

March 17, 2017

James Bolton
312 Perry Lane
Lovingston, VA 22949

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

RE: Comment of James Bolton on 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 providing the opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the Atlantic Coast Pipeline and Supply Header Project.

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.”¹

And:

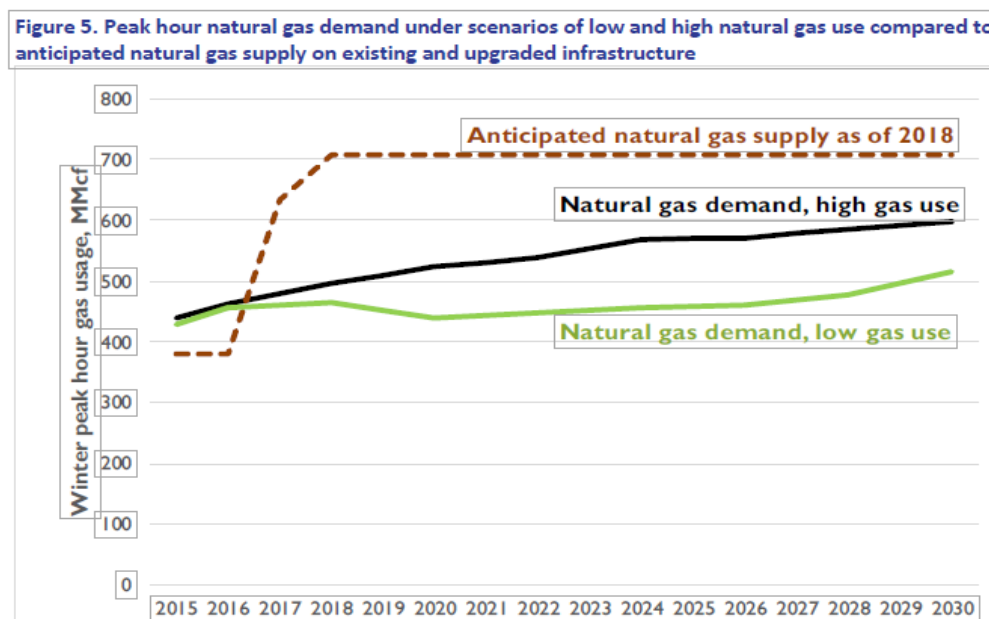
*“The amount of capacity under contract... is not a sufficient indicator by itself of the need for a project, because the industry has been moving to a practice of relying on short-term contracts, and pipeline capacity is often managed by an entity that is not the actual purchaser of the gas. **Using 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.”*²

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’.”*³

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 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.⁴



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;

“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.”⁵

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.”⁶

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.”⁷

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;

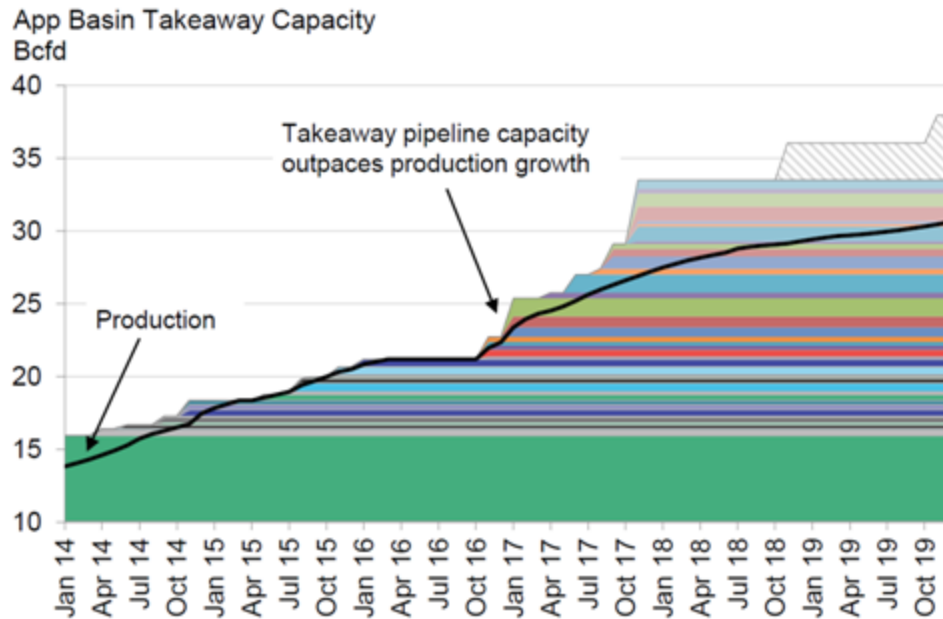
- All the electric power generating plants that have been cited by DTI/ACP as examples of facilities requiring to be supplied by the ACP are already supplied by existing pipelines, or ones currently under construction.
- Reversing flow of Transco and improvements to the capacity of the Columbia system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

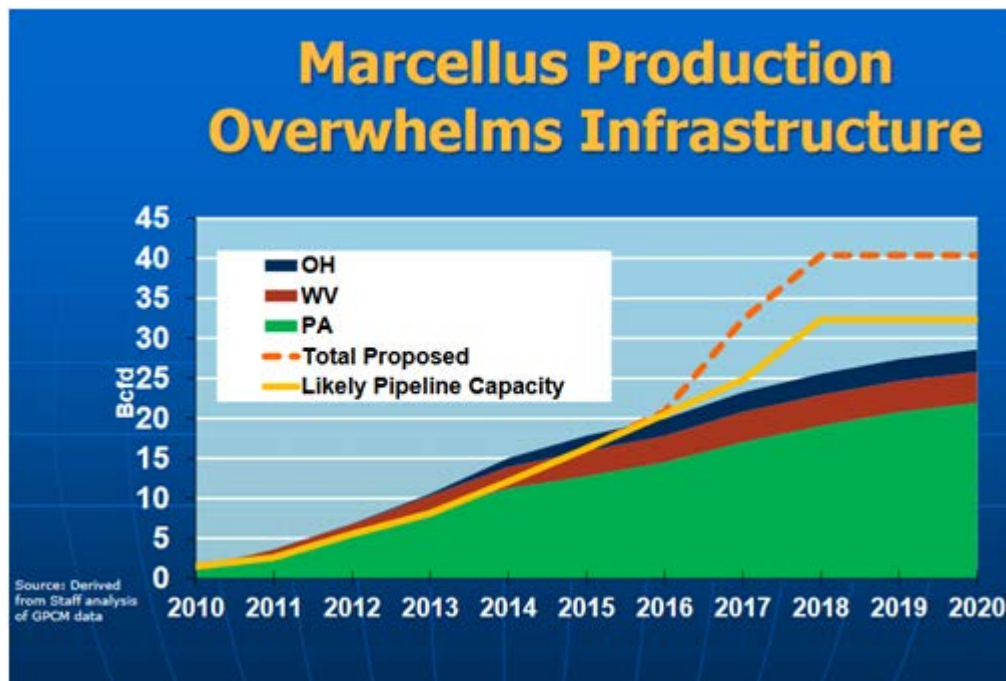
“Authorizations related to how the project area would meet demands for electricity are not part of the application before the Commission and their consideration is outside the scope of this EIS. Therefore, because the purpose of ACP and SHP is to transport natural gas, and the generation of electricity 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.⁸



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:⁹



(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....”¹⁰

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?

- 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."*¹¹

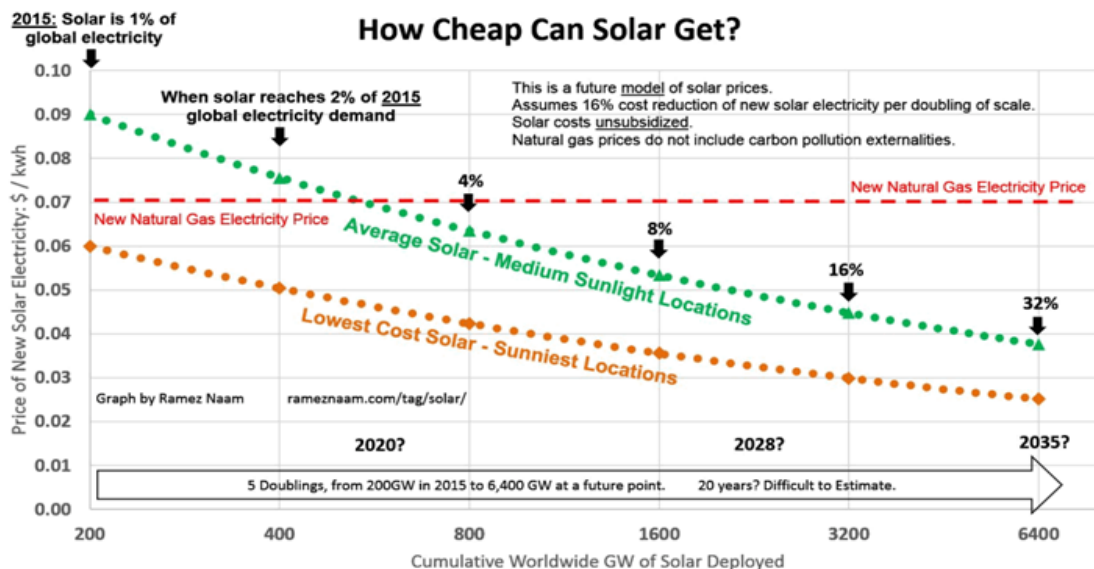
Not only that, but rates for power generation from the combustion of gas are destined to increase, so the ACP will not save money for Virginia consumers:

- 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.

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 2015:¹²



(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 years¹³, 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.

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 (pdf). 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." ¹⁴

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." ¹⁵

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." ¹⁶

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 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.

Respectfully,

A handwritten signature in black ink, reading "James R. Bolton". The signature is fluid and cursive, with the first name "James" and last name "Bolton" clearly legible, and "R." in the middle.

James R. Bolton

Notes:

1. 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.
2. 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.
3. Heidorn, R., ‘Bay Calls for Review of Marcellus, Utica Shale Development’, RTO Insider, Feb. 5, 2017
4. 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.
5. Natural Gas Infrastructure Implications of Increased Demand from the Electric Power Sector, U.S. Department of Energy, February 2015, p.31.
6. *Ibid.*
7. Synapse Energy Economics, Inc., Sept. 12, 2016, p. 17.
8. Brazier, S. and Shelor, J., “Marcellus/Utica On Pace for Pipeline Overbuild”, NGI’s Daily Gas Price Index, June, 8 201.
9. 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>.
10. Synapse, pp. 8-9

11. <http://bluevirginia.us/2016/07/southeastern-electric-utilities-find-way-higher-profits-gas-pipelines-captive-consumers>
12. <https://hypergeometric.files.wordpress.com/2016/05/whyfossilfuelsareinbigtrouble-future-solar-cost-projections-ppa-lcoe.png>
13. 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.
14. Coren, Michael J., "2016 was the year that solar panels became cheaper than fossil fuels, just wait for 2017", Quartz, Dec. 26, 2016.
15. Wesoff, Eric, "On the Blogs: U.S. hits Solar Pricing Goal Three years Ahead of Schedule", GreenTech Media, January 26, 2017.
16. Gillis, J., "By Degrees", January 2, 2017, <https://www.nytimes.com/2017/01/02/science/donald-trump-global-warming.html? r=1>