East Tennessee Natural Gas Company, LLC **Docket No. CP23-516-000**
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Comments of Southern Alliance for Clean Energy

The pipeline that the East Tennessee Natural Gas Company, LLC (ETNG) is proposing to construct is based on the claim by the Tennessee Valley Authority (TVA) that it needs to replace the Kingston Fossil Plant in part with a combined cycle (CC) gas plant paired with 16 dual-fuel aero combustion turbines totaling 1,500 megawatts of capacity, speciously necessitating the proposed 122-mile fossil gas pipeline. TVA proposed the replacement of the Kingston Fossil Plant with methane gas options on June 15, 2021[1], and firmed up the configuration in a flawed Draft Environmental Statement (DEIS) for the plant released on May 12, 2023.[2]

The Kingston Plant DEIS was found to be inadequate by the US Environmental Protection Agency (EPA) in a letter to TVA on March 25, 2024.[3] The letter specifically stated "Our review has determined that the Final EIS fails to address numerous EPA concerns identified with the Draft Environmental Impact Statement and the lack of transparency prevents us from understanding TVA's treatment of several important issues. Thus, the Final EIS is inadequate. The EPA requests that Tennessee Valley Authority prepare a supplemental EIS in accordance with 40 CFR 1502.9(d)."

TVA did not do this, and instead announced its Record of Decision adopting Preferred Alternative A (the Kingston Plant with some solar and battery storage) *a mere one week later*, on April 2, 2024, indicating clearly that TVA does not recognize any authoritative oversight by the US EPA. Herein, we provide reasons that TVA's Kingston Plant DEIS should not be relied upon as a foundational expression of need for the Ridgeline Expansion Pipeline. Instead, FERC should recognize that the process in this docket is flawed by the very nature of the relationship of TVA to FERC, to the EPA, to ETNG, and to the public.

Our review of the DEIS for this project reveals that the proposed pipeline will expose Tennesseans to an unacceptable level of compounded High Consequence risk due to the level of seismic activity and landslide likelihood along the proposed route. The DEIS is organized in a way that understates, isolates, and camouflages these risks from reviewers, fails to recognize the compounded risks of low-probability, high impact events resulting from multiple projects co-located in a high-risk region, and as such, it should not be relied upon to calculate these risks.

Further, ETNG has not addressed the impact that climate change most assuredly will have on upland construction activities, resulting in greater negative impacts to water bodies than this DEIS anticipates. These concerns have been raised in docket after docket for pipelines proposed in areas with steep slopes (Dominion's Transco to Charleston in the Upstate of South Carolina, the Mountain Valley Pipeline in West Virginia and Virginia), and each time warnings were ignored, approvals were given, and significant environmental impact events occurred. The fact is that there is no amount of erosion protection that can withstand today's climate-fueled rain events.

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[1] https://www.federalregister.gov/documents/2021/06/15/2021-12693/environmental-impact-statement-for-kingston-fossil-plant-retirement

[2] https://tva-azr-eastus-cdn-ep-tvawcm-prd.azureedge.net/cdn-tvawcma/docs/default-source/environment/environmental-stewardship/nepa-environmental-reviews/kingston-retirement/kif-deis-final-compiled-package_tva-site.pdf?sfvrsn=8a7e8c76_3

[3] https://cdxapps.epa.gov/cdx-enepa-II/public/action/eis/details?eisId=456881

I. Background on SACE

The Southern Alliance for Clean Energy (SACE) is a non-profit organization that promotes responsible and equitable energy choices to ensure clean, safe, and healthy communities throughout the Southeast. Founded in 1985 under its original name the Tennessee Valley Energy Coalition, SACE has championed rate-payer protections and tracked the environmental and energy policies of the Tennessee Valley Authority. Now headquartered in Knoxville, Tennessee, SACE has over 30 years of experience as a leading voice calling for smart energy policies in our region that help protect our quality of life and treasured places. SACE has more than 38,000 members and online activists in the states served by TVA who are concerned about: reducing emissions that contribute to extreme weather from climate change; creating jobs and economic development in the clean energy sector; and reducing electric bill burdens through effective efficiency programs. SACE intervened in Docket CP23-516-000 on May 30, 2024, and in Docket CP23-516-001 on July 8, 2024.

II. The DEIS prepared for East Tennessee Natural Gas by FERC is based on a TVA project that lacks transparency and oversight, a fact that should negate the stated need for the project.

TVA has a conflict of interest in this proceeding for two reasons, and the resulting TVA IRP, EIS and Record of Decision for the Kingston Plant should not be relied upon to justify the need for this pipeline project. First, compensation of TVA executives will increase if TVA replaces the Kingston Fossil Plant with a methane gas plant rather than non-combustion alternatives.[4] Second, ETNG requested the opening of a FERC pre-filing docket (PF22-7) for this project on May 6, 2022, stating that the customer would be TVA. ETNG signed a precedent agreement with TVA on August 21, 2021. The Kingston Project is defined in the 2021 Precedent Agreement as a 1,450 MW combined cycle gas plant. This indicates that this project was a foregone conclusion and that the EIS for the Kingston Plant was for show, with no real analytical value, and a waste of TVA ratepayer money.

TVA and ETNG colluded on the project, making a mockery of any notion that the FERC pipeline approval is based upon any degree of market competition that supports claims of "necessity" in the Certificate of Public Convenience and Necessity process. The pre-filing and certificate process dockets at FERC both began before TVA issued their Notice of Record authorizing the gas plant on April 2, 2024. TVA finalized plans for the gas plant one month before this DEIS was filed. At any point prior to April 2 (and indeed at any point after), TVA could theoretically change its mind and eliminate the gas plant from the Kingston Fossil Plant replacement plan. This overlap of processes, at great expense, serves to illustrate that the concept of "necessity" in this particular docket is circular at best, arbitrary at worst.

Further, TVA investment decisions are governed only by an executive staff and a nine-member board of directors. There are no shareholders, and there is no market to judge whether TVA's decision to build the Kingston Plant is prudent. As such, TVA fails the transparency tests that anchor tenants on other FERC-regulated pipeline projects are held to.

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[4] Source: https://www.biologicaldiversity.org/programs/energy-justice/pdfs/Perverse-Pay-report.pdf (accessed July 12, 2024)

III. The proposed pipeline will expose Tennesseans to an unacceptable level of compounded High Consequence risk due to the level of seismic activity and landslide likelihood along the proposed route. The DEIS is organized in a way that understates, isolates, and camouflages these risks from reviewers, fails to recognize the compounded risks of low-probability, high impact events resulting from multiple projects co-located in a high-risk region, and as such, it should not be relied upon to calculate these risks. Far more transparent assessment and explanation of these risks should be ordered and conveyed to the public before any additional action takes place.

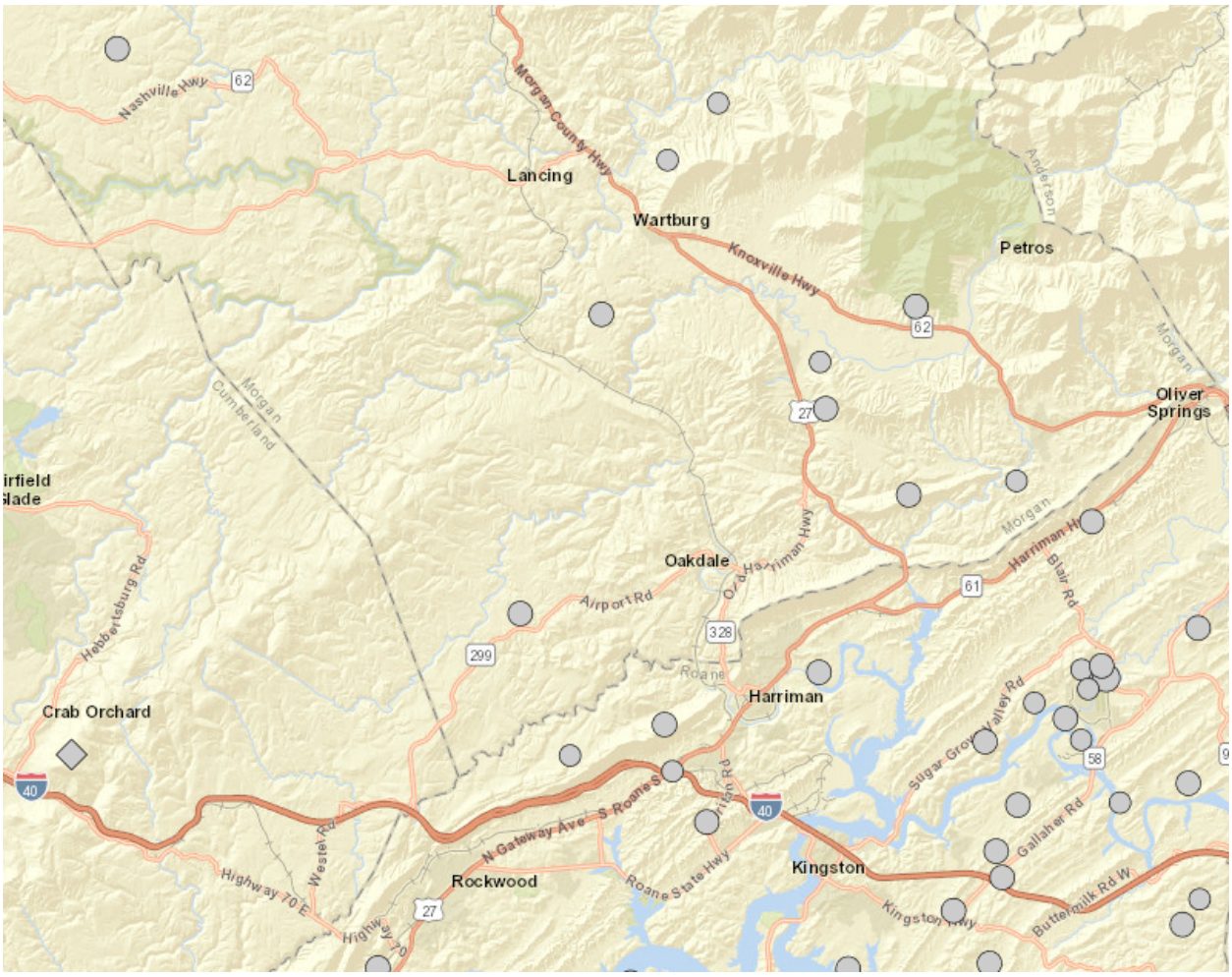
The Ridgeline Expansion alignment largely follows the alignment of an existing 22-inch natural gas pipeline (Line 3100) built in 1949, before today's technology for assessing hazards and today's environmental protection regulations were in place. It should not be assumed that the route is safe merely because a pipeline already exists along that route. The proposed pipeline has a Maximum Allowed Operating Pressure (MAOP) of 1,440 psig, a somewhat standardized rate that doesn't seem to consider the consequences of combining this level of pressure with the risks associated with slopes that necessitate pipeline bends and seismic activity.

The DEIS devotes only three sentences to earthquakes. "A total of 10 earthquakes with a magnitude greater than 2.5 have occurred within 10 miles of the Project area since 1900…. The earthquakes ranged in magnitude between 2.5 and 3.6 on the modified Richter scale…. The closest earthquake to the Project area occurred approximately 1.4 miles east of MP 117.0 with a magnitude of 2.6." (p. 4-10 of Section 4.1.5.1 Seismicity and Soil Liquefication) This language dilutes the sense of risk by implying that the 10 earthquakes were spread across time all the way back to 1900. In fact, *a query by SACE of the same USGS database*[5] shows that they all occurred in 1975 or after, concentrating the activity and the risk much more.

The query by SACE (lowering the threshold to 1.5) revealed that the 2.6 earthquake near MP 117 occurred in 1975. The DEIS *did not note* that an earthquake of 1.7 was registered near MP 119 in 1986; an earthquake measuring 2.3 occurred within 1 mile of the alignment at MP 110 in 2020; an earthquake measuring 1.9 was recorded in the same month in 2020 between MP 108 and 109; and an earthquake measuring 2.0 was recorded in 2005 within 1.5 miles of MP 88. The DEIS did not assess earthquakes under 2.5 on the Richter scale, and it does not provide a map of detected earthquakes near the route alignment. Lowering the threshold to 1.5 provides a broader look at the prevalence of seismic activity in Tennessee.

A screenshot of the SACE USGS earthquake query (below) provides an image of seismic activity generally in the eastern portion of Tennessee. It is worth noting that *activity increases in the Kingston vicinity, where the pipeline terminates and where TVA proposes to build the 1,500 MW gas plant*. Eastern Tennessee is the most seismically active part of the state. SACE has serious concerns about ETNG's and TVA's plans to *add* high pressure explosive gas infrastructure in this area, the approval of which is based on a project - the TVA Kingston gas plant - that has no real market or regulatory oversight confirming its necessity.

[5] https://earthquake.usgs.gov/earthquakes/search/



Screenshot from search of historic earthquakes greater than 1.5 on the Richter scale on earthquake.usgs.gov (accessed July 6, 2024). Gray circles are geologic earthquakes, gray squares are earthquakes caused by mine collapse.

ETNG must construct the pipeline in accordance with US Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) standards, which were revised in 2019 to take seismic activity into account, but these new standards have been in place for only five years and have not yet been tested by time. The DEIS states "(W)e conclude that there is low potential for ground shaking, ground rupture, or soil liquefaction to occur or significantly affect Project facilities" on p. 4-10, but this conclusion is built upon an incomplete picture as we have detailed here. It is noted that ETNG will monitor for seismic movement, but this is merely a reporting of an event after it has happened. It is not predictive.

The DEIS buries and obfuscates the risks of a catastrophic event by treating the issue lightly toward the end of the narrative body of the document - devoting less than one page to Section 4.12.2.1 Pipeline Safety - and then by burying the details of the High Consequence classifications in Appendix D in Table D-19 on page 506 of a 711-page document. This treatment fails to convey the gravity of the issue. In areas of High Consequence, significant loss of life is likely in the event of an explosion. **Along the project route, 31.4 miles, or *26 percent of the route, is classified as "High Consequence."* One quarter of this unnecessary project could result in a High Consequence loss of life event if the**

pipeline fails due to a seismic event or if an accident impacts it. Table D-20 in Appendix D identifies (by milepost) 51.9 miles of additional project sections classified as locations of Medium Consequence along the pipeline. The DEIS does not include these important mileage totals up front in the narrative, and *this treatment appears to differ from other sections* such as those that describe water crossings, noise, air impacts, etc. This is an egregious and misleading omission from the main narrative, especially considering the specious basis upon which this project is based.

It is then noted in the separate document titled "Appendix 6D - Phase I - Geohazard Assessment Report Desktop Study"[6] on **Table 5.1 Landslide Susceptibility and Incidence Summary** (shown below) that MP 87 to MP 123 are characterized as "High Susceptibility, Moderate Incidence" landslide areas. Indeed, almost half the length of the proposed alignment is classified as "High Susceptibility" on this chart.

Table 5.1: Landslide Susceptibility and Incidence Summary

MP Start	MP Finish	Landslide Susceptibility and Incidence
0	30	Low Susceptibility and Incidence
30	48.5	Moderate Susceptibility and Incidence
48.5	56.5	Low Susceptibility and Incidence
56.5	65.5	Moderate Susceptibility and Incidence
65.5	87	High Susceptibility, Low Incidence
87	123	High Susceptibility, Moderate Incidence

P. 18 Appendix 6D Phase I - Geohazard Assessment Report Desktop Study

This risk can be visualized using **Figure 5.2.1: Landslide Hazard Map** (shown below) from the same Resource Report 6. This map seems like *an important element that was excluded* from the main body of the DEIS.

[6] Appendix 6D was prepared for Enbridge/ETNG by Mott Macdonald as part of Resource Report 6 - Geologic Resources and is dated March 31, 2022

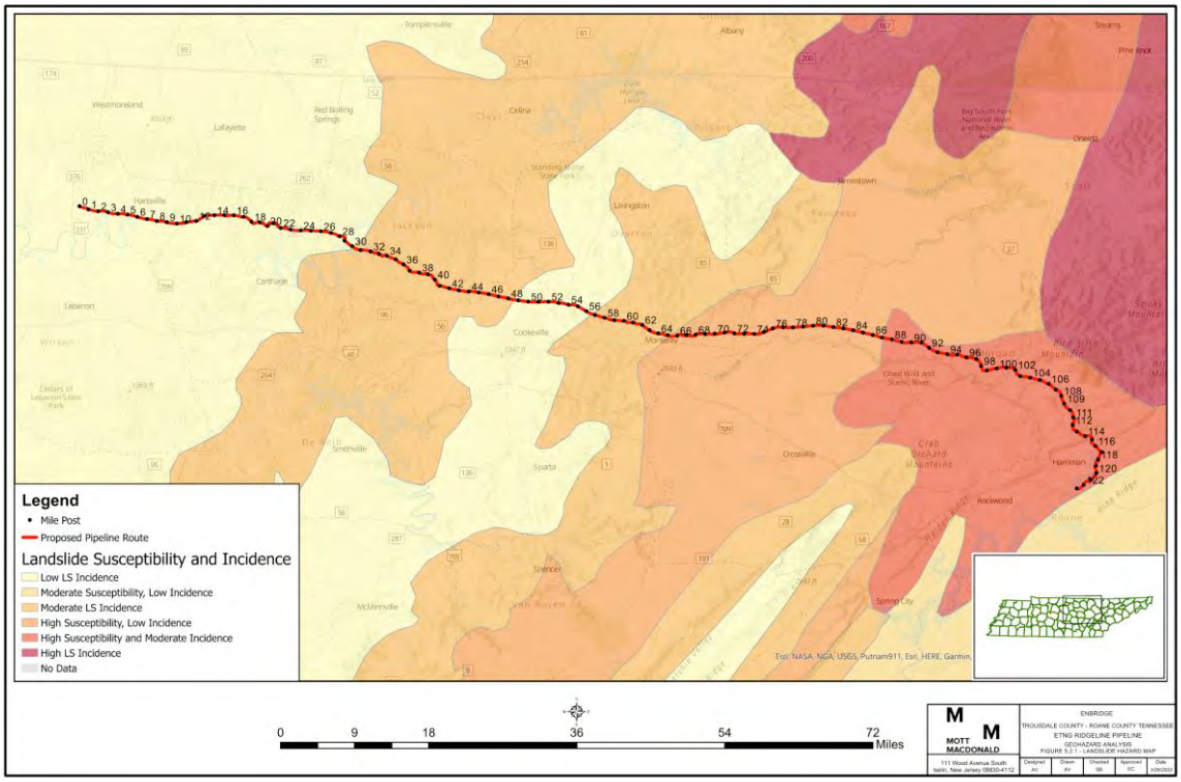


Figure 5.2.1: Landslide Hazard Map

When sections of this DEIS document (including Appendix D) and Appendix 6D from Resource Report 6 are pulled into one place, supplemented with our own check of the USGS's Earthquake Database, a clearer picture of the risks is presented. Of special concern, though not exclusively, is the eastern portion of the pipeline, from MP 87 to the terminus and the proposed Kingston Plant. The gas plant itself adds to the risk of a High Consequence event given its proximity to a fairly active seismic zone. The pipeline is subject to High Consequence events, and it *enables* and fuels a gas plant that is also subject to High Consequence events. The DEIS does not consider the *compounding of risks to populations* associated with the construction of this pipeline. Given that there are alternatives that will meet the existing and future electricity needs within the TVA territory, the risks to life and property associated with this pipeline - compounded by the existing pipeline as well as the proposed gas plant - are not in the public interest.

The DEIS disguises the risks of building this pipeline in mountainous and seismic terrain by manipulating how the content is presented. The DEIS devotes the three sentences to earthquake activity in Section 4.1.5.1 Seismicity and Soil Liquefaction (listed above), and then dismisses the risk with the statement "In general, modern electric arc welded steel pipelines have not sustained damage during seismic events…." (p. 4-9) The paragraph continues, noting that there is a 2 percent probability of the proposed pipeline experiencing "peak ground acceleration" (PGA) as a percent of gravity (g) of *between 26 and 36 percent g* being exceeded from MP 117.7 to the terminus at 122.2. A PGA of *10 percent g* is "generally considered the minimum *threshold for damage* to older structures or structures not constructed to resist earthquakes." The existing pipeline falls into this category. And the terminus of the proposed pipeline is a 1,500 MW gas plant. These compounded risks are ignored and not acknowledged in the DEIS. Even

Kinder Morgan (who state that 40 percent of the natural gas produced in the United States is transported through their pipelines[7]), acknowledged these risks in their April 2021 issue of The Responder: "However, when significant pipeline bending or strain occurs due to ground displacement, during and after an earthquake, pipeline failures can occur."[8]

We have noted many examples of *risk camouflage*, but a few more are worth noting. The DEIS under-represents the potential for landslides in Section 4.1.5.2 Landslides and Slope Stability by noting that ETNG has identified five areas of high landslide risk, but then refers to them only as "Areas of Interest 3, 8, 9, 10, and 15" and then buries the details - mileposts and descriptions - in Appendix D in **Table D-8: Summary of Locations Identified in Landslide Mitigation Plan**. Only here do we find descriptions of the alignment sections where the risk of landslides is considered high.

Within Table D-8, some of the recommendations to protect the pipeline in these "Areas of Interest" for landslides, in the notes section of the table, include embedding the pipeline in bedrock as "the ultimate protective measure." But in Section 4.1.5.2 Landslides and Slope Stability on p. 4-10 of the narrative it states that construction itself can trigger landslides (from machinery vibrations, traffic, addition of new load on slopes, removal of deep-rooted vegetation). This would certainly include the explosive blasting that would be needed to create a trench for the pipeline in bedrock. But the DEIS does not make the connection between these two points when recommending how to construct the pipeline in these locations.

The DEIS notes that the project alignment would cross 9.3 miles of slopes greater than 30 percent. In **Table 5.2 Slope Summary** in Appendix 6D, it is noted that 20.5 percent of the pipeline length has a slope of more than 15 percent. And **Table 5.1 Landslide Susceptibility and Incidence Summary** (shown above) shows that there is a High Susceptibility from MP 65.5 to MP 123 - almost half the length of the entire pipeline.

It must also be noted that there have already been two explosions along the existing 22-inch pipeline, and both of these explosions were in Smith County, in the western portion of the alignment for the proposed pipeline. This section, like the eastern section, has steep slopes. The first explosion occurred in 1949, the year of its completion. A child was injured and barely escaped death.[9] The second explosion occurred on December 15, 2018.[10] The cause of the 2018 incident, recorded by PHMSA, is "material failure of pipe or weld - environmental cracking-related."[11]

Certain cumulative impacts *are* evaluated within this study. **Table 4.13-2 Past, Present, and Reasonably Foreseeable Future Projects Evaluated for Potential Cumulative Impacts with the Ridgeline Expansion Project** on p. 4-132 in this DEIS presents a summary of projects considered for cumulative impacts with the proposed pipeline, and the Kingston Plant is included in the table, but compounded safety risk from a seismic event in the area was not considered in this analysis. We believe that it should be, given the preponderance of evidence.

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[7] Source: https://www.kindermorgan.com/ (accessed July 8, 2024)
[8] Source: https://www.kindermorgan.com/WWWKM/media/Safety-Environmental/documents/the-responder/The_Responder_2021_01.pdf (accessed July 8, 2024)
[9] Source: https://www.carthagecourier.com/2018/12/25/explosion-occurred-at-pipeline-in-1949/ (accessed July 10, 2024)
[10] Source: https://www.carthagecourier.com/2018/12/25/explosion-probe-to-take-months/ (accessed July 10, 2024)
[11] https://dac-phmsa-usdot.hub.arcgis.com/pages/gas-transmission

IV. The proposed pipeline's upland construction activities cannot be effectively mitigated enough to offset the impacts of increasingly torrential rainfall exacerbated by climate change.

Upland activities at water crossings will inevitably damage the water bodies themselves. FERC has been warned of these impacts again and again, but pipeline projects are approved in regions with steep slopes regardless. In South Carolina, erosion and runoff from upland clearing in an area with steep slopes associated with the construction of a Dominion Energy's FERC-approved 55-mile Transco to Charleston pipeline forced a water utility to shut off its intakes in the Tyger River after a heavy rainfall event.[12] The FERC-approved Mountain Valley Pipeline (MVP) was cited by the Virginia Department of Environmental Quality for causing over 300 violations of erosion and sedimentation control. Both Virginia and West Virginia fined the operators of the MVP for erosion and sedimentation issues, with Virginia levying a $2.15 million penalty in a 2019 consent decree[13], the rules of which were broken, resulting in additional fines for 29 new construction violations totaling $34,000 as recently as this past spring.[14]

The Ridgeline Expansion similarly crosses steep slope terrain, and if the project is approved and built, it will, without any doubt, cause more water impacts than have been anticipated in the DEIS. Given how climate change has dramatically altered and increased torrential rainfall in the Southeast, it would be impossible to protect Tennessee's streams and rivers from erosion and sedimentation associated with upland construction activities. The BMPs commonly used today are meaningless in torrential rain. TVA, the anchor for this project, noted in 2023 that it had seen above-average rainfall for six years in a row.[15] Damage to aquatic habitat most assuredly will occur if this pipeline is approved and constructed, and that damage will exceed what has been deemed acceptable loss in this DEIS. Because this damage cannot be mitigated, as has been proven in recent FERC-approved pipeline cases, the conclusions of this DEIS are flawed.

V. Conclusion

Given that the project that is used to justify this pipeline has been found to be deeply flawed by the US EPA and is the product of a complete lack of oversight and accountability, and given the unacceptable likelihood that this pipeline increases the risk of a High Consequence event caused by seismic activity and/or slope instability, and given that the likelihood of a High Consequence event at the terminus of the pipeline - where it would coincide with the existing pipeline as well as the new combustion turbine facility, and given the evidence presented above that indicates that this pipeline is guaranteed to cause significant damage to water bodies given the steep slopes of the terrain and likelihood for landslides, and

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[12] Source: https://www.greenvilleonline.com/story/news/2018/05/25/dominion-energy-under-scrutiny-after-mud-clogs-water-system-near-utilitys-sc-project/645320002/ (accessed July 9, 2024)

[13] Source: https://virginiamercury.com/briefs/mountain-valley-pipeline-agrees-to-pay-virginia-2-15-million-for-environmental-violations/ (accessed July 9, 2024)

[14] Source: https://www.wvtf.org/news/2024-03-28/virginia-fines-mvp-for-environmental-violations (accessed July 9, 2024)

[15] Source: https://www.wbir.com/article/weather/tva-said-2022-marked-the-sixth-straight-year-of-above-average-precipitation-in-tennessee-river-basin/51-ca20076e-ad32-496a-9eea-e83304cb963f (accessed July 8, 2024)

given the increasing impact of heavy rain events exacerbated by climate change, we conclude that the risks of this project far outweigh any benefits.

FERC staff did not make any recommendations that address or mitigate these risks, especially with respect to High Consequence events. As we noted above, seismic monitoring only records an event after it starts, and it will be impossible to install BMPs that can protect streams and water bodies near slopes from erosion due to upland activities during a high intensity rain event.

The purpose given for the project - to provide up to 300,000 Dth/day of natural gas transportation capacity and 95,000 Dth of parking capability to TVA's proposed gas-fired generation at its Kingston Plant - is written to be so narrow that a No Action Alternative by ETNG is impossible to consider. The only "alternatives" evaluated were all pipeline projects. The "need" for the pipeline originated from TVA's 2019 Integrated Resource Plan and associated EIS for the Kingston Plant. But unlike most every other utility in the United States, TVA's IRP is not subject to any sort of oversight, whether from a utility commission or a state legislative body. TVA could have proposed 3 gigawatts of combustion turbines at Kingston, and the results of the need assessment for a pipeline project would have been the same.

In the Section 3.2 System Alternatives (p. 3-3), FERC staff stated "(I)t is outside the scope of this EIS to speculate whether theoretical pipelines or alternative energy sources could one day provide energy as suggested by some commenters…." We disagree, given the special circumstances surrounding the lack of oversight of TVA and the fact that the agency does not even acknowledge the authority of the US EPA, as we noted in our opening. This is not a run-of-the-mill pipeline project serving a run-of-the-mill utility need. This pipeline project - based on a specious need - involves greater-than ordinary risks that could cost lives of Tennesseans. Given these facts, we urge FERC to reject this DEIS as inadequate and ultimately to deny the request for a Certificate of Public Convenience and Necessity.