

Comments of William Limpert

I hereby submit these comments in response to the Virginia State Water Control Board's comment period regarding the review of proposed stream and wetland crossings for the Atlantic Coast Pipeline.

The Corps NWP 12 permit's general and regional conditions, authorization for the Atlantic Coast Pipeline, and DEQ's certification of NWP 12 are insufficient for the proposed crossings of an unnamed tributary to Little Valley Run (SBAA024), Little Valley Run (SBAA023), and the Jackson River (SBAA022), and other proposed crossings. Virginia water quality standards will not be upheld at these crossings under the NWP 12 permit, and therefore, Virginia's CWA section 401 WQC for these crossings is invalid.

Please note that I use Mile Posts to designate the stream crossings. I could not locate an identifier for these crossing from the DEQ website.

The tributary to Little Valley Run at MP 93.2 is a losing stream in karst terrain.

Under normal flow conditions it is dry at the proposed crossing location, while sinking into the ground at several locations further up the channel. The channel is very steep. It drops from 3,300 feet elevation at the source to 2,775 feet elevation at the crossing location in 2,800 feet. This stream floods severely, and in the summer of 2015 it did so. Numerous boulders, some exceeding two feet in diameter washed down the channel. Vance Lane, just downstream from this proposed crossing, flooded severely, and was impassible. Heavy construction equipment was needed to repair the road.

Since this would be a crossing in karst terrain the potential for groundwater pollution is significant. Groundwater pollution would pollute drinking water sources in neighboring springs and wells. No one in Little Valley has access to public water. Sediment, toxic fuels, and construction liquids could enter our drinking water. Construction of the pipeline at this proposed crossing could also alter groundwater flow, and reduce, or completely cut off drinking water sources.

These pollutants would also be detrimental to aquatic life in this tributary to Little Valley Run, the perennial tributary to Little Valley Run into which it flows, Little Valley Run, and downstream waters, including Bolar Run, and the Jackson River.

Additionally, and also due to the karst terrain, a sinkhole could open under the pipe at the proposed crossing, and the weight of additional boulders in a subsequent flood could collapse the proposed pipeline, causing toxic liquids from inside the pipe to discharge into the groundwater, and the gas itself to move through the limestone channels and voids. Any subsequent pipeline explosion would also cause catastrophic pollution to the groundwater and our drinking water.

Removal of surrounding trees for this crossing would cause thermal pollution by allowing more sunlight to increase water temperatures by either directly heating the water during times when the stream is flowing, or heating the rocks in the channel which would subsequently heat water in the channel should it start flowing shortly thereafter

following a storm.

Little Valley Run and all of its tributaries, including this one, are tier 2 cold water streams, and support a robust population of Native Brook Trout. Generally, water temperatures above 68F cannot support native brook trout. Increased water temperatures could therefore decrease or exterminate Native Brook Trout, and other cold water species as well from these waters.

If the pipeline crosses this waterway, extreme care must be taken in designing a safe crossing technique. This would require, at a minimum, an on site investigation by a professional engineer trained in stream crossing techniques, and water quality and usage issues. The Corps NWP 12 permit is not suitable or acceptable for this crossing.

The crossing of Little Valley Run at MP 93 is subject to the same karst terrain, steep channel, extreme flooding, boulder deposition, and thermal pollution, but these conditions are even more concerning due to the larger watershed and volume of water. Little Valley Run is a losing stream as well.

Flooding in the summer of 2015 was so severe that it deposited a large field of boulders in the channel about 200 feet downstream from the proposed crossing location. These boulders were as large as 5 feet in diameter. They completely blocked the channel and caused a permanent relocation of the stream channel, which is now 40 feet to the west of the channel location prior to the flood.

Future flooding could cause boulder deposition above the proposed pipeline, and a sinkhole under the pipeline could result in pipe collapse due to the weight of the boulders. This could lead to the same pollution scenario as stated above.

Large landslides occurred in Little Valley during the flood of 2015. One of these landslides occurred directly on the bank of Little Valley Run just 200 feet above the proposed crossing location. This landslide is 40 feet long, 40 feet wide, and up to 5 feet deep.

The proposed crossing location has a very steep west bank that extends about 6 feet above the channel bottom. Just to the west of the channel, and within the floodplain, the ground rises very steeply at an estimated 50% slope. There is visual evidence that this slope previously collapsed, and slid, as the more recent landslide just upstream has recently slid. It is also apparent that the main stream channel of Little Valley Run flowed at the toe of this slope in the past. It is now an "overflow" channel, and carries water during floods. This water runs directly along the toe of this slope, and could cause further sliding.

Sediment deposition from these crossings would be detrimental to water quality and the use of these streams in a number of ways. The negative impacts of sediment pollution are listed below:

- It reduces the number and density of bottom dwelling species as sediment settles to the bottom.

- It smothers and buries fish eggs.
- It buries aquatic vegetation and deprives it of sunlight due to cloudy water.
- It reduces the number of, or eliminates fish species that are dependent on bottom dwelling organisms for food, or plant life for habitat.
- It reduces photosynthesis through water causing reduced oxygen levels.
- It Fills stream channels and culverts, altering stream morphology, reducing the carrying capacity and causing increased flooding. Overbank flooding causes overbank erosion, and additional sediment loads downstream.
- It reduces capacity of municipal and industrial water supply reservoirs.
- It increases amount of filtering needed to clean water prior to domestic or industrial use. Carries nutrients into public waters.
- It reduces aesthetic and recreational enjoyment of public waters.

During the flood of 2015 and again this spring, but to a lesser extent, Little Valley Run caused extensive road damage, and residents were trapped for several days. Extreme high water came very close to flooding the home of Lee and Linda Braurer. Additional sediment deposition and changes to the downstream channel caused the the pipeline crossing could further threaten the road and their home.

Renowned karst specialist William Jones conducted a study of karst in Little Valley in 2016. He found that dye placed in a sinking location in Little Valley Run upstream from the proposed crossing location reappeared in the channel well downstream of the proposed pipeline location. He concluded that construction of the Atlantic Coast Pipeline through Little Valley could “behead” Bolar Spring, a renowned warm spring near the mouth of Little Valley.

Recent dye traces conducted by surveyors for the ACP and Virginia Department of Conservation and Recreation found a likely presence of dye just downstream from Bolar Spring. More dye trace studies are planned.

Even though Bolar Spring is not currently used by the public, it has been in the past, and could become a public attraction again. It is possible that either, or both of the two proposed stream crossing could diminish or eliminate Bolar Spring’s recreational usage.

The Federal Energy Regulatory Commission has stated that the endangered Madison Cave Isopod must be assumed to be present in karst areas, even if it has not been physically observed. They also state that sediment and other pollutants from pipeline construction threaten them, and could kill them. The proposed crossings pose a distinct threat to the Madison Cave Isopod.

The proposed crossing of the Jackson River at MP 91.5 poses even larger risks.

This proposed crossing is not in karst. However, it would be subject to steep slopes, flooding, channel relocation, and thermal pollution. The impacts of the proposed crossings at SBAA024 and SBAA023 would cumulatively impact this crossing. Additionally, National Forest recreational areas, including Hidden Valley, and scenic and heavily used Lake Moomaw are not far downstream, and could be negatively impacted. The Jackson River valley is also home to a number of Bald Eagles and Golden Eagles, and tree removal for the crossing would deprive them of needed riverside perch locations.

The Jackson River is already temperature impaired, and additional thermal impairment could occur due to a poorly engineered and constructed crossing. Thermal pollution would further harm cold water aquatic species, including trout.

Sediment and pollutant discharges at this crossing would harm aquatic species, including trout, and would discourage recreational fishing. The negative visual impact would also discourage hiking along the many trails in the national forest that are along the banks of the river downstream from the crossing location, as well as reduce the scenic value and use of beautiful Lake Moomaw.

All of the proposed ACP stream and wetland crossings are unique in the physical challenges they pose for a pipeline crossing, and the threat to water quality and water usage that they present. Each crossing needs thorough review. Each crossing should be visited by a professional engineer adequately trained in stream crossing techniques, and water quality and water usage issues.

Legal challenges have already shown that review of the ACP was not sufficient, and the environmental degradation that we are already seeing from the just recently started Mountain Valley Pipeline shows that plans and procedures for that project are woefully deficient.

The same will occur on the Atlantic Coast Pipeline unless a thorough stream by stream and wetland by wetland analysis of each crossing is completed by an engineer trained in stream crossing techniques, and knowledgeable about water quality standards, and local water use issues.

In conclusion, The Corps NWP 12 permit's general and regional conditions, authorization for the Atlantic Coast Pipeline, and DEQ's certification of NWP 12 are insufficient for these three specific proposed crossings, and other proposed crossings as well. Virginia water quality standards will not be upheld at these crossings under the NWP 12 permit, and therefore, Virginia's CWA section 401 WQC for these crossings is invalid.

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