

Distribute to all Planning Commission Board of Zoning Appeals members for meeting

On December 3, 2018

I am Suzanne Latchford and I live at 154 White Cedar Rd., Barboursville, VA and I own the property at 8 Starvale Lane, Shipman, VA. My property adjoins 1434 Starvale Lane, Shipman, VA, owned by Gills Rodgers, Tax Map #46-A-34 which Atlantic Coast Pipeline LLC(ACP LLC) is seeking a variance, #2018-008, to construct a pipeline in a flood plain area.

Many of you remember, Hurricane Camille which dumped over 30 inches of rain in 1969 devastating Nelson County with loss of life, property and extreme flooding never seen before in this region. At that time, we thought this hurricane was once in a century; however, today we know that is not true anymore. The Fourth National Climate Assessment (NCA4) report, <https://nca2018.globalchange.gov/> was released on November 23, 2018 produced by 13 federal departments and agencies. A team of more than 300 federal and non-federal experts including individuals from federal, state, and local governments, tribes and Indigenous communities, national laboratories, universities, and the private sector volunteered their time to produce the assessment. Participants included decision-makers from the public and private sectors, resource and environmental managers, scientists, educators, representatives from businesses and nongovernmental organizations, and the interested public. The findings in this report are based on an assessment of the peer-reviewed scientific literature, complemented by other sources (such as gray literature) where appropriate. In addition, authors used well-established and carefully evaluated observational and modeling datasets, technical input reports, and USGCRP's sustained assessment products.

The report finds that the continental United States already is 1.8 degrees Fahrenheit warmer than it was 100 years ago, surrounded by seas that are on average nine inches higher and being racked by far worse heat waves than the nation experienced only 50 years ago. But those figures offer only the prelude to even more potentially severe impacts. The report suggests that by 2050, the country could see as much as 2.3 additional degrees of warming in the continental United States. However, the assumption that current and future climate conditions will resemble the recent past is no longer valid. Higher sea levels will also cause storm surge from tropical storms to travel farther inland than in the past, impacting more coastal properties and infrastructure.

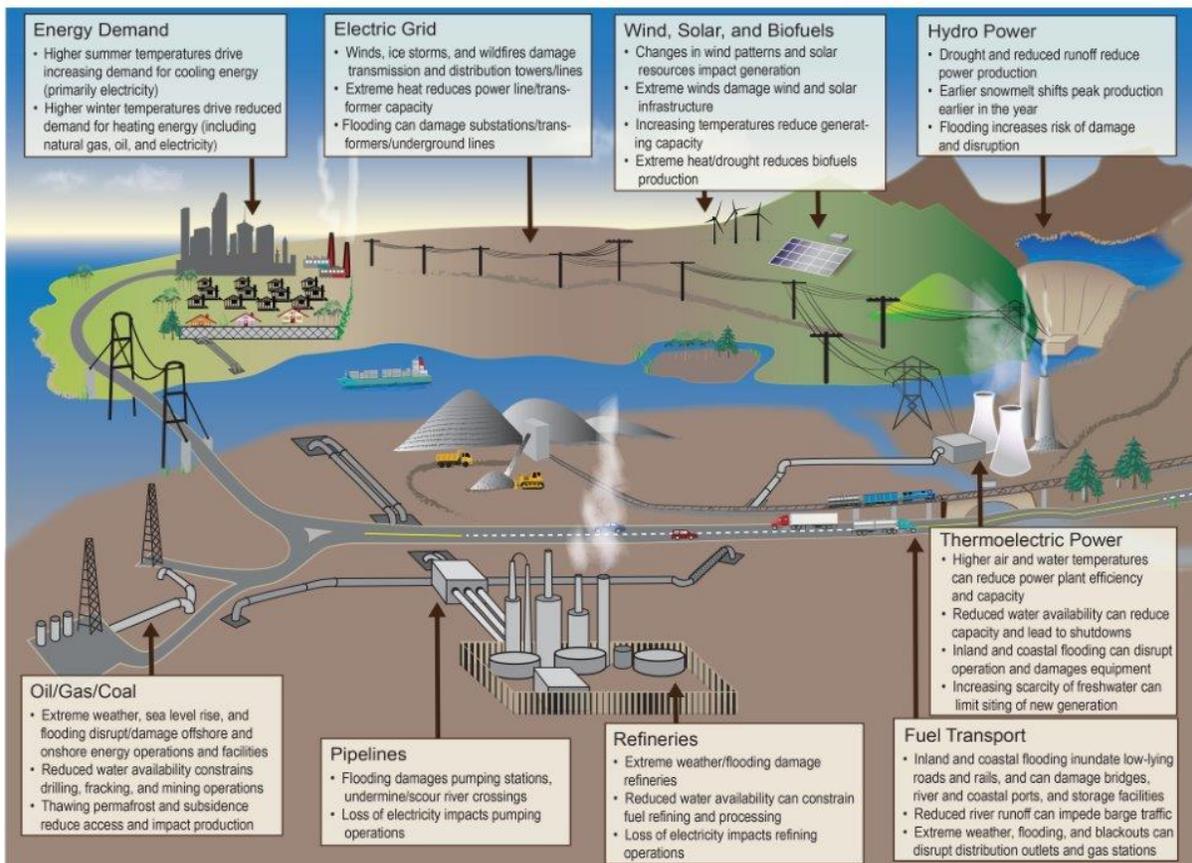
Climate change is an issue of great importance for rural communities. Rural populations are the stewards of most of the Nation's forests, watersheds, rangelands, agricultural land, and fisheries, and much of the rural economy is closely tied to its natural environment. Thus, rural residents and the lands that they manage have the potential to make important economic and conservation contributions to climate change mitigation and adaptation. However, rural residents are also highly vulnerable to climate change effects due to their economic dependence on their natural resource base, which is subject to multiple climate stressors, [Ch. 2: Climate](#). Migrant workers, who provide much of the agricultural labor in some regions and some enterprises, are particularly vulnerable. Climate change has already had direct impacts on rural populations and economies and will inevitably have repercussions for rural livelihoods and prosperity in the future.

The sectors and systems subject to climate-related risks do not exist in isolation; they interact with one another and with other sectors and systems. For example, agricultural systems require water for irrigation, which is supplied from lakes, rivers, dams, and reservoirs. Forest management influences the runoff that makes its way into these water systems. These behaviors, in turn, raise the prospect of unanticipated, and potentially catastrophic, risks. For

example, failures can cascade from one system to another; that is, failures in one system can lead to increased risks, Ch. 17: Complex Systems.

Most models agree that climate change through the 21st century is likely to increase the average intensity and rainfall rates of hurricanes in the Atlantic and other basins. First, the ability of four hurricanes, Harvey, Irma, Jose, and Maria (Figure 2.9) to rapidly reach and maintain very high intensity was anomalous and, in one case, unprecedented. This is consistent with the expectation of stronger storms in a warmer world. All four of these hurricanes experienced rapid intensification, and Irma shattered the existing record for the length of time over which it sustained winds of 185 miles per hour. As demonstrated recently, Hurricane Florence was projected to travel through Central Virginia dumping 20-30 inches of rain; however, atmospheric conditions stalled it out primarily in NC.

In Chapter 4, Energy Supply, Delivery and Demand- Energy systems and the impacts of climate change differ across the United States, but all regions will be affected by a changing climate. The petroleum, natural gas, and electrical infrastructure along the East and Gulf Coasts are at increased risk of damage from rising sea levels and hurricanes of greater intensity. The principal contributor to power outages, and their associated costs, in the United States is extreme weather. Extreme weather includes high winds, thunderstorms, hurricanes, heat waves, intense cold periods, intense snow events and ice storms, and extreme rainfall. Such events can interrupt energy generation, damage energy resources and infrastructure, and interfere with fuel production and distribution systems, causing fuel and electricity shortages or price spikes.



See above Figure 4.1, Legend: Extreme weather and climate change can potentially impact all components of the Nation's energy system, from fuel (petroleum, coal, and natural gas) production and distribution to electricity generation, transmission, and demand.

In reference to Pipelines it reads:

- Flooding damages pumping stations, undermine/scour river crossings
- Loss of electricity impacts pumping operations

Many extreme weather impacts are expected to continue growing in frequency and severity over the coming century affecting all elements of the Nation's complex energy supply system and reinforcing the energy supply-and-use findings of prior National Climate Assessments. Extreme rainfall (including extreme precipitation events, hurricanes, and atmospheric river events) can lead to flash floods that undermine the foundations of power line and pipeline crossings and inundate common riverbank energy facilities such as power plants, substations, transformers, and refineries. River flooding can also shut down or damage fuel transport infrastructure such as railroads, fuel barge ports, pipelines, and storage facilities.

With the understanding of how our environment is evolving and the interrelationship of systems and sectors, we must abide by our federal, state and local codes, laws and not approve any variances. According to the Code of Virginia, 10.1., Conservation, Chapter 6. Flood Protection and Dam Safety, 10.1-659, "this provision of this chapter shall be coordinated with federal, state and local flood prevention and water quality programs to minimize loss of life, property damage, and negative impact on the environment. This program coordination shall include but not limited to the following: flood prevention, flood plain management, small watershed protection, dam safety and soil conservation programs..."

The Nelson County Zoning Code, Article 10 General Floodplain District FP, 10.2 Applicability states, "these provisions shall apply to all lands within the jurisdiction of Nelson County and identified as being in the 100-year floodplain by the Federal Insurance Administration." The floodplain areas that ACP LLC is seeking variances are identified as being in the 100 year floodplain areas. In addition, ACP LLC will be using an access road, 08-086-A039-AR-1 to enter Mr. Rodgers' property with additional heavy equipment which will further damage the integrity of the floodplain area.

The degradation of critical soil and water resources will expand as extreme precipitation events increase across our agricultural landscape. Sustainable crop production is threatened by excessive runoff, leaching, and flooding, which results in soil erosion, degraded water quality in lakes and streams, and damage to rural community infrastructure. Management practices to restore soil structure and the hydrologic function of landscapes are essential for improving resilience to these challenges.

Maintaining intact floodplains provide the following benefits according to FEMA, <https://www.fema.gov/benefits-natural-floodplains> .

Benefits of Floodplain by Design

Healthy floodplains yield multiple benefits.

A key component of *Floodplains by Design* is maintaining or protecting the valuable services that floodplains provide people and nature. Listed below are some of these benefits.

Flood Protection: Floodplains provide a river more room as it rises, thereby reducing pressure on manmade flood protection structures, like levees and dams.

Improved Water Quality: When inundated with water, floodplains act as natural filters, removing excess sediment and nutrients, which can degrade water quality and increase treatment costs. Degradation of water quality due to the loss of floodplain habitat can be noted along smaller rivers and at-scale at large river basins. At the largest of scales are hypoxic or “Dead” zones, which are areas in bays or gulfs where little life exists due to excess nutrients carried by rivers.

Recharged Aquifers: Outside of a river’s main channel, water flow is slowed and has more time to seep into the ground where it can replenish underground water sources (or aquifers), which serve as a primary source of water for many communities and which are critical for irrigation that grows much of the world’s crops.

Improved Wildlife Habitat: Floodplains are home to some of the most biologically rich habitats on Earth. They provide spawning grounds for fish and critical areas of rest and foraging for migrating waterfowl and birds.

Recreational Industries: Many outdoor recreational activities – like fishing, hunting, camping, hiking, wildlife watching and boating – are made possible by or greatly enhanced by the natural processes of rivers and healthy floodplains.

Also referenced is **Natural Floodplains and Flood Loss Reduction:**

Floodplains provide numerous flood loss reduction benefits as a result of their unique natural functions. Rivers and streams shape floodplain topography and influence riparian habitats and riverine ecosystems. Likewise, the physical characteristics of the floodplain shape flood flows and can provide flood loss reduction benefits to include the following:

Excess water storage: Except in narrow, steep valleys and areas of coastal bluffs, floodplains provide a broad area which allows floodwaters to spread out and temporarily store excess water. This reduces flood peaks and velocities and the potential for erosion. Flood storage is particularly important in urban areas where even small floods resulting from a 5- or 10-year storm can cause severe flood damage. One acre of floodplain flooded one foot deep holds approximately 330,000 gallons of water.

Flow rate and erosion reduction: In their natural vegetated state, floodplains slow the rate at which the incoming overland flow reaches the main water body in the area. Vegetation also reduces shoreline erosion. In coastal areas, beaches, sand bars, dunes, and wetlands act as natural barriers to dissipate waves and protect back-lying areas from flooding and erosion.

Slowing runoff: A natural floodplain has surface conditions favoring local ponding and flood detention, plus subsurface conditions favoring infiltration and storage. Slowing runoff across the floodplain allows additional time for the runoff to infiltrate and recharge available groundwater aquifers when there is unused storage capacity. The slowing of runoff provides the additional benefit of natural purification of water as local runoff or overbank floodwater infiltrates and percolates through the floodplain alluvium.

Flow regulation during non-flood periods: During non-flood periods, groundwater discharge acts to naturally regulate the flow in a river or the level of a lake or pond. In other words, during periods of abundant water, the water can enter the groundwater system whenever there is available capacity rather than contribute to seasonal flood peaks. During low flow periods, the water flows from the higher groundwater system into lower surface waters, so that the frequency and duration of extremely low flows is reduced.

In addition to the above benefits floodplains helps with wildlife conservation, conserving endangered species and reduce insurance rates for the county, businesses and homeowners.

With the changing environmental conditions short term and long term as outlined above, the mandates of federal, state and local laws, the biodiversity of Nelson County and the benefits of floodplains, I do not support granting Atlantic Coast Pipeline LLC variances for #2018-007, #2018-008, #2018-009, and #2018010, to build a pipeline through any floodplains.

Respectively submitted,

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11/30/18