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Sept. 21, 2018

Public Comment: Air permit, minor source construction permit, Atlantic Coast Pipeline LLC, 21599

I respectfully address my public comments to the Air Pollution Control Board members because this citizen board has been charged with the power to approve or not approve the air permit submitted by Atlantic Coast Pipeline-ACP for their Virginia compressor station (CS 2) sited for Union Hill, Buckingham, Virginia.

I ask the comment readers of the DEQ Air and Renewable Energy Division to kindly read and summarize those parts of these comments that apply to the narrower limits of their authority to respond to expert and impacted citizen’s technical comments, permit omissions, and questions to be answered for which the answers are not available in those permit documents. In these comments, I wear both expert and impacted citizen hats, the details of which are found in my affiliations listed with my address information above.

Power of the VA Air Pollution Control Board

The DEQ Air Division staff met yesterday (9-20-18) with a group of legal, social scientist, community group, and non-profit representatives, including myself, to discuss what the Air Division “can and cannot do” vis a vis the Buckingham compressor station (CS 2 – according to Atlantic and FERC) air permit application -- among more general permitting work by staff. And, what the Air Pollution Control Board can consider and do to deny or approve the air permit.

Mr. Dowd explained that in Virginia, it is in the authority of Virginia’s Air Pollution Control Board’s to give final denial or approval of this air permit. That you may consider more comprehensive and more site specific concerns with the Buckingham air permit is confirmed by the language of the APCB 2010 statute: “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; and

4. The scientific and economic practicality of reducing or eliminating the discharge resulting from such activity.

My comments are framed in reference to each of the four numbered points of your statute, particularly at their intersection with “site suitability” and “incorporating environmental justice into decision-making” as per Virginia codes and Executive Orders.

Virginia Energy Policy (Code of Virginia § 67-101) energy objectives include “developing energy resources and facilities in a manner that does not impose a disproportionate adverse impact on economically disadvantaged or minority communities.” In 2017, Governor McAuliffe created the Governor’s Advisory Council on Environmental Justice (ACEJ) under Executive Order #73, to provide “a consistent, action-oriented approach to incorporating environmental justice into decision-making.” Governor Northam’s Executive Order #6 includes: “Engaging the regulated community, local governments, and other interested stakeholders in the development of new protocols”; and, “assessing gaps in DEQ resources or authorities necessary to address challenges identified under this review.”

As a citizen board, I’d like to give you some sense of who we are – people who woke up one day to discover their known world would now be turned upside down by people who want to take for their advantage what you have, with no benefit whatsoever to yourself, your family, your land, or your community. First, we have had to become “citizen scientists” over the past four years since we first learned about ACP siting their only Virginia compressor station in Union Hill, Buckingham County, VA. For four years we have had to educate ourselves, our neighbors, and our communities about fracked gas infrastructure -- because no local, state, or federal agency tasks themselves with informing, educating and giving expert knowledge to impacted communities – only to developers. We performed household demographic studies, including existing health conditions, land uses, and local family history. We read thousands of pages of field studies of health impacts, construction and traffic, man-camps’ crime, grave impacts to water, air, soil; we had to study hydrogeology and former plantation and Freedmen history; I have made 17+ public comments: to local Buckingham Planning Commission and Board of Supervisors, FERC, VA DEQ Water Division, VA DEQ Air Division on site [in]suitability, missing cultural history, erased demography, current green economic uses of our land, and water, air, and soil impacts of this siting in an A1 Agricultural Zone.

We who did not “go along” with ACP’s Union Hill compressor station site plan have faced a lot of hostility from our elected local Board of Supervisors, whom Dominion had been priming for 3-4 years prior to 2014, with promises of increased corporate taxes (still without any accounting formula given for their figures) and jobs. Jobs have long been limited in Buckingham and related to extraction economy: clear-cut forestry, kyanite mine, slate quarry, two prisons, once gold and copper mining. Buckingham was once a rich county based on prosperous slave plantations whose size and profitability are revealed in the ledgers left behind by owners listing hundreds of slaves and their individual values on lists of “Stock”; alongside investment of their profits in real estate in New Orleans, New York City, Florida and Texas. Buckingham has never fully recovered from the loss of the 2:1 majority slave labor since forced emancipation after the nearby surrender at Appomattox.

We who “oppose the pipeline” and the Union Hill compressor station have been branded as “environmental zealots.” But, that is precisely who we are not. We are listeners to promises and observers who on the day that FERC approved tree cutting for the ACP at 5p at night witnessed

within 15 minutes, 15 trucks all with out of state licenses from very far away (Utah, Wyoming, Arizona, closest was West Virginia) piled up at one of Yogaville's community member's access road to survey and cut trees. Where they did not even yet have an easement agreement. In a county that has relied on tree cutting jobs and income from one's timber for hundreds of years -- not one Buckingham tree-cutter had been hired by ACP contractors, despite more than two years to plan that night's work. Not one Buckingham tree-cutter was hired during that entire easement tree-cutting window before the Migratory Bird season began.

We impacted people of Buckingham are people for whom there are no easy generalizations. We are children of immigrants, descendants of white colonists, impacted descendants of former slaves who, after Appomattox, bought from or were given land from their former white owners, cattle, dairy, and organic farmers, yogis who moved to Buckingham for the pure natural resources, retirees who invested their life savings in affordable land and new homes, and people who planned sustainable agricultural business projects to build greenhouse businesses and vineyards. We have come to know each other better across fissures that are still deep in Buckingham: across race, across religion, across educational and geographic background.

All are directly impacted people whose hopes, investments, and potential to provide sustainable green energy jobs in and near Union Hill are now at a standstill -- thwarted by ACP LLC, a for-profit, fracking and fracked gas transmission pipeline enterprise allowed to seize land for easements by eminent domain. The citizens responding to this call for public comment are not politically aligned on one side of the aisle nor are Dominion Resources' campaign contributions to local, state, and national elected officials, or charitable contributions to local groups where they seek permits based on political parties.

Now that the "Baptists and the Yogis" have made national news, now that Union Hill is becoming the symbol for larger environmental groups about all that is wrong with taxpayer-funded support by state agencies and elected officials to for corporate profit-only fossil fuel developers seeking to build no longer needed, toxic polluting, far more expensive than renewable, infrastructure -- Dominion is trying to "reach out" to Union Hill, making allusions to "what they can do for" the community. When Union Hill's story was local and suppressed even by people in other counties focusing on moving the pipeline from this site or that site, Dominion completely erased Union Hill's existence from its applications and records. When our household study and historic cultural research finally reached the national stage, now Dominion reps are meeting with Union Hill community residents -- but with no talk of compensation which is what they want. Each week, at meetings Dominion reps are asked for and promise **an evacuation plan**. Yet, even that minor gesture of goodwill has still not been delivered by Dominion -- after 4 years.

We call it "running down the clock" during the DEQ and APCB air permit process. So, when Chairman Dunn of the VA Water Control Board asked the rhetorical question of the Richmond Times Dispatch yesterday after their vote, whether or not "a water permit can stop the ACP???", keep in mind that Dominion thinks you of the APCB can, through rejecting their air permit for Union Hill compressor station. Without the Buckingham compressor station, there is no transmission to Cove Point overseas markets through the Transco -- key to their business plan now that they have taken their promised gas-fired power plants off the table as too expensive to build.

Thus, we ask members of the APCB to not recuse yourselves unless you are directly indebted to

Dominion Resources for your or a family member's employment. For, everyone in the state of Virginia is enmeshed in webs of economic ties to Dominion Resources, whether legal consultants or non-profits that have received funds from fines levied on Dominion, or me as a Dominion Energy utility customer in Charlottesville. However, in Buckingham County, where Yogaville is located, we are not indebted to Dominion for providing and maintaining our public utility infrastructure. We have an electric co-op because Buckingham is too large and rural to be profitable to Dominion Energy.

Yet, Buckingham County is being asked to bear the largest toxic burdens of any county in Virginia by a non-public utility provider, ACP LLC. Which through legislative influence, by sharing a parent company, allows Dominion Energy, my public utility, to force me to pay the full costs of the ACP construction and operation. Forces me to pay to forever change the clean air, water, and soil of Yogaville, whose site I helped to choose in 1979 to re-locate our spiritual community because of its existing pure natural resources that are integral to our spiritual practices (pranayama, hatha, meditation), our spring-fed organic farm, our 100% drinking water sources from individual well water as throughout Buckingham, and where ACP plans to drill under the designated Scenic and Historic James River on Yogaville community member land, and from there route their pipeline within 700 ft. of our school.

This is the personal angst I face, especially when I consider how ACP's site planning for the Buckingham compressor station threatens Union Hill, a community I hold dear. I have worked as a full-time volunteer community field researcher for 3 ½ years, putting my yoga principles of non-violence together with my PhD anthropology training and experience from over 22 years in NIH- and Fulbright-funded community medical field studies to conduct NEPA-esque demographic and cultural historic research in Union Hill to remedy Dominion's erasures of factual site characteristics for CS 2.

In our meeting with the DEQ yesterday, it became clear that the DEQ wants to "move on" from the air permit to "lessons learned" from Buckingham permit process. Certainly understandable, given that they do not believe they have any authority to consider the environmental injustices, the environmental racism, of ACP's site choice for their CS 2. ACP's denial of racism in their site choice, repeated often now, is belied by their actions to entirely erase the name of the community and factual population of Union Hill, the 99 households in close proximity on all sides, its majority African American race, and its historic Former Slave and Freedmen history in all public documents, including applications, cultural resource reports, and even to my face by the CEO at this year's Dominion stockholders meeting. When asked if he knew about the household study I had conducted in Union Hill, its race, and population statistics, its history, Mr. Farrell responded, "Yes." Would he correct those factual errors? "No," he would not. Below, I will provide that historical and household evidence.

Were there other places to intersect their new ACP Pipeline ("redundant" according to FERC Commissioners LaFleur and Glick) underground with the existing 4-pipeline Transco corridor? To send fracked gas from their drilling sites in West Virginia to their Cove Point LNG facility in Maryland for foreign markets (proudly reported to shareholders by CEO Farrell with photos of Japanese freighters shipping Dominion's fracked gas overseas)? Yes, of course, many sites in this sparsely population rural county: many sites far less populous than Union Hill, and not majority African American.

The added burdens from this new race divide created by Dominion's site for CS 2 need to be

considered a true social cost to Buckingham, with moral implications for our state and our nation. The legacy of slavery in Virginia is a living reality in Buckingham. And, it manifests in the complete capitulation by the Buckingham Board of Supervisors (BoS) to Dominion's insistence at the CS 2 special use permit hearing that there would be no "bond held in escrow" for direct impact costs to Union Hill residents; no money given for extra safety equipment or emergency responders in an all-volunteer fire department; no willingness to even listen to Union Hill requests to somehow link into the 125 ft wifi tower in an "internet desert," among just a few of the list for this CS 2 site proposed to the Planning Commission based on community input. The BoS unanimously approved the CS 2 site without these conditions, with a recusal by 37-year employee of Dominion who stepped down as Board chair for this vote and went back on after it. The only "condition" was for one on-site shift for one employee, where ACP had planned to remotely monitor this complex from West Virginia solely through wifi transmission. Note: the absence of jobs related to operations activity?

The intractability of Dominion toward the Union Hill community, not budging an inch to provide any tangible cost benefits to the community or protections, the race divide made worse by Dominion, is amplified in my power-point slide below. It is a tale of two Dominion energy projects in Buckingham, which is a tale of two races.

Dominion in Buckingham: A tale of 2 energy projects is a tale of 2 races

Dominion & solar vs Dominion & fracked gas transmission

For white heritage farm = solar fields & monthly lease payments for domestic renewable energy; used to attract Amazon hub to Richmond for sustainable jobs of the future.

For Union Hill, African American majority, at ACP & Transco, redundant, outdated, costly toxic emitting complex to send fracked gas overseas. One-time easement payment seized by eminent domain; no payments to all households that ACP does not cross with pipeline.

Reuters, May 24, 2018: "Vista Energy and Dominion Energy – which serve about 5.5 million electricity customers in more than a dozen U.S. states – both say they are done building combined-cycle natural gas-fired power plants. Instead, they are building large solar plants, which offer plentiful and inexpensive electricity."

In Virginia, Dominion Energy ended several maintenance contracts it had with GE this year when it mothballed a large gas-fired plant and idled seven other coal and natural gas units in the state. Dominion aims to build 4,720 megawatts of solar by 2033, the equivalent of about five large combined-cycle power plants. It is opening a new combined-cycle natural-gas plant in Virginia this year, built with GE and Mitsubishi equipment. It said it has no current plans to build more such plants. "Solar is very cheap," Dominion spokesman Dan Genest said. "These units were just not cutting it."

Yogaville has already made strides towards solar energy production. And, Friends of Buckingham has been working on a project called, "Solarize Buckingham" to create equitable access to solar energy production. Union Hill large landowners would greatly prefer monthly

solar lease payments instead of no payments and no compensation by Dominion at their CS 2 site – yet, heaviest load of toxic burdens of the ACP. We in Buckingham want vocational training at Buckingham high school for sustainable green energy jobs in renewable energy and energy conservation. Not false promises of even lowest paying tree-cutting jobs that ACP didn't think they needed to deliver on for impoverished Buckingham.

The race-based characteristics of the CS 2 site in Union Hill and Buckingham County generally are now rare in Virginia. Where large proportions of the population are descendants of former slaves still living near descendants of former white plantation owners that enslaved their ancestors. African American residents of Union Hill who speak out about the environmental injustice of the CS 2 site in local permit hearings or any public hearings, disrupt a fragile fabric of race relations hundreds of years old. Survival has relied on silence, and so, they constantly face shunning and reprisals. It was the white descendants of former Variety Shade plantation owners who sold 68 acres to Dominion for the CS 2 complex, receiving \$37,675 an acre for land where then market value was \$3,000. Now, black heritage land values that lie close on all sides of that site are deeply slashed in value.

With this context in mind, forgive us for resisting a narrative we heard yesterday expressed by DEQ staffers, that Union Hill will now stand for “lessons learned” about what not to do in order to prevent future disproportionate environmental injustices based on targeting communities of color for new infrastructure sources of toxic pollution. Rather than to protect Union Hill today. Such narrative slippages reveal that DEQ has “approved” this air permit they send to you, without reading other experts’ comments, in advance of your decision. Those sorts of sacrifices of their lives, labor, and respect have been asked of Union Hill’s Freedmen descendants for far too long. Please do not allow it.

Cost/benefit analyses related to activities included in the CS 2 air permit

I include these comprehensive social, historical, and environmental justice injuries and their economic and social costs onto the comparative balance sheet equation of cost benefits from the activity vs. cost benefits of not allowing the activity, thus preventing the “injury to, or interference with, safety, health, or the reasonable use of property which is caused or threatened to be caused.” For, I hope the Board agrees that it is necessary to weigh in the balance a fracked gas transmission line already threatened by redundancy and over-building. Energy conservation has led to sharp downturns in electric consumption. Shale gas reserves from West Virginia have always been assessed at a 7-10 year extended lifespan. We are already more than halfway there since ACP’s initiation. Transco operates at just over 55% capacity and has already made public comments to FERC about their being “no need for the ACP, which follows other industry and economic expertise. Ironically and horribly, Union Hill will be subject to far higher toxic pollution if the pipeline carries less than 50% capacity. And, nowhere I believe does the DEQ address Transco’s additional pipelines in this mix of comprehensive injuries to safety, health, and climate change and more of this intersection of 5 pipelines at CS 2 site.

Has DEQ included Transco’s 4-pipelines’ emissions in their figures? Considered their increased chance of leaks and breaks? Where Dominion’s “activity” involves threats posed by a large fracked gas compressor station’s necessary operations to pressurize gas to the highest allowed psis of pressure to transmit gas over 200 miles to the next compressor station CS 3 in Northampton or along the Transco pipelines to Cove’s Point LNG facility and offshore markets. Partnership for Policy Integrity (PFPI) has just released a report on “secret chemicals” used in fracking operations that are present in transmission lines, emitted in compressor station

blowdowns planned or accidental. These chemicals are used in drilling and fracturing but well operators don't identify them for proprietary reasons. While this report focuses on the possibility of fracking and wastewater dumping in the Delaware River Basin – a water source for New York City and Philadelphia – its discussion of secret chemicals has broad relevance to the air permit. DEQ doesn't even know all the toxic chemicals to look for, to create modeling for, in CS 2's air permit.¹ The toxic cocktail of known and unknown toxic sources of emissions threatens injuries to our air quality, to 100% of our drinking water supply in Buckingham, increases the individual medical expenses of those impacted by any level at all of new toxic pollutants, particulate matter from finest grain to largest, any amount of benzene, N02, and the rest of the toxic brew listed in the air permit and missing from the air permit as noted in expert comments below.

DEQ staff will tell you as they told us in their Buckingham Informational Meeting on Aug. 16, 2018, and yesterday, that they have spent hundreds if not thousands of DEQ expert staff taxpayer funded time to research Best Available Control Technology –BACT so that no matter the size of the population, their race and age vulnerabilities and known health disparities – this air permit will never ever create any health impacts. We are not sanguine about that statement. It does not match the facts about the cumulative impacts of this cocktail of chemicals used in the fracturing process, the VOCs, particulate matter, HAPs, and radon released, taken together and continuously ingested by humans, animals, plants; released into the air, settled into our water supplies, and percolating into our soil – and their cumulative impacts on individual health of each species exposed.

DEQ Air Division staff informed us their suggestions for BACT and their modeling are based on an EPA-generated list of field studies on compressor stations that is updated only every five years. In fracked gas studies 5 years is a veritable lifetime since fracking and its infrastructure development has exploded in volume in that time span. None of the 17 studies DEQ used as data involve compressor stations of the size proposed for CS 2, we are told, and therefore, it was necessary to spend hundreds of hours on modeling by DEQ staff. I asked if they had read the annotated bibliography compiled, published, and made accessible for free by Physicians for Social Responsibility and NY Concerned Health Professionals each year for the last five years. This year's -- 2018's Fifth Edition -- comprises 1300 independent scientific studies on fracking and its infrastructure and health impacts, of which most studies are very recent (2016, 2017), not outdated as those used by EPA list.² "No," I was told. They use the EPA list only.

DEQ reported to us, people impacted by the CS 2 site, the hundreds of hours of modeling they conducted for the ACP CS 2 and to analyze the data. None of this time was or will be paid for by Dominion, but by us, Virginia taxpayers. They are proud of that expert time, care, and attention spent because they believe they cannot deny a permit, only try to make it better.

Yesterday, we learned of the 4 times DEQ Air Division staff "rejected" Dominion's CS 2 air permit for Union Hill, telling Dominion staff to improve it, and how exactly to do so, with greatest detail. We on the ground will tell you that our local Board of Supervisors, we impacted people, our experts, have not profited from those thousands of hours of taxpayer funded expert

¹ <http://www.pfpi.net/secret-fracking-chemicals-threaten-delaware-river-basin-pennsylvania>

² Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking, 5th Edition, 2018.

<https://www.psr.org/blog/resource/compendium-of-scientific-medical-and-media-findings-demonstrating-risks-and-harms-of-fracking/>

DEQ staff time to work closely with us on how to ensure the rejection by FERC of ACP's so flawed, incomplete, and false site data that totally erased CS 2 site information demographics and cultural history. Nor did we receive DEQ staff expertise to counter the Dominion's equally flawed, incomplete and misleading special use application, nor did DEQ staff employ their expertise to outright "fail" DEQ's first air permit filed in 2016. This despite Dominion reps' claims to Union Hill residents in meetings that their over 100-year history of building compressor stations and maintaining them has resulted in their being looked up to as leaders in this field. Why, if they can't write a passing air permit without years of our taxpayer support?

Mike Kiss, the DEQ air modeling expert who spoke with us yesterday, admitted it was "misleading" for Dominion representatives to over and over reiterate in the CS 2 special use permit process to the Buckingham Planning Commission and then Board of Supervisors that CS 2 will only have a "blowdown" once every five years. Because no one from the DEQ with their 20+ and 30+ years of expert knowledge was there to correct them, Dominion's "word" over-rode all of our citations of operational compressor stations that proved them wrong. Which then and now calls into question their right to expert status after 100 years of building compressor stations. Do we call this lying or deliberate misinformation? No matter, Dominion received their special use permit in an A1 Agriculture Zone, against our county Comprehensive Plan to protect farmland.

This comment asks you to consider what constitutes "expertise" then in your analyses of our comments, of DEQ's, of Dominion's? For, whoever is given "expert" status at every level of this permitting process and what constitutes factual, credentialed evidence are the central questions at stake in your decision-making. Is it an outdated EPA list of studies or 1300 of the latest independent science on fracked gas compressor stations as recent as 2018? Is it Dominion's claim that there are 29.6 people per square mile at the CS 2 site or is it a door-to-door household study over a one-year period of 99 households with a 76% response rate that finds a 600% higher population?

Dominion was given years of access to the Buckingham Board of Supervisors to supply misinformation about blowdowns, health impacts and jobs that already have not materialized in Buckingham. While each of us – the public, expert and impacted -- had 3 minutes to make a public comment in each local hearing, and never received a single direct response from BoS members about our many expert written comments that refuted Dominion's application "facts," pointed out their gaping omissions of necessary BACT and construction details. We pointed out many of the problems with Dominion's first air permit application we are now are told DEQ has worked years to try to solve. Some are not solved or solveable, as seen below in the list of expert comments and questions that remain unanswered about this air permit and its site.

By the amount of time spent by DEQ to "improve" the air permit, you can get a sense of how numerous and accurate were our expert objections over-ruled by the "expert" status given to any statement made by a Dominion representative to our local BoS instead. With 91 total public comments, 4 for and 87 against, the BoS unanimously approved the special use exemption for CS 2 in an A1 Agricultural Zone. A permit allowing a 54,000 hp (up to 57,000 in winter), metering and regulatory station, 125 ft. wifi tower, 3 above ground storage tanks at a 68-acre complex where the new ACP pipeline would intersect underground with the existing 4-pipeline Transco corridor in the middle of a huge wetlands where 100% of the drinking water is from individual wells close on every side of that complex.

We have all had to become citizen scientists. And, yet, when we give factual evidence, our data has not the leverage of the corporate applicant no matter how incomplete, in error, or even false.

Site Unsuitability: Environmental injustice, existing health conditions, social and economic costs to be paid by individuals and communities not ACP LLC

Far more concerning, if that is possible, from an environmental racism perspective, is the siting of the only Virginia ACP compressor station in a majority African American community, whose very existence, name, population, race, and former slave history has been erased from all ACP applications and reports, and from FERC's Final Environmental Impact Study-FEIS. As the person who designed, oversaw, analyzed and provided evidence to partners, including Friends of Buckingham's legal representative, Southern Environmental Law Center-SELC, and in public comments at every step of the permitting process for this CS 2 compressor station, for the ACP to FERC, to DEQ and Water Control Board, I provide evidentiary details below.

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-20th Century and 19th 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).

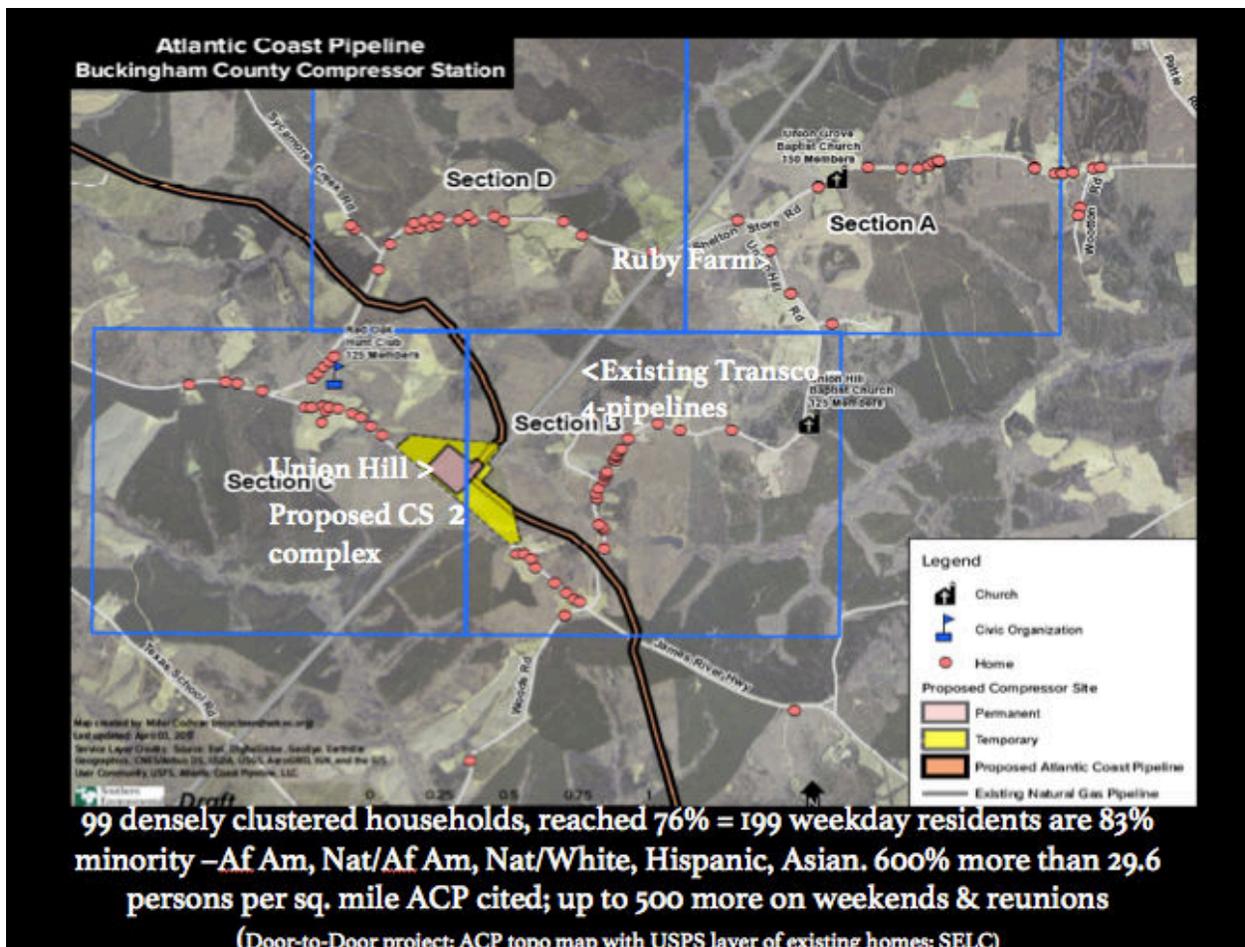
- ❖ The Union door-to-door household study of Union Hill designed and conducted by Dr. Lakshmi Fjord (UVa, Dept. of Anthropology) began in August 2016 to uncover the actual 1-mile radius demographic and historic data for the CS 2 site has had 3 stages for a total of 4 months, and ending Sept. 4, 2018. 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 (CO₂), methane, and nitrous oxide (NO_x); volatile organic compounds (VOCs); and particulate matter with an aerodynamic diameter less than or equal to 2.5 microns (PM_{2.5}). These air pollutants are known to increase the effects of asthma³¹ 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 locate compressor stations 200 miles apart, non-industry standard;
- ii. to have shut off valve distances at 14.7 miles apart at this site, which is not Pipeline Hazard and Safety Administration-PHMSA standards for this population size but for a “sparsely populated” site;
- 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 the aquifer shared with that wetlands, from individual water wells. In FERC FEIS: “The EPA defines a sole source aquifer or principal source aquifer area as one that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer, where contamination of the aquifer could create a significant hazard to public health, and where there are no alternative water sources that could reasonably be expected to replace the water supplied by the aquifer (EPA, 2016a).” Yet, despite public knowledge that Union Hill and Buckingham generally has no access to municipal water, has only individual wells for 100% of their water, FERC FEIS states: “There are only two EPA-designated sole

source aquifers in Virginia, but neither is in proximity to ACP facilities” (ACP FEIS 4.3.1.2 Sole Source Aquifers 4-78).

- vi. Where adverse visual effects from a 125 ft. wifi transmission tower and a metering and regulatory station were suddenly no problem. The CS 2 is all at once NOT sparsely populated, not rural.
“AC 2 FERC FEIS: Visual Impacts: 4.8.8.3 Aboveground and Ancillary Facilities 4-422 “The Compressor Station 2 is in a more populated area of Buckingham County that may be visible to more residents. However, the compressor station is located near previously developed residential and commercial areas and is consistent with the existing visual conditions in the area.”
- vii. where A1 agricultural zoning was exempted for heavy toxic polluting new industrials complex;
- viii. where there is scarce internet access, yet ACP will build a 125ft. wifi tower with lights that will interfere with the night sky. At local special use exemption public hearing for wifi tower, Dominion would not consider request by Union Hill community members for access to wifi -- as the only community benefit;

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

- ❖ Erase 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.

- ❖ 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.
- ❖ 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?

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:

1. 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.
2. 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.**
3. 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.

4. 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.

5. 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, we want it to be a state mandated emission concern. Because 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. Dyrzka'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?

Local Emergency Response Capacity – it matters to emissions issues

20. 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?
21. 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?
22. 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

23. 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?
24. **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?

Increased Gas transmission and emissions without community knowledge?

25. Could ACP increase the amount of gas compressed in the BCS in the future without additional air permitting?
26. Can increases in Transco gas compression in Buckingham move through the compressor without being regulated in an air permit?
27. 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?

Respectfully submitted,
Lakshmi Fjord, PhD.

Resources for the Air Control Board on fracking and health impacts

Physicians for Social Responsibility-PSR, Philadelphia has designed an innovative training event on fracked gas and its health effects. The event is a “speed learning” event using the PechaKucha technique of multiple, extremely brief presentations: 20 images at 20 seconds each.

As the event will be live-streamed, I urge you to sign up now and tune in to the event, Saturday, October 13, 9 am – 4 pm eastern time. and registration:

- Website (<https://www.psrphila.org/pa-health-check-up-series>)
- Registration Form (http://weblink.donorperfect.com/pa_health_checkup1)

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[All Cvllle People’s Tribunal publications, testimonies, and videos available at: vapeopletribunal-humanrightsenvironmentaljusticeimpactsfrackedgas.com]

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PHMSA - Pipeline and Hazardous Materials Safety Administration, <https://www.phmsa.dot.gov/>