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December 22, 2016

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE
Washington, DC 20426

RE: Docket Nos. CP16-10-000 and CP16-13-000; Draft Environmental Impact Statement for the Mountain Valley Project and Equitrans Expansion Project.

Dear Ms. Bose:

The Nature Conservancy, appreciates the opportunity to provide further comment on the Draft Environmental Impact Statement (DEIS) that has been prepared for the Mountain Valley Pipeline (MVP).

The mission of The Nature Conservancy is to conserve the lands and waters on which all life depends. The Conservancy is a leading conservation organization working in all 50 states and more than 35 countries. We have helped conserve nearly 15 million acres of land in the United States and more than 118 million acres with local partner organizations globally.

The proposed route of the MVP crosses through the Central Appalachian Whole System Project, which is an area of deep investment for the Conservancy. Within this region, The Conservancy has worked with public agencies, corporations, private landowners, and local communities to undertake land protection, management, and restoration actions across public and private lands. We have worked with others to develop and implement strategies to protect the best, large, intact habitats that will continue to support a diversity of species, in the face of a changing landscape and a changing climate.

On December 19, 2016, the Conservancy submitted comments on the DEIS that addressed the specific issue of lands in which we hold a legal interest. We write now in order to highlight the rest of the issues raised in the scoping letter we filed with FERC on June 16, 2015. Many of these issues were not fully addressed in the DEIS and therefore we are recommending that these remaining, significant issues be addressed in a Supplemental DEIS.

Provide a Supplemental DEIS

The Conservancy strongly recommends that FERC prepare a Supplemental DEIS to address the numerous data gaps and incomplete analyses of the current DEIS. The public has a compelling

interest not only in the benefits that would accrue from the expanded transport of natural gas, but also in the consequent impacts of such expansion. As such, the Conservancy submits that FERC must provide the public with a much more complete analysis of those impacts and the means by which the applicant will avoid, minimize and compensate for them. Because the FERC process does not provide a comment period on a Final EIS, the only means by which this can be achieved is through a supplement to the current DEIS.

In our scoping comments, the Conservancy requested that FERC observe the full mitigation hierarchy, which is that impacts first be avoided, then minimized, and impacts that cannot reasonably be avoided are then compensated for. Several of the recommendations made by FERC staff to the Commission in the DEIS pertain to completing surveys or assembling new information. In addition, a new preferred route was adopted during the comment period of the DEIS that includes a variation through a biologically significant karst area. While revised tables and appendices have been filed, data to evaluate impacts from the new route are incomplete and analyses by FERC staff have not been made public. The Conservancy respectfully submits that the DEIS is not complete enough to allow FERC to have analyzed the full range of impacts of this project and, therefore, any determination that such impacts can be fully compensated is premature.

In the DEIS, FERC staff conclude that *“impacts would be reduced with the implementation of Mountain Valley’s and Equitrans’ proposed mitigation measures, and the additional measures recommended by the FERC staff in this EIS.”* Given that many of these measures, e.g., impacts to forests and migratory birds, have yet to be specified, the Conservancy does not agree that such a conclusion is possible at this point. **Mitigation plans for impacts that cannot reasonably be avoided should be made publicly available for comment in a supplemental DEIS, rather than made conditions in the Commission’s Order.** As stated above, the public is entitled to review and comment on a full analysis of impacts, avoidance and minimization measures, and the appropriateness of proposed compensatory actions, which under the FERC process can only occur with a supplemental DEIS.

Avoid all Preserves and Conservation Easements

In its June 2015 comments, the Conservancy requested that *“the final preferred alternative for the Mountain Valley Pipeline avoid all preserves, easements and Critical Habitats for conservation”*. As detailed in The Conservancy’s comments on this DEIS submitted on December 19, 2016, the preferred alternative addresses some of these concerns, but intensifies others. We are particularly concerned with the DEIS’s lack of attention to and inaccuracy of the analysis of the Poor Mountain conservation easement. Also, while we are very glad to see that impacts to a Conservancy Preserve and conservation easements held by the Virginia Department of Conservation and the Virginia Outdoors Foundation are avoided through Route Alternatives adopted in October, we are seriously concerned that the proposed alternative creates additional impacts for which mitigation is not practicable.

As detailed in The Conservancy’s comments submitted on December 19, 2016, the DEIS for the proposed Mountain Valley Pipeline does not adequately consider the impact the project would

have on the Conservancy's Poor Mountain Easement. Given the significance of Bottom Creek which the Poor Mountain conservation easement was designed to protect, the public benefit of the easement, and the incompatibility of the project with the easement terms, **the Conservancy reiterates its request that FERC direct the applicant to develop a route variation that fully avoids this property.**

Avoid Critical Habitats

In its June 2015 comments, the Conservancy requested that MVP avoid impacts to Critical Habitats for Conservation. In that letter we described Critical Habitats as designated areas with high biodiversity value, consistent with the definitions of Critical Habitats as outlined in the [International Finance Corporation Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources](#). For the Central Appalachians, these habitats include very large and diverse patches of intact forest, ecologically significant cave and karst systems, and rare, threatened and endangered species known to occur in less than 10 locations globally. We made these datasets publicly available in the hope they would be used in siting decisions and impact assessment.

Forest

The Conservancy concurs with FERC's conclusion "*that the projects would have significant impacts on forest.*" We particularly appreciate the thorough description of interior forest fragmentation and edge effects in Section **4.4.2.3 Interior Forest Fragmentation and Edge Effects**. Effects of forest fragmentation are extensively described within a very large body of peer reviewed research. Haddad et al (2015) synthesized fragmentation experiments spanning multiple habitats and scales, five continents, and 35 years and concluded that habitat fragmentation reduces biodiversity by as much as 75%.

The DEIS indicates that the MVP will affect about 5,642 acres of forest. We find that this figure underrepresents the actual area of interior forest impacts from this project. Our own analyses suggest that the actual affected area is more than an order of magnitude greater. As noted in section 4.5.2.2 FOREST FRAGMENTATION AND EDGE EFFECTS ON WILDLIFE "*The distance an edge effect extends into a woodland is variable, but most studies suggest at least 300 feet.*" The accounting of interior forest impacts in section 4.4.1.2 INTERIOR FOREST in which individual cores intersected by the project are listed is inadequate. **The Conservancy recommends that impacts to interior forest be recalculated to account for:**

- 1) the area of new edge habitat (300 ft.) on either side of all areas of the project footprint that intersect interior forest cores.**
- 2) the area of new fragments of forest cores that no longer meet the minimum size criterion used to define them (250 acres in WV, and 100 acres in VA).**

It is our understanding that the Commonwealth of Virginia has developed a methodology for calculating impacts to forest that is consistent with this recommendation, and the Conservancy supports its use.

Section **4.4.2.3** states: “To minimize forest fragmentation and edge effects, Mountain Valley has collocated about 29 percent of the pipeline route with existing linear corridors.” The Conservancy appreciates the extent to which MVP has attempted to collocate this pipeline route, and fully agree that this is one way of avoiding impacts. In our scoping comments of June 2015, we recommended that *“avoidance of both direct and indirect impacts be demonstrated by the applicant, and that any finding that avoidance is not reasonably practicable be supported by transparent, quantitative, and repeatable analyses.”*

Documentation of how impacts to forest cores were avoided in areas where co-location was found to be impractical should be provided. If avoidance of forest cores was not part of the decision-making process, then route variations should be developed for segments of the project that result in large impacts to interior forest and those variations should be evaluated in a supplemental DEIS prior to the development of compensatory mitigation measures.

This section goes on to state: “The MVP would impact about 4,780 acres of forest during construction which would represent about 0.005 percent of the forested area within these five ecoregions.” **The Conservancy finds this .005% figure to be both inaccurate and misleading and request that FERC correct the following errors:**

- 1) The 4,780-acre figure is only what is affected by the pipeline corridor. The sum of impacts from all construction activities listed on page 4-141 is 5,642 acres. This discrepancy needs to be resolved.**
- 2) The 5,642-acre figure represents only forest cores, whereas the portion of each of the five ecoregions examined is all forest land cover. Furthermore, the 5,642 acres only includes the direct project footprint and not the acreage subject to the impacts of fragmentation. The appropriate metric is the ratio of total forest core and fragmentation impacts from pipeline construction, to the total acreage of forest cores in each of the five ecoregions. The percentage needs to be recalculated.**

Section 4.4.2.2 Restoration of Vegetation states “In order to re-establish vegetation in upland areas disturbed during construction, the Applicants would amend soils with fertilizer as needed, de-compact soils as needed, apply grass seed mixes, and mulch.” Similarly, Section **4.4.2.3** states that “In coordination with the Wildlife Habitat Council, Mountain Valley would plant seeds for native plant species during restoration and revegetation.” The Conservancy appreciates the recognition of the importance of using native seed mixes for soil stabilization and revegetation of the project’s permanent right-of-way, and the need for decompaction of soil for re-establishing forest habitat. **However, all references to restoration of forest habitat should be revised to include standard practices for the restoration of forest vegetation, including planting not just of seed but of live trees, and long term management of invasive species.**

Section 4.4.2.2 further states: “Revegetation of cleared areas would be considered successful when the cover and density of vegetation within the construction right-of-way is similar to the adjacent undisturbed land.” The Conservancy finds this to be a good metric for successful restoration, however we are concerned that the DEIS does not acknowledge how long

successful restoration of forest vegetation will take, and what the long term stewardship needs for forest restoration will be. For example, this section states that “Disturbed areas would be monitored for at least the first and second growing seasons after construction as specified in the FERC Plan (for the MVP) and Equitrans’ Plan (for the EEP).” Restoration of forest vegetation is clearly going to take more than two growing seasons; for example, USFS requires restocking surveys after 3-5 years post-planting. **The Conservancy requests that this section be updated to include a more appropriate description of revegetation activities and long term stewardship needs.**

Rare, Threatened and Endangered Species

Impacts to rare, threatened, and endangered species are formally included in the assessment through comments provided by the USFWS and state agencies. **Section 5.1.7 Federally Listed Threatened, Endangered, and Other Species of Concern**, indicates that surveys for three of 22 Federal Special Status Species and 10 of the 20 state listed species have not yet been reviewed. **Recommendation 41** states that Mountain Valley shall not begin construction until all outstanding surveys for federally listed species are completed, and Section 7 consultation is completed. The preferred alternative filed in October has the potential to increase impacts to the Slussers Chapel Karst Conservation area. **Section 5.1.7.1** states “*We cannot make determinations of effects for this species [of invertebrate] until after Mountain Valley files the results of consultations with the resource agencies, the results of required surveys, and its proposal for avoiding impacts on Slussers Chapel Cave and Old Mill Cave.*” **The Conservancy agrees with this statement, and submits that if the DEIS lacks basic data on the presence or absence of Federally listed species it cannot be considered complete. A supplemental DEIS is needed in order to provide a complete analysis of potential impacts to Federally listed species and the steps that must be taken mitigate for those impacts.**

Cave and Karst Systems

Although the DEIS includes extensive discussion of the potential for pipeline construction to contaminate groundwater resources when crossing karst features and the potential for ground subsidence, there is no discussion of the nature of subterranean habitats, their biological significance, or the nutrient, temperature, or flow regimes that sustain them. We are concerned that the DEIS seems to regard karst terrain solely as geotechnical and water quality hazard, and fails to recognize the importance of these systems to wildlife beyond those mentioned in the section on rare, threatened and endangered species. **The Conservancy requests a supplement to the DEIS that addresses this deficiency. The Virginia Department of Conservation and Recreation (VDCR) is a recognized expert on these issues, and we therefore expect FERC to adopt DCR’s recommendations for avoiding and minimizing impacts to karst habitats.**

Consider Additionality of Impacts from Climate Change

In previous scoping comments, the Conservancy described our efforts to advance species conservation in the face of a changing climate ([Anderson et al. 2014](#), [Anderson et al. 2012](#); [see](#)

[here for related work](#)) that focus on inherent site resilience. The activity of traversing a relatively unfragmented area with a permanently maintained clearing diminishes the connectedness and therefore resiliency of the site. We requested then that the DEIS fully consider the loss of site resilience to climate change consequent to an interruption in connectedness within large patches of intact habitats. This request is consistent with the Council on Environmental Quality's [Guidance on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews](#), issued on August 1, 2016. The Guidance states that: "agencies should consider: (1) The potential effects of a proposed action on climate change as indicated by assessing GHG emissions (e.g., to include, where applicable, carbon sequestration); and, (2) The effects of climate change on a proposed action and its environmental impacts." Although the DEIS accomplishes the first item, it fails to address the second. **The Conservancy requests that a supplement to the DEIS be prepared to address how climate change will amplify environmental impacts from this project, particularly impacts to wildlife and wildlife habitat including forests.**

Specify Mitigation Actions for Migratory Bird Habitat

Section **4.5.2.6 Migratory Birds** states: "*Prior to the end of the draft EIS comment period, Mountain Valley should file with the Secretary a plan that describes how long-term and permanent impacts on migratory bird habitat would be minimized. This plan should include an emphasis on high quality and/or larger intact core interior forest areas. This plan should also document consultations with the FWS, FS, WVDNR, and VDGIF*". The Conservancy requests that a supplemental DEIS be prepared to address the fact that a migratory bird mitigation plan has been filed, but is not publicly available. It is not possible to have confidence in the adequacy of a mitigation plan if the details are unknown. **The Conservancy requests that the migratory bird mitigation plan be made available for public review and comment, and that FERC ensures that the plan addresses not only how impacts to migratory bird habitat would be minimized, but also how it has been avoided and what restoration activities will be undertaken to compensate for residual impacts.**

The Conservancy acknowledges that impacts to migratory bird habitat will have substantial overlap with impacts to interior forest. It is our assumption that compensatory actions taken to restore habitat for migratory birds will count towards the larger set of actions taken to compensate for losses of interior forest.

Reduce Risks of Sedimentation, Erosion, and Slope Failure

Section **4.1.1.5 Geologic Hazards** indicates that about 67% of the MVP pipeline route is considered to have a high incidence of and high susceptibility to landslides. The Conservancy finds this to be an extraordinary degree of risk.

Section **4.1.1.5** further states that debris flows are "a common type of fast-moving landslide that generally occurs during intense and/or prolonged rainfall events. Fill slopes along the pipeline right-of-way could be a source of debris flow in the project area." In scoping comments submitted in June 2015, the Conservancy requested that FERC require the

implementation of methods for minimizing anticipated impacts that are of demonstrated effectiveness on pipeline construction projects in similar terrain and climate with similar diameter pipe.

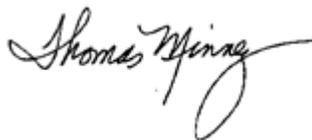
In the DEIS FERC staff recommend that: "Prior to construction, Mountain Valley should file with the Secretary, for review and approval by the Director of OEP, a revised *Landslide Mitigation Plan*." The public has a clear interest in the matter of slope stability and the consequences of failure to water quality during construction and to public health and safety during pipeline operation, and is entitled to a review of a complete Landslide Mitigation Plan. Given the unique intersection of steep terrain and precipitation patterns within the project area; **The Conservancy requests that a revised landslide mitigation plan be included in a supplemental DEIS and that plan should include an examination of all available records maintained by state and federal regulators, as well as all available anecdotal evidence pertaining to the sufficiency of landslide risk control measures for recent pipeline construction projects in VA and WV.**

Thank you for the opportunity to provide comments to FERC on this important issue. If you have any questions about these comments, please contact Judy Dunscomb, Senior Conservation Scientist at jdunscomb@tnc.org or (434) 951-0573.

Sincerely,



William A. Kittrell
Acting Virginia Executive Director



Thomas Minney
West Virginia State Director

Enclosures

Cc: Nels C. Johnson, N. American Energy by Design Project Director, The Nature Conservancy