

Critical Unanswered Questions about ACP/Dominion Energy's Union Hill Compressor Station
For four years, we have tried to get state agencies to answer key questions:
here are 106 unanswered questions

PART 1: Technical Questions for the Air Permit and Permitting Process

Emissions

1. How high are the peak hourly emissions for Hazardous Air Pollutants (HAPs) and Volatile Organic Compounds (VOCs) at Buckingham Compressor Station (BCS)? Minor source is based on annual emissions which are an average but peak emissions can really impact health!
2. Emissions during blowdowns occur in large concentrated plumes of methane and co-pollutants. How much of the emissions from the compressor station will remain in the Union Hill and Woods Corner neighborhoods, and how much will travel beyond? With schools are within 10 miles of the compressor station, how will our children be protected?
3. How far away will pollution from BCS extend and in which direction is it most likely to be carried based on wind and other patterns?
4. According to project description on the Virginia Department of Environmental Quality (DEQ) website, the estimated effect on air quality near the facility from the proposed project is that all emissions will comply with all applicable ambient air quality standards. 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 is allowable?
5. Sulfur Oxides (SO_x) and Hazardous Air Pollutants (HAPs) emissions seem to be higher in the 2018 permit application when compared to 2017 estimates. How can it be best available technology (BACT) if equipment replacement increases these dangerous emissions?
6. Since the recommended distance between compressor stations is usually less than 100 miles, why is the distance between ACP/Dominion Energy compressors so great, particularly since it concentrates dangerous pollution in the Union Hill and Woods Corner neighborhoods?
7. Why does BCS in Virginia have higher emissions than the ACP compressor stations in West Virginia or in North Carolina? Could the spacing of the stations be regularized to not place the greatest risk at Union Hill?
8. Given that industry standard is to have compressor stations at shorter intervals, distributing risks and hazards more evenly over transmission distances. How does ACP/Dominion Energy 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 stations?
9. Given the fact that ACP/Dominion Energy has not accurately recorded the actual population living next to the BCS site, how will DEQ address the fact that the low population number used (29.4 people per square mile) allows ACP to use up to 75% less heavy pipes and 500% longer shut off valve distances? For air emissions at BCS alone, that means far greater blowdown contents between shut off valves or 15.6 miles apart.
10. Since greater emissions reductions have occurred at other compressor stations, how can the proposed plan for Union Hill be argued to be BACT?
11. Dominion Energy has expanded other compressor stations after permitting and construction. Can we anticipate that this compressor station will be expanded in the future?
12. 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?
13. 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 and more. 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? Does analysis of BACT take into consideration at-risk populations?
13. Given that particulate matter (PM) causes respiratory damage and there are technologies available to scrub PM from air emissions, how can ACP/Dominion Energy claim BACT if not scrubbing PM?

14. The air permit application and draft air permit do not discuss exact levels of 30+ Hazardous Air Pollutants (HAPS) but do show they will be emitted from BCS. How can we be confident in DEQ protecting our public health if benzene, toluene, etc. and other HAPs known to cause harm to humans are not limited and are tons of HAPs are allowed to be emitted each year?
15. Residents living proximate to compressor stations often report headaches, dizziness, nosebleeds, skin rashes and other concerning symptoms. The DEQ report states that anticipated pollution will not be not harmful to human health because it is within limits, which is also true for other dangerous compressor stations where people are sick. How can you assure us we will not suffer negative health impacts?
16. Could ACP/Dominion Energy increase the amount of gas compressed in the BCS in the future without additional air permitting?
17. 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?
18. 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?
19. 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?
20. 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?
21. Please provide an analysis of the long-term effects of the interaction on the human body of all the emissions that will be released constantly and more so during the blowdowns? Many residents are not able to change residences and will be constantly exposed over many years for 24 hours a day every day of our lives.
22. The state measures National Air Ambient Quality Standards (NAAQS) in annual levels, but the blowdown events ACP/Dominion Energy has in their 2018 air permit application release acute emissions over shorter periods. How can nearby residents be assured their health is being protected when state measurements and regulations are not targeted at the specifics of the actual health risk?
23. How many total blowdowns per year, including all compressors, will there be? We never hear the same number twice for the expected number of blowdowns and discussions with other communities with existing compressor stations revealed that blowdowns occur far more frequently than it appears this permit anticipates.
24. What will be the procedure for providing warnings for scheduled blowdowns? 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?
25. From the discussion of the BACT analysis in the permit application, it appears that DEQ has relied on the top-down analysis conducted for other (smaller) sites. Shouldn't DEQ have required the applicant to conduct a fresh top-down BACT analysis since BCS is a larger source than the other compressor stations evaluated for BACT?
26. The SOLAR manufacturer for the compressor turbines 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?
27. Since the new technology ACP/Dominion Energy 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?
28. At least one of the SOLAR turbines has demonstrated successful use of catalytic combustion technology. This technology has the potential community benefit of reducing the risks associated with the ammonia injection. Did the BACT analysis consider the use of catalytic combustion technology?
 29. Why is it considered appropriate to use Occupational Safety and Health Administration (OSHA) work standards to apply to people exposed in homes? Since most people spend more than 8 hours in their homes each day, how can this be considered a relevant metric to assess home exposure?
 30. ACP/Dominion Energy's BACT claim 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? Methane is 86% more damaging to protective ozone than carbon dioxide. How does DEQ plan to require ACP/Dominion Energy to accurately measure as well as to eliminate the release of methane into our community?
 31. In the face of a climate change crisis, how can DEQ permit the BCS to release nearly 80 tons of methane per year?
 32. Is there the possibility of methane leaking from the BCS or surrounding infrastructure that is unaccounted for in the permit application?

Timing and Format of Permitting Process

33. Why do you not provide more time for public comment since impacted communities do not regularly have internet access when large permit documents are stored as web files? Can you not provide summary tables or other education materials to make content more accessible to impacted communities?
34. Will you extend the comment period for another 30 days beyond September 11 so we have additional time to review documents and prepare comments?
35. 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.
36. What is the timeline for the public comments to be provided to the Air Pollution Control Board (APCB)? When will the APCB public comments be made available?

Monitoring and Compliance

37. Why do impacted community members have to carry the burden of baseline testing? Will the state compensate residents for the time and money we are investing in baseline testing, since DEQ has not done this necessary work?
38. 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?
39. How will we know all of the relevant information is being shared with the public in a timely manner? Polluting companies and state agencies have a checkered history in terms of transparency.
40. Does DEQ plan to establish fence-line monitoring systems to notify local residents when air pollution levels from BCS are unsafe?
41. How do monitoring and compliance systems involve impacted community members and use local knowledge to make our system more robust? How can we be assured ACP/Dominion Energy will not be allowed to create a sub-par evacuation process or one that does not fit our rural challenges?

PART 2: Questions Not Covered in the Air Permit Application or Draft Permit

Population

42. Why did Federal Energy Regulatory Commission (FERC) and DEQ not use the actual numbers of homes and residents of Union Hill in BCS permitting applications?
43. Now that it is public knowledge that there are hundreds of people and former Slave and Freedmen historical sites requiring state protection, how will you rectify your earlier errors?
44. Why is the BCS compressor station with the highest level of toxic air emissions of the three state-based compressor stations located in the middle of the Freedman community of Union Hill? In draft air permit, it cites Union Hill's "above normal ambient air quality" as the reason. Are people paying a price for being good stewards?
45. Union Hill community highly values its nonindustrial character. It is a quiet, suburban level populated, forested area, with clear night skies and ample wildlife. Descendants of people enslaved here have strong cultural ties to land purchased after freedom. Have former slave and Freedmen cultural practices, such as Black church homecomings and family reunions, been factored into health impact assessments of numbers of people directly impacted by BCS air emissions? Especially when all too frequent blowdowns will occur at the BCS site in this neighborhood?
46. Why are two of three ACP compressor stations in predominately African American neighborhoods and all three are in areas with disproportionately high poverty?
47. Dozens of families in the impact area of BSC have daily connection to lands once part of a familial complex of slave plantations. Local Freedman families have evidence of seven generations of continuous habitation in Union Hill. Since the pipeline infrastructure does not actually cross the land owned by many, they will not receive any compensation for their losses. What is being done to ensure that these families' quality of life and safety will allow them to continue to live in the area for generations to come without loss of health or wealth?

Historical Sites

48. Native Americans historical sites and artifacts will be disturbed with the construction of the Atlantic Coast Pipeline and potentially the Buckingham Compressor Station. Since these lands and histories have never been recognized by Virginia due to inadequate state and federal effort to document Native American claims in this area, how will you ensure that important history is protected?
49. FERC and subsequent DEQ consultation practices violated international norms for Free, Prior, and Informed Consent (FPIC) of Native Americans based on the United Nations Declaration on the Rights of Indigenous Peoples. How will adequate consultation with the descendants occur?
50. The only archaeological excavation of Native American sites in Buckingham took place at the James River at Wingina. However, University of Virginia archaeologists noted the large distribution of sites they could not undertake, as well as the hundreds of years of artifacts recorded by amateur collectors. The Advisory Council on Historic Preservation (ACHP) in a letter to FERC called for far more pre-colonial and antebellum archaeological study of Buckingham's sites at the James River and Union Hill before ACP construction. Can you explain how state agencies are confident in the historical records presented by ACP/Dominion Energy when there have never been adequate state ethnographic, anthropological or archeological studies in this area? How will we avoid the near total erasure of both pre-colonial and antebellum histories in a key site of Virginia and U.S. history?
51. To ensure that history is preserved, how will the exact number, location and historical period of each of the dozens of burial grounds and cemeteries in 1.2 mile radius of the compressor station be recorded?
52. A Buckingham County slave burial map was first created in the 1930s under the Works Progress Administration, and Buckingham Historical Society members noted that at least 50 more than the hundreds surveyed are yet to be surveyed. This includes a more than 100+ unmarked slave burial ground on the former Variety Shade Plantation land. We know by red dots on this map that in the 68-acres purchased by ACP/Dominion Energy for the BCS site,

there are numerous slave burial sites. Why have state agencies not required that 68 acres to have a cultural resource report filed?

53. How will the historically segregated African American schools in this part of Buckingham be recognized and protected? Why these have not received state recognition like those in other parts of the Commonwealth?

Liability and compensation for damages

54. Farmers have reported a current gas leak in the existing Transco 4-pipeline corridor in Union Hill. Has Transco reported that leak to state agencies? How often have such leaks on the Transco occurred?
55. Local residents are concerned that Transco paid no liability or damages fines directly to families whose homes were destroyed or damaged by the explosion in Appomattox County next to Buckingham County. What protection will be provided to us if the compressor station causes damage?
56. Buckingham County is a low medical-resource county. There is a clinic with a part-time doctor. Residents have to travel to Charlottesville or to Farmville -- long distances -- by ambulance in emergencies. Everyday healthcare requires driving long distances, at high costs, for this underserved, high poverty populations already. ACP/Dominion Energy denied a request by the Buckingham Planning Commission to set aside a bond to pay for the costs of health impacts from BCS. If the compressor station makes us sick or sicker, how will the state ensure we get the health services we need?
57. Mental health services are inadequate in our rural area. Now, given the additional stress and pressure already expressed by nearby residents about the threat to the health, quality of life, value of their land for themselves and future generations posed by compressor stations, how will we obtain enough social workers and psychologists to provide mental health services to this most vulnerable population? How will the state support those cannot afford these services already and if built, these additional social and monetary costs of ACP/Dominion Energy's new infrastructure constructions and operations here?
58. 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 ACP/Dominion Energy or Williams Transcontinental (Transco)?
59. We have been told that our home insurance premiums will not increase because we live in the blast zone of the compressor station. We have ample evidence from other communities already proximal to pipelines and compressor stations that homeowners' insurances companies are dropping customers at these sites? What recourse will we have if they do increase or if our insurance carriers drop our coverage?

Risk Assessments

60. Since Quantified Risk Assessment (QRA) is the best available management practice in instances of social vulnerability and risk of exposure, given the high of economic and political marginalization in Buckingham, isn't a QSA called for?
61. If a Comprehensive Health Impact Assessment (CHIA) has not been conducted, how did DEQ assess existing health conditions and numbers of persons in close proximity together with air modeling at BCS?
62. If state agencies have not looked at risks comprehensively, how can DEQ and other agencies assure Buckingham residents that the benefits outweigh the risks? Why not use known medical science to prevent known public health impacts of large compressor stations before issuing ACP/Dominion Energy's BCS air permit for public comment?
63. Why is the intersection of the existing 4-pipeline Transco corridor at BCS not placed at the forefront of the risks and hazards uniquely faced by the people of Union Hill? Given the then quantitative higher risks and hazards of leaks at this site alone?

Energy Poverty

64. The ACP and the BCS, if built, would not create energy access in Union Hill or Buckingham generally. Instead, BCS would contribute air and water pollution raising health costs paid by local residents. How will the state address this inequity?
65. On the basis of poverty alone, what does the state plan to do to address the fact that many in Union Hill and Buckingham live in energy poverty, defined as unable to cover basic utility provision? Union Hill's population is predominantly elderly and the very young, the most vulnerable to high heat and cold conditions. A door-to-door household study around BCS showed residents have pre-existing health conditions but 55% of the population responding could not afford air conditioning. How will the state consider the inequity of highest environmental impact costs per capita of the ACP on a National Environmental Policy Act (NEPA), majority black, impoverished community?

State Water Control Board

66. Will the State Water Control Board consider impacts to the wetland on the site of the BCS? If not, who is responsible?

Economics

67. We did not choose to live in an industrial area and our community is not zoned for such use. However, the Special Use Permit allows this industrial equipment to be placed in our community. How will our property values be protected? How can we be assured that this is not the start of a permanent change in use?
68. Has state agencies considered the dropping values of property in this community? The latest sales involved far lower market values than before ACP's plans for BCS.
69. Economists document that existing pipelines can provide more capacity and will transport gas three to eight times cheaper than can the Atlantic Coast Pipeline. Why are we not using the most cost effective means?
70. The presence of the compressor station in our community will affect current clean and sustainable economic uses of our property. Construction of BCS and daily operations will impact raising cattle and other domestic animals, growing crops, our kitchen gardens, a yoga teaching and retreat center of Yogaville, with a large resident and over 10,000 annual visitors seeking peace and spirituality. Future plans already foreclosed in this neighborhood include a greenhouse business and a small winery. We ask DEQ to consider and weigh in the balance ACP/Dominion Energy's desire for profits for shareholders' benefits not Virginia utility consumers. Do our investments in good quality of life and future economic prosperity have to be sacrificed?
71. How is the state ensuring that our community is not economically damaged by this infrastructure and that it will be economically sustainable in the future?
72. When renewable and alternative energy is sited on property, landowners get monthly lease payments. Instead, properties crossed by pipeline receive a one-time easement payment. How much income could landowners receive if this land was used for solar infrastructure?

Renewable and Alternative Energy

73. How many solar jobs and how much energy could be produced if the money invested in the BSC was invested in solar infrastructure instead?
74. We ask DEQ to support the Union Hill solar projects. What can DEQ do to ensure inequity in energy burdens (i.e., toxic exposure) changes to equity in access to income producing renewable energy?

Baseline Testing

75. We saw that in December of 2016, the Office of Environmental Health & Safety (OEHS) made a clear recommendation to DEQ to do baseline testing of well water and septic fields along the length of the ACP. Why was that not done?
76. Does DEQ know that 100% of drinking water, all water, is from individual wells in almost every part of Buckingham, including Union Hill? Has DEQ assessed the distance of these

wells to underground aquifers where the ACP plans to intersect with the existing 4-pipeline Transco underground in a large wetlands?

77. We also saw that in October of 2017 that VA Department of Health (VDH) recommended to the DEQ to do surveys for both the ACP in karst topography of wells and surface water. Why was that recommendation not accepted and followed through? Geologic reports for the James River where ACP/Dominion Energy plans to horizontal drill underneath the river find “karstic rock features” and a seismic faultline. As this site is very close to the ACP’s BCS site and the James River is a major river basin and primary water source, what has DEQ done to assess the hazards and risks of these two interlinking major ACP infrastructure sites?
78. Will DEQ conduct baseline testing of well water, surface water, air, and noise? If so, when? Shouldn’t it be done in every season of a year to be most accurate?

Local Emergency Response Capacity

79. Has the facility prepared a Spill Prevention Contingency and Countermeasure plan for the tanks and have they shared the SPCCs with the local emergency planning agencies?
80. What plans have been made for local emergency responses?
81. When will we see evacuation plans?
82. 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?
83. How will ACP/Dominion Energy use local knowledge of limitations in emergency response to make our system more robust? How can we be assured they will not be allowed to set a standardized evacuation process that does not fit our local challenges and characteristics?
84. 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 ACP/Dominion Energy’s promised evacuation plans are inadequate to assure public safety?

Necessity

85. Are you convinced of the necessity of the ACP when there are existing pipelines that could carry this gas and they were not adequately explored, according to FERC Commissioner Cheryl La Fleur?

Noise

86. We have seen documentation of compressor stations of the same size and same general equipment as BCS generating 90 decibels of noise during blowdowns. How can you assure BCS noise levels will stay below the 55 decibels permitted?
87. Dominion representatives repeatedly tell the press residents will not even notice the noise of the compressor. On what evidence is this based?
88. Please provide us with studies documenting the long term health effects of long-term exposure to permitted noise levels of 55 decibels.

Property Rights and Eminent Domain

89. People in our community have eminent domain court proceedings scheduled for 2019. Can they be assured they will have fair access to all levels of the courts before ACP and BCS construction?

Waste

90. Gas from Marcellus shale has been recorded to contain higher than average amounts of radioactive materials. These radioactive materials and other pollutants end up in the waste from pigging operations done on site at Buckingham. What is the protocol for measuring, storing, and disposing of the toxic waste from the approximately 10 pigging operations per year in the BCS permit?

91. We have been told the BCS construction and ACP construction will require significant water and that the produced water or wastewater containing pollution will be trucked out of Buckingham. Where is the water coming from?
92. Where will waste water from construction activities be taken and dumped?
93. How many water trucks will Buckingham residents need to anticipate on our roads during construction?
94. What are the plans to monitor and control particulate matter pollution from truck construction traffic and other construction activities?

Recordkeeping and Transparency

95. Why are we the last to find out what will happen in our neighborhood? Why do we have to rely on Freedom of Information Act requests to get the real story?

Staffing/Security

96. Given that wi-fi transmission is unreliable in Buckingham, how can Dominion claim use of 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?
97. 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?
98. Can the APCB approve the permit when there does not appear to be a Special Use Permit (SUP) for the stacks?
99. How is it possible for DEQ to go forward with compressor station permit hearings with the uncertainty that exists regarding FERC's certificate?

Transco Pipeline

100. Many gas industry reports, and even FERC Commissioner LaFleur, argue the ACP is unnecessary and redundant. If the ACP is canceled due to market shifts or regulatory shortfalls, would the BCS still be built to move the increased gas that is expected with the expansion of the Transco pipeline?
101. Can increases in Transco gas compression in Buckingham move through the compressor without being regulated in an air permit?
102. 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?

Ammonia Tanks

103. The size of the ammonia tanks on the BSC site have increased from 8,000 gallons to more than 13,000 gallons. How does DEQ assure the safe handling of this dangerous material?
104. What relation has this ammonia storage to the Control Board hearings on ammonia set for September 11 & 13?

Electromagnetic Radiation

105. Microwave communication towers impact health due to electromagnetic radiation (EMR). What documentation can you provide us on the effects of exposure on nearby residents from microwave towers like that proposed at BCS?

Uncertainty and Foreboding Fear

106. Every time Buckingham Board of Supervisors has a meeting, do you know we wonder what new pipeline-related surprise we will face? Every low flying helicopter and construction crew invading our quiet neighborhood creates a sense of dread and fear that means our quality of life has already diminished.