD operations area.<sup>103</sup> Dominion identified the area as susceptible to debris flow hazards.<sup>104</sup>

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<sup>101</sup> Forest Service Submission to FERC, 10/24/16.

<sup>102</sup> U.S. Forest Service Request for Site-Specific Design of Stabilization Measures in Selected High-Hazard Portions of the Proposed Atlantic Coast Pipeline Route. Forest Service Submission to FERC, 10/24/16.

<sup>103</sup> Many of the debris-avalanches and landslides that occurred in the 1969 Hurricane Camille catastrophe were associated with the type of granitic and



- **Stormwater Management.** Dominion contends that preparation and implementation of post-construction stormwater management are not required for the ACP on National Forest lands because areas disturbed by pipeline-related construction will be restored to pre-development runoff condition.

*... forest/open space or managed turf will be returned to a vegetative state and characteristics of stormwater runoff should remain unchanged. Therefore, post-construction stormwater management will not be required . . .*<sup>105</sup>

Photo by DPMC

Pipeline Air Force

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basaltic rock, saprolite, and soil present in the proposed HDD operations area. See Bartholomew, M. J., 1977. Geology of the Greenfield and Sherando Quadrangles, Virginia. Virginia Division of Mineral Resources, Commonwealth of Virginia

<sup>104</sup> Geohazard Analysis Program Phase 2 Report, Atlantic Coast Pipeline and Supply Header Project, prepared by Geosyntec Consultants, Inc., Table 3-2, August 2016. Submitted to FERC by Dominion as a Supplemental Filing, 8/2/16.

<sup>105</sup> Construction, Operations, and Maintenance Plans, Draft, Prepared by ERM, August 2016. Submitted by Dominion to the U.S. Forest Service and FERC, 8/22/16.

**FIGURE 16** – One of the high-hazard areas selected for site-specific analysis by the Forest Service is located in the Back Creek watershed near the center of this photo. The HDD pullback area for the proposed ACP would extend from the western slope of the Blue Ridge in the foreground. The ACP would follow Back Creek northward and turn west across the Shenandoah Valley in the distance. Back Creek is identified as a Priority Watershed in the Forest Plan for the GWNF, a designation that places a priority on evaluation of proposed actions that could affect water quality.

This is the same argument made in Dominion’s 2016 Annual Standards and Specifications submission to the Virginia DEQ.<sup>106</sup> Dominion further argues in its submission to the Forest Service that regulatory agencies in both West Virginia and West Virginia recognize that construction of aboveground and underground linear utilities “*may not result in changes*” to the post-development runoff characteristics of the land surface.

The Forest Service responded to this argument by asking for specific materials that justify not considering post-construction stormwater management measures.

The Forest Service response:

*While it is true that the ACP pipeline as proposed **may not** create a significant increase in impervious surface along the majority of its route, there will be significant permanent changes to the vegetative composition of the pipeline corridor, as well as potential changes to soil compaction and other environmental conditions. These changes together will have a measureable impact on the ability of the land within the pipeline corridor to intercept, absorb, and retain both aboveground and belowground flow.*<sup>107</sup>

- **Open-Trench Limits.** Dominion has advised the Forest Service of its intention to seek a variance to Virginia’s open-trench limit.

*The Virginia Erosion and Sediment Control Law Minimum Standard 16a requires that no more than 500 feet of trench remain open at one time. However, this requirement would significantly slow construction and increase the amount of time the work area remains*

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<sup>106</sup> 2016 Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management for Construction and Maintenance of Pipeline Projects in Virginia, Dominion Transmission, Inc., February 2016.

<sup>107</sup> Forest Service Comments on the Construction, Operation, Maintenance Plan for the Proposed Atlantic Coast Pipeline Project. Forest Service Submission to FERC, 11/10/16. (emphasis added)

*disturbed. In accordance with 9 VAC 25-870-50, Atlantic will request that DEQ waive Minimum Standard 16a.*<sup>108</sup>

The Forest Service responded that Dominion has not presented proof that the open-trench limit causes a significant increase in disturbance and construction time in steep mountainous terrain, citing a recent example on National Forest land where the result was unacceptable.

*This standard is in place to help minimize erosion and sedimentation. Unknown to the USFS, a waiver was granted for the Celanese pipeline replacement, and there was excessive erosion and sedimentation at this location following a heavy rain event. **Such a waiver would not be allowed on NFS lands.** . . . Construction practices shall be planned in such a manner that the minimum standard 16a is met. . . . No variance shall be granted on NFS lands without site specific approval by a USFS AO [Authorized Officer] prior to implementation.*<sup>109</sup>

The cited Celanese pipeline replacement project is described in **Figure 13**.

- **Access Road Oversight.** The Forest Service has clearly indicated that ESC plans will be required for ACP access roads in the National Forest, including new, upgraded, and reconstructed roads. Detailed soil surveys will be required to ensure that access roads are designed to support the anticipated level of use. Additional information, including analysis of cut and fill slopes will be required to assess the potential for road construction to impact slope stability.<sup>110</sup> This level of investigation and planning may not be required for ACP access roads that are not in the National Forest. As indicated in **Section 5.1**, it is not clear whether state or local-level government will be responsible for ESC plan review and compliance oversight for access roads associated with the proposed Blue Ridge HDD and contingency DPI operations. It is also not clear, given the extreme gradients of the proposed roads, that these roads can be constructed in compliance with accepted standards.

The DEIS has failed to examine the identifiable risk factors associated with the drilling proposal. Given the topographic and geophysical challenges at the site, plus the

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<sup>108</sup> Construction, Operations, and Maintenance Plans, Draft, Prepared by ERM, August 2016. Submitted by Dominion to U.S. Forest Service, 8/22/16.

<sup>109</sup> Forest Service Submission to FERC, 11/10/16.

<sup>110</sup> Forest Service Comments on the Construction, Operation, Maintenance Plan for the Proposed Atlantic Coast Pipeline Project. Forest Service Submission to FERC, 11/10/16.

insufficient investigation of the drill path, it is reasonable to conclude that the risks are substantial. The Forest Service condition that any authorization for ACP construction on national forest lands would be conditioned on prior successful completion of the proposed HDD or DPI operations is thus clearly warranted.

As stated previously, the Forest Service condition will help avoid a situation in which a significant investment and resource commitment associated with premature ACP construction would be put at risk and in direct conflict with established legal protection of a highly valued public resource. Should the HDD and DPI prove impracticable after ACP construction is substantially underway and options for alternative routing are foreclosed, there will be a strong incentive for allowing an open-cut crossing of the ANST and the Blue Ridge Parkway. The DEIS does not analyze this alternative.

There is clearly a need for for a revised DEIS to address this. The information provided in the published DEIS and in the project docket is insufficient to support objective evaluation of the proposed HDD and contingency DPI operations. The scope and degree of excavation required for the proposed drilling operations is not fully disclosed, and the critical geophysical investigations has not been provided. Identification of risks and evaluation of mitigation measures has been deferred until later, precluding a meaningful opportunity for public review and comment on the project. FERC has not provided the opportunity for informed public comment that is required by NEPA.



**Figure 17** shows the general alignment of the proposed ACP in the Blue Ridge Parkway area.

Photo by Lynn Cameron

**FIGURE 17** – The Three Ridges Overlook area on the Blue Ridge Parkway. Any open-cut crossing would probably be in this area. The proposed ACP will cross under the Blue Ridge near this location, cross the South Fork of the Rockfish River in the valley below, and then ascend steep-sided Piney Mountain in the middle distance.

### **Forest Fragmentation**

The fact that fragmentation of forests cannot be mitigated is stated several times in Volume I of the DEIS. However, there is a way to avoid forest fragmentation, and that is to reroute the ACP so that it does not pass through significant forests. The DEIS does not



discuss this alternative, even though a number of viable alternate routes have been proposed by citizens and organizations.

The Executive Summary (ES-11) states, “We conclude that ACP and SHP would not have a significant adverse impact on vegetation and wildlife, *with the exception of forested areas, which would experience significant impacts as a result of the effects of fragmentation.*”

Page 4-164 states that the fragmentation of forested lands “may result in habitat that would no longer be suitable for species that require these specific habitat conditions, such as salamanders and many types of plants ... possibly resulting in an overall change to the structure of the forest community.”

Page 4-166 states, “Atlantic estimates ACP would bisect 196 interior forest blocks greater than 35 acres in size. Disturbance of these blocks would fragment approximately 62,104 acres of interior forested habitat.” Page 4-165 gives the minimum size of isolated forest tracts for the survival of several bird species: 341 acres for Cerulean Warblers, 104 acres for Pileated Woodpeckers, 61 acres for Louisiana Waterthrush, and 462 acres for Canada Warblers.

The above numbers do not take into consideration the fact that the survival of a species does not depend on isolated tracts capable of harboring only a single reproductive pair. In order to preserve a viable genetic pool of a species, there must be sufficient habitat to allow intermingling of individuals.

The Cerulean Warbler has the distinction of having suffered the largest decline of any American songbird species in the past 30 years

[http://www.lmvjv.org/hsi\\_model/species/cerw/s\\_cerw.aspx](http://www.lmvjv.org/hsi_model/species/cerw/s_cerw.aspx)

They migrate longer distances than most birds their size, and they are extremely sensitive to forest fragmentation. Since they are somewhat colonial in nesting habits, some researchers think that forest blocks must be between 10,000 and 20,000 acres in size in order to support sustainable breeding populations. Ceruleans nest in the George Washington National Forest and in the large forest blocks located in Nelson County, and these forests are crucial for successful nesting for these birds. Inserting a permanent, open, non-forested corridor through these forests would lead to a decline in Cerulean numbers. In plain words, the ACP will kill them.

Page 4-165 recommends that “prior to the close of the draft EIS comment period, Atlantic and DTI” should “file a revised fragmentation analysis.” If such an analysis has been filed, I don’t have a copy. This means that the DEIS provided to the public for review is incomplete. However, even if I did have the revised analysis, so what? If the ACP is built along the currently proposed route, the forest fragmentation that will result cannot be mitigated. All we will have is a more detailed description of the loss!

Even if Dominion wanted to purchase a replacement forest with 62,000 unfragmented acres – complete with nesting Ceruleans – as a substitute for what it will destroy, it would not be possible to do so. Ceruleans are in trouble precisely because there just isn’t much forest left! Ceruleans have already been proposed several times for listing as endangered. Dominion’s pipeline could be the impetus that would kick this species into sufficient decline that it would end up on the endangered species list.

It is not only birds that will pay with their lives. Imagine a five-inch long salamander that lives on the forest floor and must maintain a moist skin in order to survive. During construction of the ACP, a 150 ft. wide corridor would be opened in the forest canopy. Any salamander trying to reach a breeding pond on the other side of this corridor barrier would die. It would be the equivalent of me setting out on a trek across the Sahara with no water or appropriate clothing to protect me from the sun. The permanent clearing left by the pipeline corridor would ensure that migrating salamander populations would die out permanently in the areas affected.

In spite of recent attention to the forests of Nelson County from a number of scientists, Nelson County as a whole remains an understudied area. The Dutch Creek/Wheelers Cove/Nacked Mountain area in eastern Nelson County is perhaps the largest intact contiguous forest bloc east of the Blue Ridge.

Good examples of important natural areas that could have been destroyed by the ACP are the wetland sites recently designated as worthy of conservation by the VA Department of Conservation and Recreation. The reason the areas were studied and designated as important was due to the diligence of local citizens who brought them to the attention of scientists. Environmental teams sent out to survey by Dominion spend only a few days in each location. Needless to say, much can be missed! There is still much to learn about the species harbored in the forests in Nelson. Destroying these forests without knowing what is there would be akin to demolishing a building that serves as an art museum without first checking to see if paintings inside the building were still hanging on the walls.

One requirement is for FERC to consider alternative actions to the ones proposed by the applicant. In the case of the ACP, you must ensure that ACP be built on an alternate route – a route that does not fragment and destroy interior forest blocks.

### **Conservation Easements**

The Virginia Outdoors Foundation filing 20170331-5087, submitted to FERC on March 31, 2017, states that “construction, maintenance and operation of the [ACP] interstate gas transmission line is inconsistent with the open space protections afforded by the subject easements,” and that “the impact is very significant and by no means ‘minor’.”

In the words of Susan McSwain:

*“In my opinion, if the 10 properties under open-space easements with VOF on the ACP route are “converted,” the outcome could be irreparable harm to the conservation program in Virginia. I say this from the vantage point of someone who has placed my own property under conservation easement, and who has served as a director on the boards of two Virginia land conservancies. What I am hearing from people – even before the ACP has been approved! – does not bode well for the land preservation easement program in Virginia.*

*The threat of the ACP to VOF easements is already starting to affect the public’s trust that property under conservation easement is protected “in perpetuity.” One friend wrote to me, “After this, why would anyone (except someone just in it for the tax break) ever agree to put a VOF easement on their land?” Good question.*

*The tax break to which my friend refers is the Land Preservation Tax Credit (LPTC). Enacted in 1999, the LPTC has played an important role in the success of Virginia’s conservation easement program, and is responsible for the vast majority of financial support for land conservation in Virginia. It enables people who are land-rich but money-poor to protect their land instead of selling it off piecemeal to pay bills. This has led to one of the best conservation easement programs in the country, minimizing the cost of conserving land, while allowing land to remain in private hands and on the tax rolls.”*

The LPTC is a promise to Virginians and to all Americans that a real public benefit is realized when an easement donor accepts a diminution in value of easement properties in exchange for associated tax credits. FERC needs to realize that the threat posed by the ACP is not just to the properties under VOF easement along the ACP route, but it puts at risk an entire state program.

In January, 2012, Virginia's Joint Legislative Audit and Review Commission released Report # 425, a review of tax preferences in the state (credits, exemptions, subtractions, and deductions). The report stated that LPTC is "a stable and cost-efficient method of conserving land." Indeed, it was only one of two tax credit programs singled out as effectively achieving the goals for which it was created.

Dominion promises to place conservation easements on other properties as mitigation for any losses imposed by the ACP on VOF easement properties on the route. The properties have already been purchased, indicating Dominion's certainty that the ACP will receive approval. On May 12, 2016, The Conservation Fund (TCF) purchased 160 acres in Nelson County as a mitigation property, paying \$5,835.29/acre. This is more than double the assessed value, but it is my understanding that all costs associated with building the ACP will be passed on to ratepayers. It would be a travesty with respect to the intent of the LPTC, if tax credits are also given for an easement on this mitigation property. Public opinion could turn against a program that has been responsible for the preservation of 741,000 acres to date.

Roughly 70% of conserved acres receiving LPTC credits have been within the Chesapeake Bay watershed (JLARC Report #429, Sept. 2012), contributing to the Bay's protection. The ACP corridor will remove forest canopy cover on steep slopes and increase the amount of sediment reaching the Bay from erosion. Thus, the ACP could both contribute to problems in the Bay and at the same time damage a program that protects land. A lose-lose situation, for sure!

Ms. McSwain concludes:

*Conservation easements are designed to permanently protect land from future development and preserve natural, scenic, recreational, and historic values. I am among the conservation donors who put my property under easement to protect the land's forest, streams, and wildlife. This act is our legacy. The ACP should not be allowed to destroy protected lands, whether public (the George Washington National Forest), or private (conservation easements).*

### **Buckingham-Union Hill Compressor Station**

The proposed ACP would require 14 gas-fired turbines as part of the Buckingham-Union Hill Compressor Station to transmit the fracked gas over 200 miles. This distance is far greater than the industry standard of 40-60 miles to lessen safety concerns--fire, explosions, leaking, noise, and health effects. Huge transmission distances require ACP compressor stations to operate at the highest allowed levels of pressure, increasing the potential for fires and explosions.

There are only 3 CS proposed for this 600 mile pipeline. The applicant should not be allowed to add compressor stations to the route after NEPA analysis has been completed for the project. The DEIS should include analysis of the pipeline at full build out capacity including locations for compressor stations in that scenario.

ACP LLC wants to place this industrial plant in a quiet, clean, rural A-1 Agricultural zone. It has asked for a special use permit which does not comply with the zoning laws nor the county's master plan. Dominion has an employee on the county Board of Supervisors in Buckingham and he is also the board's liaison to the Planning Commission. This conflict of interest has not been remedied.

At the compressor station public hearings anti pipeline people were turned away due to the large turnout. The board was asked in advance to provide adequate alternate public hearing space, but did nothing. The vast majority gave damning testimony to this proposal. Every step of the way public input has been curtailed. Residents were not allowed extra time to present expert witnesses that traveled long distances. The county government has taken another step away from democracy and no longer allows input from non-county residents. These are direct negative impacts the ACP has on the Buckingham community.

Moreover, FERC is in violation of its own charter by not granting FERC hearings in Buckingham County, the only Virginia county to have a proposed compressor station. Instead you have located the nearest hearings in Farmville and Nelson County, discouraging participation by the very community most impacted by the proposal. This effects most directly the economically disadvantaged and the elderly.

This is just one example of how the FERC process and choice of compressor location violates NEPA and EPA regulations with regard to environmental and social justice. Here FERC continues its illegal practice of locating environmentally toxic new development in minority communities.

The compressor station is situated in the Union Hill community where the population is more than 90% African American. Over 110 households in the predominantly low-income, community of color, Union Hill would be placed in close proximity to this dangerous compressor station. Union Hill is the site of a former slave plantation; the majority of nearby residents are the descendants of slaves who built this community after the Civil War. The site also encompasses as many as 200+ unmarked slave burial sites on this former plantation land.

The human health impacts of the compressor station would target this community.

The Draft Environmental Impact Statement states there will be "no health impacts" from this extremely large complex of pipelines in Union Hill. There is no explanation given for why FERC has ignored the latest independent scientific studies on the potential health threats caused by living near compressor stations

Research indicates that individuals living within 2 miles of compressor stations experience increased respiratory impacts (71%): sinus problems (58%), throat irritation (55%), eye irritation (52%), nasal irritation (48%), breathing difficulties (42%), vision impairment (42%), sleep disturbances (39%), and severe headaches (39%). In fact, 471 people in Buckingham live within 2 miles of the proposed site.

This translates into real numbers and real human impacts: 334 people would experience respiratory impacts, 273- sinus problems, 184-sleep disturbances and severe headaches. These health impacts will come with real costs to local health services. These costs will be 'externalized' onto the taxpayers of Buckingham County and onto the individual pocketbooks of Buckingham citizens who must pay out for health care.

According to ACP's own air permit application for the Union Hill compressor station, the facility would generate yearly emissions of 468,450 combined pounds per year of nitrous oxide, carbon dioxide, volatile organic compounds (VOCs), particulate matter, and hazardous air pollutants (HAPs). FERC's environmental impact statement estimates this compressor station's climate change contribution at 293,688 metric tons per year. These emissions would be dangerous to health and destructive of a livable climate.

These impacts cannot be mitigated away.

The toxic emissions, noise and loss of property value would have negative effects on existing: agriculture, farming, cattle & other livestock, chickens, orchards, timber, hunting, James River sports; businesses or pleasure and tourism money from using clean air, water, and soil. Yogaville retreat center (6,000 visitors yearly) brought me to Buckingham County. Yoga practices require clean air, water, land and quiet. This would be a major set back for this community – during and post construction, affecting the livelihood and jobs of more people than this pipeline will ever create.

All compressor stations are potential terrorist targets; this one would be quite a bonfire. The intersection of ACP and the Transco mainline is a terrorist bulls-eye with unprecedented explosive potential.

PHMSA's different construction & maintenance standards for different population densities leaves the rural areas with the lowest protections. PHMSA has created standards for construction and maintenance: classes 1-4, Class 1 contains a lower population

density than class 4. Where there is a lower density population, class 1, that's us, the pipeline wall thickness is 75% less than a higher density population area in class 4. The distance between valves in class 1 is 20 miles, for class 4 its 5 miles apart. Weld testing – for Class 1, 10 % are tested, class 4 90-100% welds are tested.

ACP LLC and FERC have demonically and strategically chosen the Buckingham, Union Hill Community to be the sacrificial lamb for Dominion and Duke Energy's profit margin.

### **Conclusion**

The ACP DEIS violates its NEPA requirements. In many cases, it includes old, outdated, inaccurate and misleading information. It does not include critical information that was submitted by ACP after the NOA was posted. A revised DEIS is necessary to meet the information needs of multiple stakeholders, including the citizens and businesses of Nelson County, the general public, the regulatory agencies, Dominion partners and investors, and affected property owners.

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Sincerely,

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