

Friends of Buckingham  
[info@friendsofbuckinghamva.org](mailto:info@friendsofbuckinghamva.org)  
<http://www.friendsofbuckinghamva.org/>  
<https://www.facebook.com/ProtectBuckingham>

Lakshmi Fjord, Ph.D.  
[lakshmi.fjord@gmail.com](mailto:lakshmi.fjord@gmail.com)

**Critical information for public comments – omitted or inadequate data -- in draft air permit for the Union Hill, Buckingham VA compressor station; misinformation used by ACP to locate Compressor Station 2 in Union Hill. And, questions that must be answered before the Virginia Air Pollution Control Board could factually review this permit:**

Inadequate public comment period – 30 days -- for Buckingham County, an internet desert, with additional 10 days only the evening before deadline of Sept. 30, 2018.

Call upon the Air Pollution Control Board - APCB to immediately undertake:

- a. Quantitative Risk Assessment (QRA),
- b. Comprehensive Health Impact Assessment (CHIA)
- c. Statement of Impact

Taken together, these assessment reports address the environmental justice, public health and safety, and cumulative hazards faced by residents of Buckingham by ACP compressor station

**Environmental Injustice related to VA ACP CS site:**

The Environmental Justice Collaborative letter to Gov. Northam, Senators Warner and Kaine, Virginia State Legislators; cc: Federal Energy Regulatory Commissioners, Dominion Resources, and Meryem Karad, Trieste Longwood (DEQ) co-signed by 29 groups **describes why the comprehensive assessments must be undertaken immediately:**

“Environmental justice is falling through the cracks because each federal or state agency limits its permitting and regulatory authority to fragmented fields of expertise (air *or* water; air *not* safety or noise pollution).

This approach excludes comprehensive study of the cumulative risks and hazards faced by impacted residents, and supports denial of responsibility for environmental justice implementation. Thus, EJ communities remain targets for new burdens of toxic infrastructure in Virginia. Travesties in two of these communities [Union Hill, Buckingham, VA only VA ACP compressor station & Chesapeake communities impacted by ACP Connector Link] have prompted this letter and our strong recommendations for immediate actions by you” (9-10-18).

Mike Dowd, DEQ, Director, Division of Air and Renewable Energy, at the Buckingham public information meeting held on Aug. 16, 2018 responded to local representatives informing DEQ about the majority African American population of Union Hill, its residents’ former slave ancestry, and more, said that in our public comments about the air permit, DEQ will not consider environmental justice or site suitability; that site suitability is left up to the local government. (28:00) <https://www.facebook.com/photo.php?fbid=10209790593360612&set=a.10209790591240559&type=3>

Yet, it is the responsibility of the Air Pollution Control Board to consider site suitability: **“2010 Code of Virginia, Title 10.1 - CONSERVATION. Chapter 13 - Air Pollution Control Board (10.1-1300 thru 10.1-1328) § 10.1-1307.** Further powers and duties of Board.

E. The Board in making regulations and in approving variances, control programs, or permits, and the courts in granting injunctive relief under the provisions of this chapter, **shall consider** facts and circumstances relevant to the reasonableness of the activity involved and the regulations proposed to control it, including:

1. The character and degree of injury to, or interference with, safety, health, or the reasonable use of property which is caused or threatened to be caused;
2. The social and economic value of the activity involved;
3. The suitability of the activity to the area in which it is located;”

### **Unsuitability of Union Hill, Buckingham VA as only ACP Virginia compressor station site**

Dominion has consistently used misinformation about the factual population, race, and omission of historic cultural resources in submissions to Buckingham elected representatives, to FERC and DEQ. Misinformation that erases the name of the community, denser populated numbers of people living in close proximity, majority African American race, and erasure of their Former Slave and Freedmen history (as well as former plantation history) has shaped decision-making at every level of ACP’s permit processes.

1. Dominion unfairly singled out Buckingham County from all counties along the three state route of ACP to claim it has “no historic resources” whether archaeological or architectural in that segment. Yet in all other counties, completely similar resources of early and mid-20<sup>th</sup> Century and 19<sup>th</sup> Century homes, churches and their cemeteries, bridges, dilapidated farm structures and stores, etc. were listed and photographed for 1674 pages. Alone, Buckingham’s history was/is denied and erased.

- ❖ In Sept. 18, 2016 ACP filed a 1674 page cultural resource application to FERC. For Buckingham County only, ACP had “no recorded resources identified within the modified project APE” (Appendix D: 31).
- ❖ In March 24, 2016, ACP filed their Addendum of cultural resources. In Appendix D on P. 31, for Buckingham ACP reports only “three [total] resources are “documented within the modified project APE include three single-family dwellings that range in date from circa 1940 to circa 1965 . . . They have no known association with a significant event or person and are not associated with any broad patterns in history.”  
Pp. 330, 331, and 332 are photos of that list of homes/addresses: 330 & 331 **are the same home/same photo. 332 is not in Union Hill.** L. Fjord identifies 330/331 – the only cultural resources listed for the whole county of Buckingham - as Theo Haskins’ on S. James River Highway, an abandoned trailer next to a modular home, without the family cemetery that adjoins it.
- ❖ That is, Dominion’s contractors had to visibly ignore 99 homes on all sides of the CS 2 site, 2 historic black churches and their cemeteries (Union Hill Baptist est 1868; Union Grove Missionary Baptist est. circa 1920); 1 historic white church and cemetery est. 1831, 2 historic black school sites, the 1880s Freedmen home place of the Harper family next to the proposed CS site, no photos of the Variety Shade tobacco barn or of Shelton Store, which is visible from the road in Union Hill.

- ❖ May 3, 2016, “Union Hill/Woods Corner Rural Historic District” Buckingham, VA was listed by Preservation Virginia as a “Most Endangered Historic Place” in Virginia. Notification of that listing and its complex of historic resources, marked and unmarked slave burials, churches, cemeteries, former plantation sites, farm structures, homes, photographs, and slave plantation neighborhood history have been part of public record of comments made to the Buckingham Planning Commission, the Buckingham Board of Supervisors, to FERC, by Dr. Lakshmi Fjord, Justin Sarafin and Sonja Ingram of Preservation Virginia since August 2016.
2. Dominion knowingly erased the existence of Union Hill as a known community, and its 99 households visibly within 150ft – 1-mile radius on all sides of their ACP VA compressor station site. In their 2015 FERC application and in all local and state permit processes both written and submitted at public hearings, ACP used the 2010 census average person per square mile data for the whole of Buckingham County – 29.6 – to report the population for ACP CS 2.

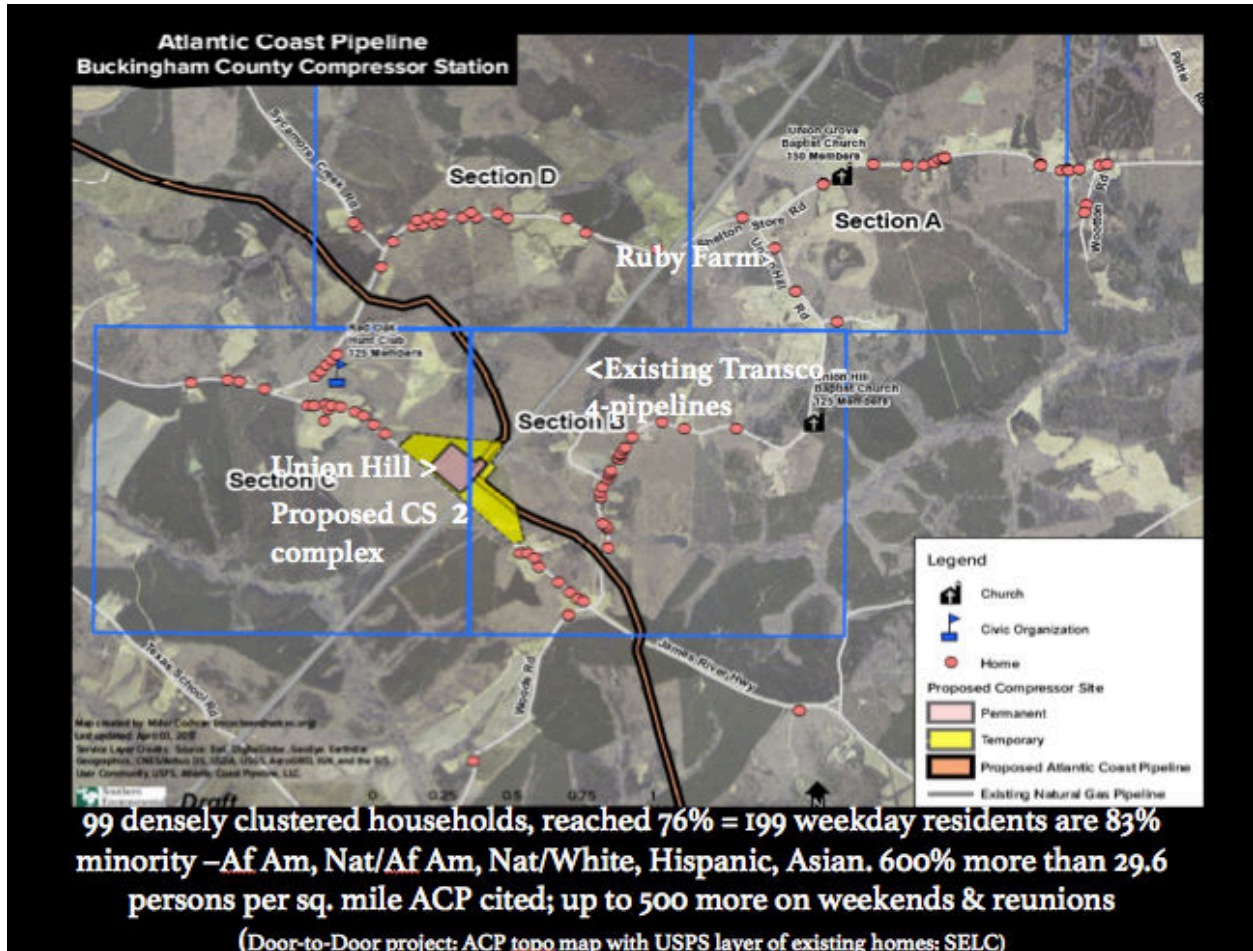
- ❖ On May 30, 2018, the spokeswoman for Dominion to the Governor’s Advisory Council on Environmental Justice claimed “it is the law” to do so -- when National Environmental Protection Act-NEPA guidelines state the opposite is true:

“The fact that census data can only be disaggregated to certain prescribed levels (e.g., census tracts, census blocks) suggests that pockets of minority or low-income communities, including those that may be experiencing disproportionately high and adverse effects, *may be missed in a traditional census tract-based analysis.*” ***Caution is called for in using census data due to the possibility of distortion of population breakdowns*** ... In addition to identifying the proportion of the population of individual census tracts that are composed of minority individuals, analysts should attempt to identify whether high concentration "pockets" of minority populations are evidenced in specific geographic areas. ... The IWG guidance also advises agencies not to ‘artificially dilute or inflate’ the affected minority population” (1997, 15-16).

- ❖ The Union door-to-door household study of Union Hill designed and conducted by Dr. Lakshmi Fjord (UVa, Dept. of Anthropology) began in August 2016 to uncover the actual 1-mile radius demographic and historic data for the CS 2 site has had 3 stages for a total of 4 months, and ending Sept. 4, 2018. The study follows NIH protocols for health information confidentiality, and community research guidelines. Open-ended interviews of 1-1.5 hours took place in 67 of the 75 households reached. Data includes: factual population, race, ages, pre-existing diagnosed health conditions, family heritage in Union Hill and nearby, and existing economic or food source uses of their land.

ACP’s Buckingham CS site map found at dom.com, with a layer of household addresses added by Southern Environmental Law Center based on USPS postal addresses, proves that Dominion always knew and could submit accurately that CS is not “sparsely populated,” is not 29.6 people per square mile.

- ❖ There are many cost benefits to Dominion to erase the population of Union Hill. By contravening NEPA guidelines, FERC in ACP's Final Environmental Impact Statement-FEIS reports no environmental justice issues besides low-income for the entire ACP route, which includes Union Hill-sited CS 2 (FEIS 4.9.9.1 Demographic and Economic Data, Vol 4-512). FERC notes their concerns if there were an African American majority population at this site:



“As discussed in section 4.11.1, air pollutants associated with ACP and SHP include increased dust as a result of construction equipment and vehicles, and compressor station emissions, which include carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), methane, and nitrous oxide (NO<sub>x</sub>); volatile organic compounds (VOCs); and particulate matter with an aerodynamic diameter less than or equal to 2.5 microns (PM<sub>2.5</sub>). These air pollutants are known to increase the effects of asthma<sup>31</sup> and may increase the risk of lung cancer (Nafstad et al., 2003).

Due to high rates of asthma within the overall African American community, we consider this community especially sensitive” (FEIS Vol 4:512)

- ❖ Union Hill household data including revised population, race, and existing diagnostic health conditions, is in the public record to Buckingham elected representatives, 2016-17; to FERC in EIS public comments by Dr. Fjord and by

Southern Environmental Law Center (SELC), 2017; by Dr. Fjord in 401 Water permit comments and NW12 Water Board comments, 2017-18.

- ❖ Updated household data (Sept. 3, 2018 updates):
  - 75 of 99 households reached for a 76.5% response rate, an outstanding rate in social science research.
  - 199 weekday residents; with hundreds more on weekends, bimonthly, etc.
  - 83% are minorities: African American, Native American/African American, Native American/White, Hispanic, and Asian
  - 17% are White
  - Children 0-17 are 32%; Elderly are 25%
  - For 67 households, we have listed in the table existing diagnosed health conditions that would be impacted by the combination of emissions applied for at BCS, including particulate matter, radon, volatile organic compounds, and list of EPA emissions DEQ lists in their draft air permit for ACP.
  - Known pre-existing diagnoses at Union Hill, include diabetes, asthma and other lung conditions, chronic bronchitis and pneumonia, heart conditions, breast and other cancers, COPD, lupus, kidney disease, epilepsy, multiple sclerosis, brain tumor, migraines from 35 households in our study who responded to this pre-existing health conditions question.

3. The Air Pollution Control Board must consider that so far at the local and state level no “site suitability” study and accurate report has been placed in the public record by Dominion for Union Hill CS 2 compressor station. At every phase of the application process, Dominion has been allowed by Buckingham Board of Supervisors, by FERC, and DEQ to perpetuate the myth that BCS is a “sparsely populated” place when it serves them:

- i. to compressor stations 200 miles apart, non-industry standard;
- ii. to have shut off valve distances at 15.7 miles apart at this site, which is not Pipeline Hazard and Safety Administration Agency standards for this population size;
- iii. to allow highest PSIS of pressure at this site;
- iv. to locate the intersection of the existing 4-pipeline Transco corridor with the new ACP pipeline in the middle of a huge wetlands;
- v. where 100% of the drinking water is from that shard aquifer, through individual water wells;
- vi. where A1 agricultural zoning was exempted for heavy toxic polluting new industrials complex;
- vii. where there is no industrial use, yet claimed to be so when ACP and FERC noted “visibility issues” with this complex;
- viii. where there is scarce internet access, yet ACP will build a 125ft. wifi tower and not grant community requests for access to wifi as the only community benefit;

Most egregiously, ACP’s application, the local Board of Supervisors, and DEQ have allowed Dominion to:

- ❖ Erases impacts on a minority community, and its particular and now rare in Virginia historic Freedmen community still living where their ancestors were enslaved;

- ❖ Erased that history in its cultural resource report, **only filed after Advisory Council on Historic Preservation (ACHP) wrote a rare comment of concern** about that complete omission to FERC;
- ❖ Erases need for closer study of the health impacts on this minority community which FERC in its ACP FEIS states would be concerned if BCS were a majority African American community. “ But, FERC stated it is not, using ACP’s census data not the expert data submitted by Dr. Fjord and SELC on actual population;
- ❖ 29.6 persons per square mile allow Dominion to have 75% thinner pipes and up to 500% longer shut off valve distances. For the BCS, FERC FEIS states valve distances are 15.6 miles apart vs. 2 miles for most populated areas. These benefits to the developer at the expense of impacted residents must not go on.

Site Suitability for the BCS, must now be the responsibility of the Air Control Board and the Governor because of the slave plantation legacy in Buckingham.

- ❖ The local Board of Supervisors accepted ACP flawed and incomplete information for the special use permit. Of 91 comments, 87 were against, 4 in favor; Board voted to approve.
- ❖ Deliberate erasure of Buckingham Slave history began in 1869 when vigilantes burnt the courthouse to destroy records of enslavement, fearing Buckingham’s 2:1 majority former slaves’ voting for restitution.
- ❖ In ACP process, African Americans who spoke out against the special use permit have faced reprisals.

DEQ Air and Renewable Energy Director, Mike Dowd, disagreed with FERC’s finding that if Union Hill were populous and a minority community it *would matter* to accepting ACP’s application for BCS site. At the Buckingham air permit public info session, Mr. Dowd stated that “population size” doesn’t matter because all emissions are below EPA standards in this draft air permit. DEQ staff reported having worked hard to research and insist on technology changes to fix this “only time DEQ failed an air permit by a developer,” according to Mr. Dowd.

**Who receives DEQ paid staff expertise support and clear imbalance in who and what “counts” as expertise:**

1. We ask DEQ and the Air Control Board to spend equivalent amounts of taxpayer funded expert DEQ staff time to work directly with the experts that provide creditable evidence against granting the air permit in the 30-day public comment period. For this and community-based comments’ reasons, the Board really needs to extend **the public comment period by at least 30 days.**

- ❖ Professionals in environmental health, science, and community-based household research provide key facts and omissions necessary for a true DEQ assessment of any and all air-related hazards. We have not yet seen DEQ accept this expertise in Dominion’s ACP permitting process.

- ❖ Dominion is being cited over and over for Incorrect, incomplete, and even shoddy work even by DEQ staff in ACP’s draft air permit or by ACHP in their historic cultural resource report for Union Hill, yet their incomplete and inaccurate information is accepted by FERC and DEQ even when it shapes yes/no decision-making. Why?
- ❖ Experts who offer factual information who are not paid for by Virginia taxpayers or by the developer are not given “expert status” by DEQ permit granting bodies. Why?
- ❖ Friends of Buckingham has ensured that our baseline testing of existing ambient air conditions and individual well-water testing in Union Hill tests as full a range of the contaminants found at CS sites from independent studies; and we use Virginia certified labs. Why is Dominion allowed to use non-certified labs and not required to test that range of contaminants?

Comments and data submitted to DEQ and Virginia Water Control Board by Dr. Lakshmi Fjord

**Why BCS must have a full CHIA (Comprehensive Health Impact Assessment): pre-existing conditions in Union Hill community call for environmental justice study of minority health impacts.** Where are the studies to assure that the passage of the Transco Pipeline through this portion of Buckingham is not contributing to these medical conditions?

We refer the DEQ and Air Control Board to Dr. Larysa Dyrszka’s expert comment already filed within the public comment period. Of which these are the key points:

2. The [Shale Health Impact Assessment \(HIA\) Template](#) is designed to give a structured way to bring together data on the community potentially impacted, the expected emissions from shale gas or oil development, and the potential health risks posed to residents in the immediate area. This tool can provide decision-makers with a comprehensive perspective on the siting, expanding, or maintaining of a shale gas or oil compressor station.
3. A “tons per year” measurement associated with the assessment of risk to the public’s health near a compressor station is an archaic method, and does not address exposure adequately. Also, the National Ambient Air Quality Standards (NAAQS) used as a benchmark for air quality were not created to assess the air quality and safety in a small geographic area with fluctuating emissions. NAAQS effectively address regional air quality concerns. **But these standards do not adequately assess risk to human health for residents living in close proximity to polluting sources such as compressor station sites, where emissions can be highly variable.**
4. Thus, **There are concerns about the adequacy and quality of the air modeling study:**
  - ❖ Current protocols used for assessing compliance with ambient air standards do not adequately determine the intensity, frequency or durations of the actual human exposures to the mixtures of toxic materials released regularly at compressor stations.

- ❖ The typically used periodic 24-hour average measures can underestimate actual exposures by an order of magnitude. There remains the risk of serious harm to human health, including lung disease.
- ❖ Reference standards are set in a form that inaccurately determines health risk because they do not fully consider the potential synergistic combinations of toxic air emissions. Thus estimates of yearly totals of contaminants released by a compressor station do not allow for an assessment of the physiological impact of those emissions on individuals. NAAQS reflects what, over a region, over time, is deemed safe population- wide. This is very different than what is safe within for instance 1200 feet of this compressor station. Averaging over a year can wash out important higher spikes in emissions (thus exposures) that may occur at various points throughout the year.
- ❖ What is needed is continuous, minute-by-minute data on a suite of surrogate compounds being emitted.

#### **5. Health risks from relevant air contaminants receive inadequate treatment.**

- ❖ From studies of compressor stations that “met” NAAQ standards, the following problems were notated: health impacts from hydrogen sulfide, PM2.5 or carbonyls.
- ❖ Hydrogen sulfide was monitored continuously, documenting the variability of potential exposures, along with the average. Spikes of H2S were quite high. Southwest Pennsylvania Environmental Health Study (SWP-EHP) has similar findings from measurements of PM2.5 near compressor stations. Particulate matter is not included in DEQ concerns, yet must be.
- ❖ There are other levels and types exposure around compressor stations that raise health concerns. In particular, acetaldehyde, benzene, formaldehyde, carbon tetrachloride, chloroform, 1,2-DCA and 1,1,2-trichloroethane, crotonaldehyde, and 1-methoxy-2-propanone exceeded their respective comparison values (CVs).
- ❖ Mixtures of pollutants are a critically important topic in addressing the public health implications of compressor stations. In fact, a very large number of chemicals are released together. NAAQ and Medical reference values are not able to take the complex nature of the shale environment, its multiple emissions and interactions into full consideration. Some mixtures like particular matter (PM) and volatile organic compounds (VOC) act synergistically to increase the toxicity of the chemicals.

#### **6. The air permit treatment of Particulate Matter (PM) impacts in particular, but also of health impacts from compressors in general, is inadequate**

- ❖ Particulate matter is known to impair lung function, aggravate asthma, cause high blood pressure and heart attack. PM can adhere with other compounds and then can carry these compounds, which may be toxic, into the deep lung and this is a health concern near compressor stations where multiple toxins are emitted with particulate matter (PM).

- ❖ Why is DEQ not adequately considering particulate matter, which will also be produced during the construction period, as well as daily during operations of BCS?
- ❖ Given that particulate matter (PM) causes respiratory damage and there are technologies available to scrub PM from air emissions, how can Dominion claim best available technology (BACT) if not scrubbing PM?

**12. Radioactive waste is not considered in ACP air permit, why not?**

- ❖ **EPA region 3 reports that radium, measured as gross alpha and beta, in flowback water and produced waste in Pennsylvania wells, is significantly higher than in other shales.**
- ❖ Graphs found in Dr. Dyrszka's comment -- from a USGS report -- illustrate the high radioactivity in Marcellus shale.
- ❖ Radon selectively and preferentially travel with the gas product, namely radon. As radon decays within the pipeline, the solid daughter elements, polonium and lead, accumulate along the interior of the pipes. There is a concern that the gas **transiting, and being compressed and regulated, will have radioactivity levels** which will put at risk not only the workers at these stations and along the pipeline, but potentially also to the residents. Radon, a gas, has a short half-life (3.8 days) but its progeny are lead and polonium, and these are toxic and have relatively long half-lives of 22.6 years and 138 days respectively.
- ❖ This air permit modeling does not address the potential health risks of the radon decay progeny.

**13. Sulphur Oxides and Hazardous Air Pollutants (HAPs) emissions seem to be higher in the 2018 permit application when compared to 2017 estimates. How can Dominion claim best available technology (BACT) if they have selected new equipment that allows increases in these dangerous emissions?**

**14. Dominion's claim of best available technology (BACT) seems to involve selective capturing of methane, so how could DEQ assure these levels are lower to protect our health and reduce threats from climate change?**

- ❖ Since climate change drilled down is daily and episodic direct impact from methane emitted -- plus all the other pollutants applied to for emission at CS #2, as they are breathed and drunk in water taken from 100% single source individual wells next to the CS #2 site?
- ❖ Methane is 86% more damaging to protective ozone than carbon dioxide. How does DEQ plan to require Dominion to accurately measure as well as to eliminate the release of methane into our community?

**15. Insufficient information about direction of air emissions based on actual site conditions, rather than lab testing must be addressed**

- ❖ Close by residents and those many miles away face new sources of large emissions that do have health impacts whether cumulative or by mixture.
- ❖ There air modeling done in laboratories have not been made clear enough to provide indicators of seasonal or daily peak exposures or minute by minute exposures based on geography.
- ❖ Many of our schools are within 10 miles of the compressor station. How will our children be protected?
- ❖ While baseline emission data from Roanoke, Hopewell, and other parts of the state might provide the best available baselines for air modeling, how can we be assured of the accuracy of pollution estimates, when the characteristics of these places are clearly different from Buckingham and DEQ is basing the majority of these pollution estimates on unverified-in-real-life modeling outputs and laboratory testing?
- ❖ DEQ air modeling for the BCS is based on many assumptions about temperature, altitude, and other factors that are not accurate for Buckingham. Why was field data not collected? How can you assure test results and thus pollution estimates are accurate?
- ❖ How do you adjust for seasonal variability when assessing impacts of toxic pollutants on human health? For example, how do you take into account the higher exposure level of emissions that occur during the colder months when they stay closer to the ground?
- ❖ The "emergency" gas turbine, which raises the combined horsepower closer to 57,000 is intended for winter months. How is this accounted for in the air permit? Can we be assured that use of "emergency" is not being used to "hide" higher levels of emissions in winter

16. Please share with us the data **documenting the current ambient air quality**. What is the difference between **the ambient air quality now in the air** around the proposed project and what ACP applies to add to BCS site's present "higher than normal" air quality (quotation from ACP's "failed air permit"?)

17. **ACP compressor stations do not follow industry standard for spacing**: Since the recommended distance between compressor stations is usually less than 100 miles, why is the distance between ACP compressors so great, particularly since it concentrates dangerous pollution in the Union Hill and Woods Corner neighborhoods?

- ❖ Given that industry standard is to have compressor stations at shorter intervals, distributing risks and hazards more evenly over transmission distances. How does ACP explain that they have only one compressor station per state, and therefore these are very large and impactful as needed to provide the pressure to cover 200+ miles between CS #1 and CS #2 and CS #2 and CS #3?

- ❖ Given Dominion's past actions in other locations, we can anticipate that this compressor station will be expanded in the future. Unless the company can be prohibited from expanding in the future, why is this facility not considered a major source of pollution now so stronger standards are applied?

18. **Who Pays the true costs of these harmful emissions on health?** If community members get sick as a result of toxic emissions from the compressor station like formaldehyde, benzene, and hexane, would they be forced to sign non-disclosure agreements before receiving help with medical bills from Dominion Energy or Williams Transcontinental (Transco)?

19. **DEQ must require Dominion provides warnings for scheduled blowdowns.** How will nearby residents who have health issues be given sufficient time to leave the area until the pollutants are reduced? How long will they have to plan to be away from the area to protect their health? What conditions might affect that time?

20. Does DEQ plan to establish fence line monitoring systems to notify local residents when air pollutions levels from BCS are unsafe?

#### **Local Emergency Response Capacity – it matters to emissions issues**

21. We are worried about the inadequacy of local emergency response services in Buckingham and the highly pressurized, toxic, explosive, and flammable nature of the materials at BCS and in other ACP infrastructure. How will the state assure the safety of local residents?

22. How will Dominion use local knowledge of limitations in emergency response to make our system more robust? How can we be assured Dominion will not be allowed to set a standardized evacuation process that does not fit our local challenges and characteristics?

23. Many compressor stations start without clear evaluations plans. We know people currently living with compressor stations that have no local emergency plans. FERC does not enforce their provision. What steps can we take if Dominion Energy's promised evacuation plans are inadequate to assure public safety?

#### **New Technology promises without warranty**

24. The SOLAR manufacturer does not warranty or guaranty emission reductions in real life will approach levels found in modeling tests. SOLAR suggests any estimates must be treated as a range contingent on local variables. Given this careful language and the direct precaution in the SOLAR's sales materials warning against using their estimates in permitting decisions, why has there not been additional independent verification to assure estimates are accurate for Buckingham's local conditions?

25. **Since the new "green" technology Dominion bases their predicted emissions on has never been tested in the field and is taken from manufacturers' laboratory results** under generic conditions, is it not the best practice to hold the air permit application until the new technology has been tested in similar situations? For example, some of the proposed emissions controls have only been used with small turbines dissimilar to those

proposed for BCS, isn't additional testing and use required before we can trust the manufacturer's claims?

❖ **Isn't a minority, environmental justice community going to be the guinea pig** for DEQ's hoped for new R&D put to use by Dominion?

❖

**Increased Gas transmission and emissions without community knowledge?**

26. Could ACP increase the amount of gas compressed in the BCS in the future without additional air permitting?

27. Can increases in Transco gas compression in Buckingham move through the compressor without being regulated in an air permit?

28. Would impacted residents be consulted prior to future decisions about increases in gas transportation through the BCS or can DEQ approve increases without community knowledge or input?

Southern Environmental Law Center (SELC) Technical Comment Points:

- DEQ did not apply the best available control technology (“BACT”) requirement correctly because neither ACP nor DEQ ensured that the nitrogen oxide emission limit set in the draft permit achieved the maximum reduction feasible. The currently proposed reduction in nitrogen oxide emissions is 58%, but more significant emissions reductions are achievable and cost effective.
- Limiting nitrogen oxide pollution is essential for human health. According to the EPA, breathing air with a high concentration of nitrogen oxides can cause irritation in the human respiratory system. Nitrogen dioxide—along with other nitrogen oxides—react with chemicals in the air to form particulate matter and ozone. Both of these are also harmful to the human respiratory system.
- Longer-term exposures to elevated concentrations of nitrogen oxides may contribute to the development of asthma and can increase a person's susceptibility to respiratory infections. People with asthma, as well as children and the elderly, are generally at greater risk for these health effects.
- DEQ should require ACP to continuously monitor nitrogen oxide emissions from the compressor turbines. This is necessary to ensure ACP is complying with the nitrogen oxide emissions limits at all operating periods. The currently proposed stack testing is not sufficient to ensure compliance with the draft permit conditions.
- DEQ did not ensure compliance with 9VAC 5-80-1180 because it relied on flawed ambient air quality modeling. The flaws in the modeling include a failure to use the highest allowable emissions rates, failure to account for emissions in very cold conditions when nitrogen oxide rates are expected to increase significantly, and understating emissions during startup and shutdown. Therefore, DEQ did not ensure the compressor station could operate without preventing or interfering with the attainment or

maintenance of any applicable ambient air quality standard and without causing or exacerbating a violation of any applicable ambient air quality standard.

- It is important for DEQ to set appropriate, enforceable one-hour limits in the permit. Short-term exposure to high concentrations of nitrogen oxides are especially harmful to people with chronic respiratory conditions. Such exposures over short periods tend to aggravate respiratory diseases, particularly asthma, leading to often severe respiratory symptoms.
- ACP has not shown that the amount of toxic pollution emissions from the compressor will not cause or contribute to the endangerment of human health because ACP's modeling for formaldehyde and hexane emissions is flawed. Therefore, DEQ cannot, based on the information ACP provided, ensure that the compressor station will not cause, or contribute to, the endangerment of human health. According to the EPA, "formaldehyde can cause irritation of the skin, eyes, nose, and throat. High levels of exposure may cause some types of cancers."
- DEQ should impose an ammonia limit in the permit for the compressor turbines. Currently, no such limit exists.

Community Concerns that are not directly applicable to the draft air permit

#### **Recordkeeping and Transparency**

29. How can we access data/record-keeping on an ongoing basis to ensure the records that are being kept and so that we can be aware of the accurate quantities of emissions we are being exposed to daily, monthly and yearly?
30. How will we know all of the relevant information is being shared with the public in a timely manner? We know that in the past polluting companies and state agencies have a checkered history in terms of transparency.
31. Why is the public hearing for this permit being held on the last day of the comment period? This prevents anyone who attends and learns more from making a comment. It also prevents citizens who need time to consider new information from responding after they have time to do this.

#### **Staffing/Security**

32. Given that wi-fi transmission is unreliable in Buckingham, how can Dominion claim use of best available technology (BACT)? Fibre optic cables are the proven best current technology. What can be done to increase security of remote control of BCS from West Virginia?
33. We have received conflicting information about 24/7 staffing of BSC for onsite real-time data collection & monitoring during the life of the compressor station. Will there always be staff on site, even on weekends, holidays, and after the first year? It was made clear at the Q&A that there would be an in-person walk through required everyday even past the first year of operation. We request that this be written into the permit.
34. Can the APCB approve the permit when there does not appear to be a Special Use Permit (SUP) for the stacks?

**Where to send or submit online your comments**

Virginia Department of Environmental Quality  
Piedmont Regional Office  
Buckingham Compressor Station  
4949-A Cox Rd  
Glen Allen, VA 23060  
[airdivision1@deq.virginia.gov](mailto:airdivision1@deq.virginia.gov)

Air Pollution Control Board  
[citizenboards@deq.virginia.gov](mailto:citizenboards@deq.virginia.gov)

c/o Office of Regulatory Affairs  
Department of Environmental Quality  
P.O. Box 1105  
Richmond, Virginia 23218